

PJM Interconnection, L.L.C. 2750 Monroe Blvd. Audubon, PA 19403

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January 19, 2018

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

Re: PJM Interconnection, L.L.C., Docket No. ER18-680-000 PJM Compliance Filing in Docket Nos. EL17-84-000 and EL17-90-000

Dear Secretary Bose:

PJM Interconnection, L.L.C. ("PJM") hereby submits for filing proposed revisions to Schedule 12-Appendix and Schedule 12-Appendix A of the PJM Open Access Transmission Tariff ("PJM Tariff" or "Tariff") as a follow up to the requirements set forth in the December 15, 2017 orders¹ issued by the Federal Energy Regulatory Commission ("Commission" or "FERC") in the captioned dockets.

PJM requests that the proposed revisions to Schedule 12-Appendix and Schedule 12-Appendix A be made effective on January 1, 2018, which is the date on which Linden VFT, LLC ("Linden") and Hudson Transmission Partners, LLC ("HTP"), the owners of certain merchant transmission facilities awarded Firm Transmission Withdrawal Rights ("TWRs") under their respective Interconnection Service Agreements ("ISA"), no longer held Firm TWRs and, therefore, would no longer be allocated costs for RTEP projects.² As noted herein, PJM has, through this filing, made a good faith attempt to reconcile the Commission's December 15 Orders with the existing provisions of the PJM Tariff relative to cost allocation. No doubt,

¹ *PJM Interconnection, L.L.C.*, 161 FERC ¶61,262 at P 50 (Dec. 15, 2017) ("December 15 HTP Order"); *Linden VFT, LLC v Public Service Electric and Gas Company, et al.*, 161 FERC ¶ 61,264 at P 32 (Dec. 15, 2017) ("December 15 Linden Order") (collectively referred to as the "December 15 Orders").

² December 15 HTP Order at P 50; December 15 Linden Order at P 32.

others may have different legitimate interpretations as to how to appropriately implement these orders and how best to reconcile the existing Tariff provisions with the December 15 Orders. PJM urges the Commission to review this filing (and any protests thereto) in an expeditious manner to avoid the magnitude of a contested allocation of costs accumulating over time leading to both potential large refunds, as well as uncertainty as to future cost allocations.

I. BACKGROUND

A. Firm TWRs and Allocation of Firm TWRs

A transmission interconnection customer seeking to interconnect Merchant D.C. Transmission Facilities and/or controllable A.C. Merchant Transmission Facilities to the PJM transmission system³ may elect, among other things, either Firm⁴ or Non-Firm⁵ TWRs. If the merchant transmission facility elects Firm TWRs, the customer is responsible for both (i) necessary upgrades identified through the interconnection study process to support interconnecting the facility with Firm TWRs; and (ii) costs of any post-interconnection network upgrades included in PJM's regional transmission expansion plan ("RTEP") as identified consistent with the PJM Tariff's Schedule 12 cost allocation methodologies.

B. HTP's and Linden's Transmission Interconnection Requests

Under their respective ISAs, Linden and HTP requested Firm TWRs. Both HTP and Linden constructed and paid for all necessary upgrades identified through the interconnection study process and included in their ISAs to support their interconnection requests. In addition,

³ *See* PJM Tariff § 36.1.03.1.e.

⁴ See PJM Tariff, Definitions E - F. Firm TWRs allow the merchant transmission facility to schedule energy and capacity withdrawals from the PJM transmission system.

⁵ See PJM Tariff, Definitions L-M-N. Non-Firm TWRs allow the merchant transmission facility to schedule energy only and, as such, are similar to Non-Firm Point-to-Point Transmission Service in that Non-Firm TWRs allow the merchant transmission facility to schedule transmission service on an as-available basis and are subject to curtailment.

Linden and HTP have been assigned cost responsibility under Schedule 12-Appendix and Schedule 12-Appendix A consistent with Schedule 12 of the PJM Tariff.

1. HTP's Request to Convert Its Firm TWRs

By letter dated June 2, 2017 to PJM, HTP requested to surrender all of its 320 MW of Firm TWRs and convert them to Non-Firm TWRs by amendment to HTP's existing ISA.⁶ At HTP's request, PJM filed, pursuant to section 205 of the Federal Power Act ("FPA"), an unexecuted agreement to amend the HTP Existing ISA to convert HTP's TWRs from Firm to Non-Firm following notification by Public Service Electric and Gas Company ("PSEG") that PSEG did not consent to amending the HTP Existing ISA.⁷ On September 8, 2017,⁸ the Commission issued an order rejecting the unexecuted amended interconnection service agreement for HTP ("HTP Amended ISA") and instituted a proceeding under Section 206 of the FPA in Docket No. EL17-84-000 (the "Show Cause Proceeding"). In the Show Cause Order, PSEG and PJM were directed to show cause "why the [HTP Existing] ISA and PSEG's failure to consent to the [HTP] Amended ISA is not unjust and unreasonable and unduly discriminatory."9 In addition, the Commission found that "[n]ot permitting HTP to reduce the quality of its service from Firm Transmission Withdrawal Rights to Non-Firm Transmission Withdrawal Rights appears unjust and unreasonable in these factual circumstances."¹⁰ On December 15, 2017, in response to the Show Cause Order, the Commission found the HTP Existing ISA was unjust and

¹⁰ *Id.* at P 43.

⁶ Interconnection Service Agreement Among PJM Interconnection, L.L.C., Hudson Transmission Partners, L.L.C., and Public Service Electric and Gas Company, designated as Original Service Agreement No. 2536, effective June 9, 2010 ("HTP Existing ISA"). *See PJM Interconnection, L.L.C.*, Filing, Docket No. ER10-1740-000 (accepted by letter order issued on Aug. 31, 2010) ("August 31 Order").

⁷ *PJM Interconnection, L.L.C.*, Unexecuted Agreement to Amend Service Agreement No. 2536, Docket No. ER17-2073-000 (Jun. 22, 2017).

⁸ *PJM Interconnection, L.L.C.*, 160 FERC ¶ 61,056 (Sept. 8, 2017) ("Show Cause Order").

⁹ Show Cause Order at P 42.

unreasonable insofar as it did not permit HTP to convert its Firm TWRs to Non-Firm TWRs.¹¹ Accordingly, the Commission directed PJM to make a compliance filing to amend the Existing ISA, Specifications, section 2.2, to reflect the conversion of 320 MW Firm TWRs to a total of zero MWs Firm TWRs and to convert those 320 MW of Firm to Non-Firm TWRs,¹² resulting in a total of 673 MW of Non-Firm TWRs, effective December 15, 2017.¹³ In connection with that conversion, the Commission stated that "[a]s of the effective date of HTP's conversion of its Firm TWRs to Non-Firm TWRs, PJM is no longer required to provide firm service and can curtail non-firm service whenever necessary to preserve reliability."¹⁴ In addition, the Commission also found consistent with Schedule 12 "RTEP upgrade costs would no longer be allocable to HTP."¹⁵

2. Linden's Request to Convert Its Firm TWRs

On June 28, 2017, Linden also sent a letter to PJM and PSEG requesting modification of the Linden Existing ISA¹⁶ to reflect a reduction of its 330 MW of Firm TWRs to 330 MW of Non-Firm TWRs, resulting in a concomitant reduction in interconnection service level. Again, PSEG refused to consent to amend the Linden Existing ISA and, at Linden's request, PJM filed the unexecuted Linden Amended ISA reflecting conversion of Linden's 330 MW Firm TWRs to

¹⁴ *Id.* at P 50.

¹⁵ *Id*.

¹¹ December 15 HTP Order at P 41.

¹² See June 22 Filing, Attachment B, Specifications § 2.2 (Under its Existing ISA, HTP was awarded 320 MW of Firm TWRs and 353 MW of Non-Firm TWRs. Upon conversion of the 320 MW of Firm TWRs to Non-Firm TWRs, HTP received zero MW of Firm TWRs and 673 MW of Non-Firm TWRs).

¹³ December 15 HTP Order at P 41.

¹⁶ Interconnection Service Agreement Among PJM Interconnection, L.L.C., Linden VFT, L.L.C., and Public Service Electric and Gas Company, designated as Original Service Agreement No. 3579, effective May 31, 2013 ("Linden Existing ISA"). *See PJM Interconnection, L.L.C.*, Filing of Service Agreement No. 3579, Docket No. ER13-1619-000 (May 31, 2013) (accepted by Commission order dated July 30, 2013). *See PJM Interconnection, L.L.C.*, 144 FERC ¶ 61,070 (July 30, 2013).

330 MW Non-Firm TWRs in Docket No. ER17-2267-000.¹⁷ By order dated October 5, 2017.¹⁸ the Commission rejected PJM's filing, finding that neither the Linden Existing ISA nor the PJM Tariff permitted PJM to file under section 205 of the FPA an unexecuted amended ISA with modifications at the interconnection customer's request. Prior to issuance of the Commission's October 5 Order, Linden filed a Complaint arguing that PSEG unreasonably withheld its consent to amend Linden's Existing ISA and requesting the Commission to direct PSEG to consent to the amendment to the Linden Existing ISA.¹⁹ In support, Linden stated that (i) it fully paid for the network upgrades necessary to support its Firm TWRs; (ii) there are no reliability concerns or operational issues raised as a result of Linden's request to reduce the level of service from Firm to Non-Firm TWRs; and (iii) the Linden facility will remain fully controllable by PJM.²⁰ On December 15, 2017, the Commission granted the Complaint in part finding the Linden Existing ISA is unjust and unreasonable insofar as it does not permit Linden to convert its Firm TWRs to Non-Firm TWRs.²¹ Accordingly, the Commission directed PJM that upon written notice from Linden, PJM make a compliance filing to amend the Linden Existing ISA, Specifications, section 2.2, to reflect the conversion of 330 MW Firm TWRs to a total of zero MWs Firm TWRs and to convert those 330 MW of Firm to Non-Firm TWRs, to be effective on the date requested by

¹⁷ *PJM Interconnection, L.L.C.*, Unexecuted Agreement to Amend Service Agreement No. 3579, Docket No. ER17-2267-000 (Aug. 9, 2017).

¹⁸ *PJM Interconnection, L.L.C.*, 160 FERC ¶ 61,021 (Oct. 5, 2017) ("October 5 Order").

¹⁹ *Linden VFT, LLC v. PJM Interconnection, L.L.C.*, Complaint and Request for Fast Track Processing and Motion for Expedition, or in the Alternative, Stay of Certain RTEP Charges of Linden VFT, LLC, Docket No. EL17-90-000 (Sept. 18, 2017) ("Linden Complaint").

²⁰ *Id.* at 11.

²¹ Linden VFT, LLC v. PJM Interconnection, L.L.C., 161 FERC ¶ 61,264 at P 6 (Dec. 15, 2017) ("December 15 Linden Order").

Linden in its written notice, but no earlier than the date of that notice.²² By letter dated December 22, 2017, Linden requested an effective date of December 31, 2017 at 11:59:59 p.m.

In connection with that conversion, the Commission stated that "[a]s of the effective date of Linden's conversion of its Firm TWRs to Non-Firm TWRs, PJM is no longer required to provide firm service and can curtail non-firm service whenever necessary to preserve reliability."²³ In addition, the Commission also found that under Schedule 12 "RTEP project costs would no longer be allocable to Linden as of the effective date of Linden's conversion from Firm TWRs to Non-Firm TWRs."²⁴

II. IMPLEMENTATION OF THE DECEMBER 15 ORDERS

While the December 15 Orders clearly state that as of the effective date of their conversion from Firm to Non-Firm TWRs, HTP and Linden will no longer be allocated RTEP project costs, the orders do not address some of the nuances in Schedule 12 that likely will engender controversy in implementing them. Specifically, (i) other than the Tariff, Schedule 12, section (b)(xi), there are no provisions in Schedule 12 for a mid-month or mid-year termination and recalculation of cost responsibility; (ii) cost assignments for RTEP projects allocated using load-ratio share and solution-based DFAX²⁵ are updated annually (no later than December 31) to be effective on January 1 of the upcoming year; (iii) RTEP assignments allocated using load-ratio share do not end at year end, but are based upon the prior year's peak load and, therefore, such assignments roll off a year later; and (iv) there are no provisions that permit PJM to

²² *Id.* at P 23.

²³ *Id.* at P 32.

²⁴ Id.

²⁵ PJM Tariff, Schedule 12 § (b)(iii)(H)(2) (projects allocated using solution-based DFAX analysis are updated beginning with the calendar year in which an RTEP project is planned to enter service and annually thereafter).

reallocate cost responsibility for economic projects below 500 kV or cost assignments allocated using violation-based DFAX.

On the other hand, the December 15 Orders are clear and appear to speak broadly that an entity such as HTP or Linden is no longer to be allocated RTEP costs as of the effective date of its conversion from Firm TWRs to Non-Firm TWRs.²⁶ Thus, in a good faith attempt to apply the provisions of the December 15 Orders, PJM proposes to implement the orders as follows: (i) terminate HTP's Firm TWRs effective December 15, 2017, but maintain HTP's responsibility for RTEP costs through December 31, 2017 to align with the end of PJM's monthly billing period and end of the RTEP billing year; (ii) terminate Linden's Firm TWRs effective December 31, 2017; and (iii) stop future allocation of RTEP costs, including the allocation RTEP costs based upon past peak loads, effective January 1, 2018.

As stated above, there are no provisions in Schedule 12 that address how PJM should implement the Commission's December 15 Orders, so PJM respectfully requests that the Commission confirm PJM's implementation to eliminate any allocation of costs to HTP and Linden effective January 1, 2018 for those upgrades that are annually updated under Schedule 12.²⁷ As set forth in this filing, PJM is also implementing the December 15 Orders to eliminate HTP's and Linden's cost responsibility for those RTEP projects that are generally not updated in Schedule 12-Appendix or Schedule 12-Appendix A over the life of the facility. Specifically, neither the Tariff nor the Schedule 12-Appendices provides a process to update the cost assignments for Lower Voltage Facilities (below 500 kV) that were allocated using the

²⁶ December 15 HTP Order at P 50; December 15 Linden Order at P 32.

²⁷ See, e.g., PJM Interconnection, L.L.C., 2018 Annual RTEP Update Filing, Docket No. ER18-579-000 (Dec. 29, 2017).

violation-based distribution factor ("DFAX") analysis²⁸ or economic upgrades²⁹ after the initial allocation of the facility costs. PJM interprets the December 15 Orders as directing that all allocations to HTP and Linden cease as of January 1, 2018, and thus PJM proposes to eliminate such cost responsibility by pro-rating the allocations to the remaining zones as it did when it eliminated Consolidated Edison Company, Inc.'s ("Con Edison") cost allocations in Docket No. ER17-950-000.³⁰

To PJM's knowledge, there have been only two instances where PJM was faced with revising cost responsibility assignments mid-year. The first instance was when Duquesne Light Company ("Duquesne") requested to transfer its members in PJM to the Midwest Independent System Operator, Inc. region, effective October 1, 2008. In the context of that docket, the Commission addressed Duquesne's responsibility for projects approved and constructed under the PJM RTEP. With regard to Regional Facilities and Necessary Lower Voltage Facilities, the Commission determined not to subject Duquesne to PJM's future-period, annually updated RTEP costs.³¹ However, for RTEP costs allocated to the Duquesne Zone under the current-year 2008 Schedule 12 cost allocations, the Commission held that those allocations would "continue

²⁸ Prior to the Commission's acceptance of the solution-based distribution factor ("DFAX) analysis, which focuses on the benefits that users derive from the use of a required transmission enhancement, PJM used a violation-based DFAX analysis to determine cost allocations for Lower Voltage Facilities. The violation-based DFAX analysis evaluated users' relative contribution to the situation that created the need for a required transmission enhancement to be included in the RTEP. Unlike the solution-based DFAX analysis which can be updated annually to take into account relative use of the facility due to system modifications, the violation-based DFAX methodology could not practically be replicated periodically over the operating life of the transmission enhancement. *See Public Service Electric and Gas Company*, Revisions to PJM Tariff Cost Allocations, Docket No. ER13-90-000 at 9 and Exh. No. PTO-1 at 7 - 8.

²⁹ *PJM Interconnection, L.L.C.*, 129 FERC ¶ 61,161 at P 133 (Nov. 19, 2009) ("Opinion No. 503") (finding that PJM for economic upgrades for projects below 500kV PJM assigns cost responsibility once and does not re-evaluate such assignments).

³⁰ *PJM Interconnection, L.L.C.*, Amendments to Schedules 12-Appendix and Appendix A to ConEd Wheeling Termination, Docket No. ER17-950-000 (accepted by letter order issued Jun. 20, 2017).

³¹ Midwest Indep. Transmission Sys. Operator, Inc., et al. v. Duquesne Light Co., 124 FERC 61,219 at PP 162, 170 (Sept. 3, 2008) ("Duquesne Order").

to apply to the Duquesne [Z]one and may be collected by PJM through the current calendar year, ending December 31, 2008, based on the current-period, load ratio shares on file with the Commission under [S]chedule 12.³² The Commission clarified, however, that when PJM recalculated its load-ratio shares, it must submit its next annual 2009 RTEP update filing to reflect PJM's then-existing zones and loads (*sans* the Duquesne Zone).³³ With regard to Lower Voltage Facilities assigned under the violation-based DFAX, the Commission found that such assignment was fixed as of that point.³⁴ The issue was never litigated because Duquesne conceded it would continue to be liable for those allocations.³⁵ Of course, the Lower Voltage Facilities allocated using the violation-based DFAX analysis at the time were mostly located in the Duquesne Zone and would remain with Duquesne after it exited PJM.

The second event where PJM revised cost responsibility assignments for projects approved and constructed under the RTEP was when Consolidated Edison Company, Inc. ("Con Edison"), terminated its service under two firm point-to-point service agreements.³⁶ The two TSAs were the subject of a settlement agreement wherein Con Edison agreed to be assigned cost responsibility for RTEP enhancements and to pay associated RTEP costs during the term of its roll over service, which included the term of the Con Edison TSAs, as well as any subsequent

³² Id.

³³ *Id.* at P 167.

³⁴ *Id.* at P 168.

³⁵ *Id.* at P 168. Based on a review of the number of Lower Voltage Facilities in the 2008 RTEP allocated to the Duquesne Zone using violation-based DFAX, it appears there were approximately five projects. Of the five projects, three were located in and designated to Duquesne (b0501, b0502 and b0503) and allocated 93.26% to Duquesne and the remaining 6.74% to the APS Zone). The remaining two projects were located in and designated to APS and allocated as follows: baseline b0674 APS 97.68%, Duquesne 0.96 %, ECP 0.01%, PENELEC 1.09%, PSEG 0.25%, RE 0.01%; and b0704 APS 74.36%, DL 2.73%, PENELEC 22.91%.

³⁶ See Two Form of Service Agreements For Firm Point-To-Point Transmission Service entered into between PJM and Con Edison dated April 18, 2008, designated as Original Service Agreement Nos. 1873 and 1874 commencing on May 1, 2012 and terminating on April 30, 2017 ("Con Edison TSAs"). See PJM Interconnection, L.L.C., Filing, Docket No. ER08-858-000 at Attachment B (Apr. 22, 2008).

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roll over of such service.³⁷ The settling parties further agreed that with respect to the transmission service under the Con Edison TSAs, Con Edison would have no liability for RTEP charges prior to the commencement of, or after the termination of, such terms of service.³⁸ Such settlement terms and conditions were incorporated by reference in Schedule 12 of the PJM Tariff at section (b)(xi), which explicitly provides that all cost responsibility assignments for RTEP projects pursuant to Schedule 12 shall be adjusted at the commencement and termination of service under the Con Edison TSAs. Given the settlement agreement accepted by the Commission and the PJM Tariff, Schedule 12 at section (b)(xi), PJM revised Schedule 12-Appendix and Schedule 12-Appendix A to terminate all cost responsibility assignments to Con Edison mid-year, effective May 1, 2017.

Despite this limited precedent, the Commission, in the December 15 Orders, determined that once PJM was no longer required to provide HTP or Linden merchant transmission facility firm service and could curtail non-firm service whenever necessary to preserve reliability, HTP and Linden would no longer be allocated RTEP costs under Schedule 12-Appendix and Schedule 12-Appendix A. Consistent with that language, PJM proposes to revise Schedule 12-Appendix and Schedule 12-Appendix A to implement the Commission's directive and eliminate all of HTP's and Linden's RTEP cost responsibilities as of January 1, 2018.

³⁷ See PJM Interconnection, L.L.C., et al., Settlement Agreement and Offer of Settlement, Docket No. ER08-858-000, et al., (Feb. 23, 2009) ("Settlement Agreement"). The settling Parties included: PJM, the New York Independent System Operator, Inc. ("NYISO"), Con Edison, Public Service Electric and Gas Company, PSEG Energy Resources & Trading LLC and the New Jersey Board of Public Utilities.

³⁸ Settlement Agreement at P 20.

III. SATISFACTION OF THE COMPLIANCE REQUIREMENTS OF THE DECEMBER 15 ORDERS

To comply with the December 15 Orders, PJM included in its December 31, 2017 annual RTEP update filing,³⁹ revisions to Schedule 12-Appendix and Schedule 12-Appendix A to remove all of HTP's and Linden's cost responsibility assignments from the baseline upgrades that were the subject of PJM's annual update filing.⁴⁰ In addition to the revisions to the baseline upgrades revised under the 2018 Annual Update Filing, HTP and Linden are assigned cost responsibility for RTEP projects not updated annually under Schedule 12. Consequently, in order to effectuate the findings in the December 15 Orders that HTP and Linden would not be allocated RTEP costs once they no longer held Firm TWRs,⁴¹ PJM submits these revisions to Schedule 12-Appendix A to eliminate cost responsibility assignments to HTP and Linden under Schedule 12-Appendix that were either allocated originally using the violation-based DFAX analysis or were economic projects below 500 kV; and for all other RTEP projects under Schedule 12-Appendix A that were not revised under the 2018 Annual Update Filing and continue to assign cost responsibility to HTP and Linden.

³⁹ *PJM Interconnection, L.L.C.*, 2018 Annual RTEP Update Filing, Docket No. ER18-579-000 (Dec. 31, 2017) ("2018 Annual RTEP Update").

⁴⁰ See PJM Tariff, Schedule 12 §§ (b)(i)(A)(1) and (b)(iii)(H)(2).

⁴¹ HTP December 15 Order at P 50; Linden December 15 Order at P 32.

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IV. CORRESPONDENCE AND COMMUNICATIONS

Correspondence and communications with respect to this filing should be sent to, and the

parties request the Secretary to include on the official service list, the following:

Craig Glazer Vice President – Federal Government Policy PJM Interconnection, L.L.C. 1200 G Street, N.W., Suite 600 Washington, D.C. 20005 Ph: (202) 423-4743 craig.glazer@pjm.com Pauline Foley Associate General Counsel PJM Interconnection, L.L.C. 2750 Monroe Blvd. Audubon, PA 19403 Ph: (610) 666-8248 pauline.foley@pjm.com

V. CONTENTS OF THIS FILING

The following is a list of documents submitted with this filing:

- 1. This transmittal letter;
- 2. Attachment A Revisions to PJM Tariff, Schedule 12-Appendix and Schedule 12-Appendix A (redlined form); and
- 3. Attachment B Revisions to PJM Tariff, Schedule 12-Appendix and Schedule 12-Appendix A (clean form).

VI. EFFECTIVE DATE

PJM respectfully requests that the proposed revisions to the Schedule 12-Appendix and Schedule 12-Appendix A become effective on January 1, 2018, which date coincides with the date on which the owners of the merchant transmission facilities no longer had Firm Transmission Withdrawal Rights.

VII. REQUEST FOR WAIVER

PJM is making this filing in compliance consistent with the directives in the December 15 Orders. By making this filing in compliance with the December 15 Order, PJM understands that it has hereby satisfied any of the Commission filing requirements that might apply. Should any of the Commission regulations (including filing regulations) or requirements not addressed by PJM and be found to apply, PJM respectfully requests waiver of any such regulation or requirement.

VIII. 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,⁴² 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/fercmanuals/ferc-filings.aspx with a specific link to the newly-filed document, and will send an email on the same date as this filing to all PJM Members and all state utility regulatory commissions in the PJM Region⁴³ 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.

⁴² See 18C.F.R §§ 35.2(e) and 385.2010(f)(3) (2016).

⁴³ PJM already maintains, updates and regularly uses e-mail lists for all PJM Members and affected state commissions.

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IX. CONCLUSION

For all of the foregoing reasons, PJM respectfully request that the Commission accept the proposed revisions to PJM Tariff, Schedule 12-Appendix and Schedule 12-Appendix A, which are being filed to satisfy the requirements of the December 15 Orders.

Respectfully submitted,

Craig Glazer Vice President – Federal Government Policy PJM Interconnection, L.L.C. 1200 G Street, N.W., Suite 600 Washington, D.C. 20005 Ph: (202) 423-4743 Fax: (202) 393-7741 craig.glazer@pjm.com By: <u>/s/ Pauline Foley</u> Pauline Foley Associate General Counsel PJM Interconnection, L.L.C. 2750 Monroe Blvd. Audubon, PA 19403 Ph: (610) 666-8248 Fax: (610)666-8211 pauline.foley@pim.com

On behalf of PJM Interconnection, L.L.C.

CERTIFICATE OF SERVICE

I hereby certify that I have this day served the foregoing document on those parties on the official Service List compiled by the Secretary in these proceedings.

Dated at Audubon, Pennsylvania this 19th day of January 2018.

/s/ Pauline Foley Pauline Foley Assistant General Counsel PJM Interconnection, L.L.C. 2750 Monroe Blvd. Audubon, PA 19403 Ph: (610) 666-8248 pauline.foley@pjm.com

Attachment A

Revisions to Schedule 12- Appendix and Appendix A of the PJM Open Access Transmission Tariff

(Marked Format)

SCHEDULE 12 – APPENDIX

(1) Atlantic City Electric Company

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
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b0135	Build new Cumberland – Dennis 230 kV circuit which replaces existing Cumberland – Corson 138 kV		AEC (100%)
b0136	Install Dennis 230/138 kV transformer, Dennis 150 MVAR SVC and 50 MVAR capacitor		AEC (100%)
b0137	Build new Dennis – Corson 138 kV circuit		AEC (100%)
b0138	Install Cardiff 230/138 kV transformer and a 50 MVAR capacitor at Cardiff		AEC (100%)
b0139	Build new Cardiff – Lewis 138 kV circuit		AEC (100%)
b0140	Reconductor Laurel – Woodstown 69 kV		AEC (100%)
b0141	Reconductor Monroe – North Central 69 kV		AEC (100%)
b0265	Upgrade AE portion of Delco Tap – Mickleton 230 kV circuit		AEC (89.87%) / JCPL (9.48%) / Neptune* (0.65%)
b0276	Replace both Monroe 230/69 kV transformers		AEC (<u>91.2891.46</u> %) / PSEG (<u>8.298.31</u> %) / RE (0.23%) / ECP** (0.20%)
b0276.1	Upgrade a strand bus at Monroe to increase the rating of transformer #2		AEC (100%)
b0277	Install a second Cumberland 230/138 kV transformer		AEC (100%)
b0281.1	Install 35 MVAR capacitor at Lake Ave 69 kV substation		AEC (100%)

Atlantic City Electric Company (cont.)

Required I	ransmission Enhancements Ani	nual Revenue Requirement	Responsible Customer(s)
b0281.2	Install 15 MVAR capacitor at Shipbottom 69 kV substation		AEC (100%)
b0281.3	Install 8 MVAR capacitors on the AE distribution system		AEC (100%)
b0142	Reconductor Landis – Minotola 138 kV		AEC (100%)
b0143	Reconductor Beckett – Paulsboro 69 kV		AEC (100%)
b0210	Install a new 500/230kV substation in AEC area. The high side will be tapped on the Salem - East Windsor 500kV circuit and the low side will be tapped on the Churchtown - Cumberland 230kV circuit.		AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%)
b0210.1	Orchard – Cumberland – Install second 230 kV line		AEC (65.23%) / JCPL (25.87%) / Neptune * (2.55%) / PSEG (6.35%)††
b0210.2	Install a new 500/230kV substation in AEC area, the high side will be tapped on the Salem - East Windsor 500kV circuit and the low side will be tapped on the Churchtown - Cumberland 230kV circuit.		AEC (65.23%) / JCPL (25.87%) / Neptune* (2.55%) / PSEG (6.35%)††

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

* Neptune Regional Transmission System, LLC

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

[†]Cost allocations associated with Regional Facilities and Necessary Lower Voltage Facilities associated with the project

††Cost allocations associated with below 500 kV elements of the project

The Annual Revenue Requirement associated with the Transmission Enhancement Charges are set forth and determined in Appendix A to Attachment H-1.

Atlantic City Electric Company (cont.)

Required T	ransmission Enhancements	Annual Revenue Requireme	ent Responsible Customer(s)
b0211	Reconductor Union - Corson 138kV circuit		AEC (65.23%) / JCPL (25.87%) / Neptune* (2.55%) / PSEG (6.35%)
b0212	Substation upgrades at Union and Corson 138kV		AEC (65.23%) / JCPL (25.87%) / Neptune* (2.55%) / PSEG (6.35%)
b0214	Install 50 MVAR capacitor at Cardiff 230kV substation		AEC (100%)
b0431	Monroe Upgrade New Freedom strand bus		AEC (100%)
b0576	Move the Monroe 230/69 kV to Mickleton		AEC (100%)
b0744	Upgrade a strand bus at Mill 138 kV		AEC (100%)
b0871	Install 35 MVAR capacitor at Motts Farm 69 kV		AEC (100%)
b1072	Modify the existing EMS load shedding scheme at Cedar to additionally sense the loss of both Cedar 230/69 kV transformers and shed load accordingly		AEC (100%)
b1127	Build a new Lincoln- Minitola 138 kV line		AEC (100%)
b1195.1	Upgrade the Corson sub T2 terminal		AEC (100%)
b1195.2	Upgrade the Corson sub T1 terminal		AEC (100%)

Atlantic City Electric Company (cont.)

Required T	ransmission Enhancements	Annual Revenue Requireme	entResponsible Customer(s)
b1244	Install 10 MVAR capacitor at Peermont 69 kV substation		AEC (100%)
b1245	Rebuild the Newport-South Millville 69 kV line		AEC (100%)
b1250	Reconductor the Monroe – Glassboro 69 kV		AEC (100%)
b1250.1	Upgrade substation equipment at Glassboro		AEC (100%)
b1280	Sherman: Upgrade 138/69 kV transformers		AEC (100%)
b1396	Replace Lewis 138 kV breaker 'L'		AEC (100%)
b1398.5	Reconductor the existing Mickleton – Goucestr 230 kV circuit (AE portion)		JCPL (12.8213.03 %) / NEPTUNE (1.181.20 %) / HTP (0.79%) / PECO (51.0851.93 %) / PEPCO (0.570.58 %) / ECP** (0.85%) / PSEG (31.4631.99 %) / RE (1.25<u>1.27</u>%)
b1598	Reconductor Sherman Av – Carl's Corner 69kV circuit		AEC (100%)
b1599	Replace terminal equipments at Central North 69 kV substation		AEC (100%)
b1600	Upgrade the Mill T2 138/69 kV transformer		AEC (88.83 89.21%) / JCPL (4.74 <u>4.76</u> %) / HTP (0.20%) / <u>ECP** (0.22%) /</u> PSEG (<u>5.785.80</u> %) / RE (0.23%)
b2157	Re-build 5.3 miles of the Corson - Tuckahoe 69 kV circuit		AEC (100%)

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

The Annual Revenue Requirement associated with the Transmission Enhancement Charges are set forth and determined in Appendix A to Attachment H-1.

SCHEDULE 12 – APPENDIX

(2) **Baltimore Gas and Electric Company**

Required '	Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b0152	Add (2) 230 kV Breakers at High Ridge and install two Northwest 230 kV		BGE (100%)
b0244	120 MVAR capacitors Install a 4 th Waugh Chapel 500/230kV transformer, terminate the transformer in a new 500 kV bay and operate the existing in- service spare transformer		BGE (85.56%) / ME (0.83%) / PEPCO (13.61%)
b0298	on standby Replace both Conastone 500/230 kV transformers with larger transformers	As specified in Attachment H- 2A, Attachment 7, the Transmission Enhancement Charge Worksheet	BGE (75.85%) / Dominion (11.54%) / ME (4.73%) / PEPCO (7.88%)
b0298.1	Replace Conastone 230 kV breaker 500-3/2323		BGE (100%)
b0474	Add a fourth 230/115 kV transformer, two 230 kV circuit breakers and a 115 kV breaker at Waugh Chapel		BGE (100%)
b0475	Create two 230 kV ring buses at North West, add two 230/ 115 kV transformers at North West and create a new 115 kV station at North West		BGE (100%)
b0476	Rebuild High Ridge 230 kV substation to Breaker and Half configuration		BGE (100%)
b0477	Replace the Waugh Chapel 500/230 kV transformer #1 with three single phase transformers		BGE (90.56%) / ME (1.51%) / PECO (.92%) / PEPCO (4.01%) / PPL (3.00%)

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

Required 7	Fransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b0497	Install a second Conastone – Graceton 230 kV circuit		AEC (9.009.03%) / DPL (16.8516.90%) / JCPL (9.649.67%) / ME (1.48%) / Neptune* (0.95%) / PECO (30.7930.88%) / PPL (16.4116.46%) / ECP** (0.29%) / PSEG (14.0714.11%) / RE (0.52%)
b0497.1	Replace Conastone 230 kV breaker #4		BGE (100%)
b0497.2	Replace Conastone 230 kV breaker #7		BGE (100%)
b0500.2	Replace wavetrap and raise operating temperature on Conastone – Otter Creek 230 kV line to 165 deg		AEC (6.276.31%) / DPL (8.658.70%) / JCPL (14.5414.62%) / ME (10.5910.65%) / Neptune* (1.371.38%) / PECO (15.6615.75%) / PPL (21.0221.14%) / ECP** (0.57%) / PSEG (20.5620.68%) / RE (0.77%)
b0512.33	MAPP Project Install new Hallowing Point – Calvert Cliffs 500 kV circuit and associated substation work at Calvert Cliffs substation		AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (11.40%) / ComEd (6.13%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%)

Required '	Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b0512.43	MAPP Project Install new Hallowing Point – Calvert Cliffs 500 kV circuit and associated substation work at Calvert Cliffs substation		AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (11.40%) / ComEd (6.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%)
b0729	Rebuild both Harford – Perryman 110615-A and 110616-A 115 kV circuits		BGE (100%)
b0749	Replace 230 kV breaker and associated CT's at Riverside 230 kV on 2345 line; replace all dead-end structures at Brandon Shores, Hawkins Point, Sollers Point and Riverside; Install a second conductor per phase on the spans entering each station		BGE (100%)

Requiree	Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b0795	Install a 115 kV breaker at Chesaco Park		BGE (100%)
b0796	Install 2, 115 kV breakers at Gwynnbrook		BGE (100%)
b0819	Remove line drop limitations at the substation terminations for Gwynnbrook – Mays Chapel 115 kV		BGE (100%)
b0820	Remove line drop limitations at the substation terminations and replace switch for Delight – Gwynnbrook 115 kV		BGE (100%)
b0821	Remove line drop limitations at the substation terminations for Northwest – Delight 115 kV		BGE (100%)
b0822	Remove line drop limitations at the substation terminations for Gwynnbrook – Sudbrook 115 kV		BGE (100%)
b0823	Remove line drop limitations at the substation terminations for Windy Edge – Texas 115 kV		BGE (100%)
b0824	Remove line drop limitations at the substation terminations for Granite – Harrisonville 115 kV		BGE (100%)
b0825	Remove line drop limitations at the substation terminations for Harrison – Dolefield 115 kV		BGE (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

* Neptune Regional Transmission System, LLC <u>** East Coast Power, L.L.C.</u>

Required	Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
	Remove line drop		
	limitations at the		
b0826	substation terminations for		BGE (100%)
	Riverside – East Point 115		
	kV		
	Install an SPS for one year		
	to trip a Mays Chapel 115		
b0827	kV breaker one line		BGE (100%)
	110579 for line overloads		
	110509		
	Disable the HS throwover		
b0828	at Harrisonville for one		BGE (100%)
	year		
	Rebuild each line (0.2		
	miles each) to increase the		
b0870	normal rating to 968 MVA		BGE (100%)
	and the emergency rating		
	to 1227 MVA		
	Increase contact parting		
b0906	time on Wagner 115 kV		BGE (100%)
	breaker 32-3/2		
	Increase contact parting		
b0907	time on Wagner 115 kV		BGE (100%)
	breaker 34-1/3		
	Rebuild Graceton - Bagley		
	230 kV as double circuit		APS (2.02%) / BGE (75.22%)
b1016	line using 1590 ACSR.		/ Dominion (16.1%) / PEPCO
01010	Terminate new line at		(6.6%)
	Graceton with a new		
	circuit breaker.		
	Upgrade wire drops at		
b1055	Center 115kV on the		BGE (100%)
01000	Center - Westport 115 kV		
	circuit		
	Upgrade wire sections at		
	Wagner on both 110534		
b1029	and 110535 115 kV		
	circuits. Reconfigure		
	Lipins Corner substation		BGE (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

The Annual Revenue Requirement associated with the Transmission Enhancement Charges are set forth and determined in Appendix A to Attachment H-2.

		Annual Revenue Requirement	Responsione oustonner(s)
b1030	Move the Hillen Rd substation from circuits 110507/110508 to circuits 110505/110506		BGE (100%)
b1031	Replace wire sections on Westport - Pumphrey 115 kV circuits #110521, 110524, 110525, and 110526		BGE (100%)
b1083	Upgrade wire sections of the Mays Chapel – Mt Washington circuits (110701 and 110703) to improve the rating to 260/300 SN/SE MVA		BGE (100%)
b1084	Extend circuit 110570 from Deer Park to Northwest, and retire the section of circuit 110560 from Deer Park to Deer Park tap and retire existing Deer Park Breaker		BGE (100%)
b1085	Upgrade substation wire conductors at Lipins Corner to improve the rating of Solley-Lipins Corner sections of circuits 110534 and 110535 to 275/311 MVA SN/SE		BGE (100%)
b1086	Build a new 115 kV switching station between Orchard St. and Monument St.		BGE (100%)
b1175	Apply SPS at Mt. Washington to delay load pick-up for one outage and for the other outage temporarily drop load		BGE (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

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	Transfer 6 MW of load		
b1176	from Mt. Washington –		
	East Towson		BGE (100%)
			APS (4.42%) / BGE (66.95%)
	Build a second Raphael –		/ ComEd (4.12%) / Dayton
b1251	Bagley 230 kV		(0.49%) / Dominion (18.76%)
	Dagley 230 KV		/ PENELEC (0.05%) / PEPCO
			(5.21%)
	Re-build the existing Raphael – Bagley 230 kV		APS (4.42%) / BGE (66.95%)
			/ ComEd (4.12%) / Dayton
b1251.1			(0.49%) / Dominion (18.76%)
			/ PENELEC (0.05%) / PEPCO
		(5.21%)	
	Upgrade terminal		
b1252	equipment (remove		
	terminal limitation at		
	Pumphrey Tap to bring		
	the circuit to 790N/941E		BGE (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required	Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
	Replace the existing		
b1253	Northeast 230/115 kV		
01233	transformer #3 with 500		
	MVA		BGE (100%)
b1253.1	Replace the Northeast 230		
0120011	kV breaker '2317/315'		BGE (100%)
	Revise reclosing on		
b1253.2	Windy Edge 115 kV		
	breaker '110515'		BGE (100%)
1 1050 0	Revise reclosing on		
b1253.3	Windy Edge 115 kV		
	breaker '110516'		BGE (100%)
b1253.4	Revise reclosing on Windy Edge 115 kV		
01233.4	Windy Edge 115 kV breaker '110517'		BGE (100%)
			APS (4.07%) / BGE (53.19%)
			/ ComEd (3.71%) / DoE (55.17%)
b1254	Build a new 500/230 kV		(0.50%) / Dominion (16.44%)
01234	substation (Emory Grove)		/ PENELEC (0.59%) / PEPCO
			(21.50%)
1.105.4.4	Bundle the Emory – North		(
b1254.1	West 230 kV circuits		BGE (100%)
	Rebuild existing Erdman		
	115 kV substation to a		
b1267	dual ring-bus		
01207	configuration to enable		
	termination of new		
	circuits		BGE (100%)
b1267.1	Construct 115 kV double		
	circuit underground line		
	from existing Coldspring		
	to Erdman substation		BGE (100%)
b1267.2	Replace Mays Chapel 115		
01207.2	kV breaker '110515A'		BGE (100%)
b1267.3	Replace Mays Chapel 115		
	kV breaker '110579C'		BGE (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer	Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s
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riequireu		Annual Revenue Requirement	
b1544	Advance the baseline upgrade B1252 to upgrade terminal equipment removing terminal limitation at Pumphrey Tap on BGE 230 kV circuit 2332-A		BGE (100%)
b1545	Upgrade terminal equipment at both Brandon Shores and Waugh Chapel removing terminal limitation on BGE 230 kV circuit 2343		BGE (100%)
b1546	Upgrade terminal equipment at Graceton removing terminal limitation on BGE portion of the 230 kV Graceton – Cooper circuit 2343		BGE (100%)
b1583	Replace Hazelwood 115 kV breaker '110602'		BGE (100%)
b1584	Replace Hazelwood 115 kV breaker '110604'		BGE (100%)
b1606.1	Moving the station supply connections of the Hazelwood 115/13kV station		BGE (100%)
b1606.2	Installing 115kV tie breakers at Melvale		BGE (100%)
b1785	Revise the reclosing for Pumphrey 115 kV breaker '110521 DR'		BGE (100%)
b1786	Revise the reclosing for Pumphrey 115 kV breaker '110526 DR'		BGE (100%)
b1789	Revise the reclosing for Pumphrey 115 kV breaker '110524DR'		BGE (100%)
b1806	Rebuild Wagner 115kV substation to 80kA		BGE (100%)

SCHEDULE 12 – APPENDIX

(3) Delmarva Power & Light Company

Required T	ransmission Enhancements An	nual Revenue Requirement	Responsible Customer(s)
b0144.1	Build new Red Lion – Milford – Indian River 230 kV circuit		DPL (100%)
b0144.2	Indian River Sub – 230 kV Terminal Position		DPL (100%)
b0144.3	Red Lion Sub – 230 kV Terminal Position		DPL (100%)
b0144.4	Milford Sub – (2) 230 kV Terminal Positions		DPL (100%)
b0144.5	Indian River – 138 kV Transmission Line to AT- 20		DPL (100%)
b0144.6	Indian River – 138 & 69 kV Transmission Ckts. Undergrounding		DPL (100%)
b0144.7	Indian River – (2) 230 kV bus ties		DPL (100%)
b0148	Re-rate Glasgow – Mt. Pleasant 138 kV and North Seaford – South Harrington 138 kV		DPL (100%)
b0149	Complete structure work to increase rating of Cheswold – Jones REA 138 kV		DPL (100%)
b0221	Replace disconnect switch on Edgewood-N. Salisbury 69 kV		DPL (100%)
b0241.1	Keeny Sub – Replace overstressed breakers		DPL (100%)
b0241.2	Edgemoor Sub – Replace overstressed breakers		DPL (100%)
b0241.3	Red Lion Sub – Substation reconfigure to provide for second Red Lion 500/230 kV transformer		DPL (84.5%) / PECO (15.5%)
b0261	Replace 1200 Amp disconnect switch on the Red Lion – Reybold 138 kV circuit		DPL (100%)

	Reconductor 0.5 miles of	Ĩ	
b0262	Christiana – Edgemoor 138 kV		DPL (100%)
b0263	Replace 1200 Amp wavetrap at Indian River on the Indian River – Frankford 138 kV line		DPL (100%)
b0272.1	Replace line trap and disconnect switch at Keeney 500 kV substation – 5025 Line Terminal Upgrade		AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%)
b0282	Install 46 MVAR capacitors on the DPL distribution system		DPL (100%)
b0291	Replace 1600A disconnect switch at Harmony 230 kV and for the Harmony – Edgemoor 230 kV circuit, increase the operating temperature of the conductor		DPL (100%)
b0295	Raise conductor temperature of North Seaford – Pine Street – Dupont Seaford		DPL (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

*Neptune Regional Transmission System, LLC <u>**East Coast Power, LLC</u> <u>***Hudson Transmission Partners, LLC</u>

Required	Transmission Enhancements Ar	nual Revenue Requirement	Responsible Customer(s)
b0296	Rehoboth/Cedar Neck Tap		DPL (100%)
	(6733-2) upgrade		DI E (10070)
b0320	Create a new 230 kV station that splits the 2 nd Milford to Indian River 230 kV line, add a 230/69 kV transformer, and run a new 69 kV line down to		DPL (100%)
	Harbeson 69 kV		
b0382	Cambridge Sub – Close through to Todd Substation		DPL (100%)
b0383	Wye Mills AT-1 and AT-2 138/69 kV Replacements		DPL (100%)
b0384	Replace Indian River AT-20 (400 MVA)		DPL (100%)
b0385	Oak Hall to New Church (13765) Upgrade		DPL (100%)
b0386	Cheswold/Kent (6768) Rebuild		DPL (100%)
b0387	N. Seaford – Add a 2 nd 138/69 kV autotransformer		DPL (100%)
b0388	Hallwood/Parksley (6790-2) Upgrade		DPL (100%)
b0389	Indian River AT-1 and AT- 2 138/69 kV Replacements		DPL (100%)
b0390	Rehoboth/Lewes (6751-1 and 6751-2) Upgrade		DPL (100%)
b0391	Kent/New Meredith (6704- 2) Upgrade		DPL (100%)
b0392	East New Market Sub – Establish a 69 kV Bus Arrangement		DPL (100%)
b0415	Increase the temperature ratings of the Edgemoor – Christiana – New Castle 138 kV by replacing six transmission poles		DPL (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required '	Transmission Enhancements An	nual Revenue Requirement	Responsible Customer(s)
b0437	Spare Keeney 500/230 kV transformer		DPL (100%)
b0441	Additional spare Keeney 500/230 kV transformer		DPL (100%)
b0480	Rebuild Lank – Five Points 69 kV		DPL (100%)
b0481	Replace wave trap at Indian River 138 kV on the Omar – Indian River 138 kV circuit		DPL (100%)
b0482	Rebuild Millsboro – Zoar REA 69 kV		DPL (100%)
b0483	Replace Church 138/69 kV transformer and add two breakers		DPL (100%)
b0483.1	Build Oak Hall – Wattsville 138 kV line		DPL (100%)
b0483.2	Add 138/69 kV transformer at Wattsville		DPL (100%)
b0483.3	Establish 138 kV bus position at Oak Hall		DPL (100%)
b0484	Re-tension Worcester – Berlin 69 kV for 125°C		DPL (100%)
b0485	Re-tension Taylor – North Seaford 69 kV for 125°C		DPL (100%)
b0494.1	Install a 2 nd Red Lion 230/138 kV		DPL (100%)
b0494.2	Hares Corner – Relay Improvement		DPL (100%)
b0494.3	Reybold – Relay Improvement		DPL (100%)
b0494.4	New Castle – Relay Improvement		DPL (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required 7	Transmission Enhancements A	Innual Revenue Requirement	Responsible Customer(s)
			AEC (1.66%) / AEP
			(14.16%) / APS (5.73%) /
			ATSI (7.88%) / BGE
	MAPP Project – install new		(4.22%) / ComEd (13.31%) /
	500 kV transmission from		Dayton (2.11%) / DEOK
	Possum Point to Calvert		(3.29%) / DL (1.75%) / DPL
b0512	Cliffs and install a DC line		(2.50%) / Dominion
00312	from Calvert Cliffs to		(12.86%) / EKPC (1.87%) /
	Vienna and a DC line from		JCPL (3.74%) / ME (1.90%)
	Calvert Cliffs to Indian		/ NEPTUNE* (0.44%) /
	River		PECO (5.34%) / PENELEC
			(1.89%) / PEPCO (3.99%) /
			PPL (4.84%) / PSEG
			(6.26%) / RE (0.26%)
1.0512	Rebuild the Ocean Bay –		
b0513	Maridel 69 kV line		DPL (100%)
	Replace existing 12 MVAR		
b0527	capacitor at Bethany with a		DPL (100%)
	30 MVAR capacitor		
	Replace existing 69/12 kV		
b0528	transformer at Bethany with		DPL (100%)
	a 138/12 kV transformer		
	Install an additional 8.4		
b0529	MVAR capacitor at		DPL (100%)
	Grasonville 69 Kv		
	Replace existing 12 MVAR		
b0530	capacitor at Wye Mills with		DPL (100%)
	a 30 MVAR capacitor		

Required'	Transmission Enhancements An	nual Revenue Requirement I	Responsible Customer(s)
b0531	Create a four breaker 138 kV ring bus at Wye Mills and add a second 138/69 kV transformer		DPL (100%)
b0566	Rebuild the Trappe Tap – Todd 69 kV line		DPL (100%)
b0567	Rebuild the Mt. Pleasant – Townsend 138 kV line		DPL (100%)
b0568	Install a third Indian River 230/138 kV transformer		DPL (100%)
b0725	Add a third Steele 230/138 kV transformer		DPL (100%)
b0732	Rebuild Vaugh – Wells 69 kV		DPL (100%)
b0733	Add a second 230/138 kV transformer at Harmony		DPL (97.06%) / PECO (2.94%)
b0734	Rebuild Church – Steele 138 kV		DPL (100%)
b0735	Rebuild Indian River – Omar – Bethany 138 kV		DPL (100%)
b0736	Rebuild Dupont Edgemoor – Edgemoor – Silverside 69 kV		DPL (69.4669.65 %) / PECO (17.25<u>17.30</u>%) / ECP** (0.27%) / PSEG (12.53<u>12.56</u>%) / RE (0.49%)
b0737	Build a new Indian River – Bishop 138 kV line		DPL (100%)
b0750	Convert 138 kV network path from Vienna – Loretto – Piney - Grove to 230 kV, add 230/138 kV transformer to Loretto 230 kV		DPL (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Delmarva Power & Light Company (cont.)

Required 7	Transmission Enhancements An	nual Revenue Requirement	Responsible Customer(s)
b0751	Add two additional breakers at Keeney 500 kV		AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%)
b0752	Replace two circuit breakers to bring the emergency rating up to 348 MVA		DPL (100%)
b0753	Add a second Loretto 230/138 kV transformer		DPL (100%)
b0754	Rebuild 10 miles of Glasgow to Mt. Pleasant 138 kV line to bring the normal rating to 298 MVA and the emergency rating to 333 MVA		DPL (100%)
b0792	Reconfigure Cecil Sub into 230 and 138 kV ring buses, add a 230/138 kV transformer, and operate the 34.5 kV bus normally open		DPL (100%)
b0873	Build 2nd Glasgow-Mt Pleasant 138 kV line		DPL (100%)
b0874	Reconfigure Brandywine substation		DPL (100%)

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

Delmarva Power & Light Company (cont.)

Required	ransmission Enhancements A	nnual Revenue Requirement	Responsible Customer(s)
b0876	Install 50 MVAR SVC at 138th St 138 kV		DPL (100%)
b0877	Build a 2nd Vienna-Steele 230 kV line		DPL (100%)
b0879.1	Apply a special protection scheme (load drop at Stevensville and Grasonville)		DPL (100%)
b1246	Re-build the Townsend – Church 138 kV circuit		DPL (100%)
b1247	Re-build the Glasgow – Cecil 138 kV circuit		DPL (72.06%) / PECO (27.94%)
b1248	Install two 15 MVAR capacitor at Loretto 69 kV		DPL (100%)
b1249	Reconfigure the existing Sussex 69 kV capacitor		DPL (100%)
b1603	Upgrade 19 miles conductor of the Wattsville - Signepost - Stockton - Kenney 69 kV circuit		DPL (100%)
b1604	Replace CT at Reybold 138 kV substation		DPL (100%)
b1723	Replace strand bus and disconnect switch at Glasgow 138 kV substation		DPL (100%)
b1899.1	Install new variable reactors at Indian River and Nelson 138 kV		DPL (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

* Neptune Regional Transmission System, LLC <u>** East Coast Power, L.L.C.</u>

***Hudson Transmission Partners, LLC

The Annual Revenue Requirement associated with the Transmission Enhancement Charges are set forth and determined in Appendix A to Attachment H-3.

Delmarva Power & Light Company (cont.)

Required	Transmission Enhancements An	inual Revenue Requirement	Responsible Customer(s)
b1899.2	Install new variable reactors at Cedar Creek 230 kV		DPL (100%)
b1899.3	Install new variable reactors at New Castle 138 kV and Easton 69 kV		DPL (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

SCHEDULE 12 – APPENDIX

(4) Jersey Central Power & Light Company

Required T	ransmission Enhancements Ani	nual Revenue Requirement	Responsible Customer(s)
-	Add 180 MVAR of		
	distributed capacitors. 65		
	MVAR in northern JCPL and		
	115 MVAR in southern		
b0123	JCPL		JCPL (100%)
	Add a 72 MVAR capacitor at		
b0124.1	Kittatinny 230 kV		JCPL (100%)
	Add a 130 MVAR capacitor		
b0124.2	at Manitou 230 kV		JCPL (100%)
	Reconductor Portland –		
	Kittatinny 230 kV with 1590		
b0132	ACSS		JCPL (100%)
	Replace terminal equipment		
	on the Portland – Kittatinny		
	230 kV and CB at the		
b0132.1	Kittatinny bus		JCPL (100%)
	Replace terminal equipment		
	on the Portland – Kittatinny		
	230 kV and CB at the		
b0132.2	Portland bus		JCPL (100%)
	Replace a line trap at Newton		
	230kV substation for the		
	Kittatinny-Newton 230kV		
b0173	circuit		JCPL (100%)
		The following rates are	
		consistent with the	
		settlement agreement filed	JCPL (35.40<u>35.98</u>%) /
	Upgrade the Portland –	in and approved by the	Neptune* (5.67<u>5.76</u>%) /
b0174	Greystone 230kV circuit	Commission in Docket No.	PSEG (54.37<u>55.27</u>%)
	Steystone 230k v eneur	ER17-217,	RE (2.94<u>2.99</u>%)≁
		2017: \$1,442,372	ECP** (1.62%)
		2018: \$1,273,748	
		2019: \$1,235,637	
	Greystone 230kV substation:		
	Change Tap of limiting CT		
b0199	and replace breaker on the		
	Greystone Whippany		
	(Q1031) 230kV line		JCPL (100%)
	Greystone 230kV substation:		
b0200	Change Tap of limiting CT		
	on the West Wharton		JCPL (100%)

ystone (E1045)	230kV

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

Required '	Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
	Kittatinny 230kV	•	
	substation: Replace line		
	trap on Kittatinny		
	Pohatcong (L2012)		
	230kV line; Pohatcong		
	230kV substation: Change		
	Tap of limiting CT on		
	Kittatinny Pohatcong		
b0202	(L2012) 230kV line		JCPL (100%)
	Smithburg 230kV		
	Substation: Replace line		
	trap on the East Windsor		
	Smithburg (E2005)		
	230kV line; East Windsor		
	230kV substation:		
	Replace line trap on the		
	East Windsor Smithburg		
b0203	(E2005) 230kV line		JCPL (100%)
	Install 72Mvar capacitor		
	at Cookstown 230kV		
b0204	substation		JCPL (100%)
00204	Reconductor JCPL 2 mile		JETE (10070)
	portion of Kittatinny –		
b0267	Newton 230 kV line		JCPL (100%)
		The following rates are	
		consistent with the	
		settlement agreement filed	JCPL (61.77<u>62.43</u>%) /
		in and approved by the	Neptune* (<u>33.03</u> %) /
		Commission in Docket No.	PSEG (32.73<u>33.08</u>%) / RE
		ER17-217,	(1.45<u>1.46</u>%) / <u>ECP**</u>
	Reconductor the 8 mile	2017: \$734,194	(1.05%)
	Gilbert – Glen Gardner	2018: \$646,180	
b0268	230 kV circuit	2019: \$628,066	

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

Required Tra	ansmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
	Install 100 MVAR		
	capacitor at Glen		
b0279.1	Gardner substation		JCPL (100%)
	Install MVAR capacitor		
	at Kittatinny 230 kV		
b0279.2	substation		JCPL (100%)
	Install 17.6 MVAR		
	capacitor at Freneau		
b0279.3	34.5 kV substation		JCPL (100%)
	Install 6.6 MVAR		i
	capacitor at Waretown		
	#1 bank 34.5 kV		
b0279.4	substation		JCPL (100%)
	Install 10.8 MVAR		
	capacitor at Spottswood		
	#2 bank .4.5 kV		
b0279.5	substation		JCPL (100%)
	Install 6.6 MVAR		
	capacitor at Pequannock		
	N bus 34.5 kV		
b0279.6	substation		JCPL (100%)
	Install 6.6 MVAR		i
	capacitor at Haskell P		
b0279.7	bus 34.5 kV substation		JCPL (100%)
	Install 6.6 MVAR		i
	capacitor at Pinewald #2		
	Bank 34.5 kV		
b0279.8	substation		JCPL (100%)
	Install 6.6 MVAR		
	capacitor at Matrix 34.5		
b0279.9	kV substation		JCPL (100%)
	Install 6.6 MVAR		
	capacitor at Hamburg		
	Boro Q Bus 34.5 kV		
b0279.10	substation		JCPL (100%)
	Install 6.6 MVAR		· · · · · ·
	capacitor at Newburg Q		
b0279.11	Bus 34.5 kV substation		JCPL (100%)
	Install 130 MVAR		
	capacitor at Whippany		
b0286	230 kV		JCPL (100%)

Required Tr	ansmission Enhancements Annu	al Revenue Requirement	Responsible Customer(s)
			AEC (0.65<u>0.66</u>%) / JCPL
			(30.37<u>30.90</u>%) / Neptune*
	Install 600 MVAR		(4 <u>.965.05</u> %) / PSEG
	Dynamic Reactive		(59.65<u>60.69</u>%)/RE
	Device in the Whippany		(2.66<u>2.70</u>%) / ECP**
b0289	230 kV vicinity		(1.71%)
	Install additional 130		
	MVAR capacitor at		
	West Wharton 230 kV		
b0289.1	substation		JCPL (100%)
	Replace a 1600A line		
	trap at Atlantic Larrabee		
b0292	230 kV substation		JCPL (100%)
	Implement Operating		
	Procedure of closing the		
	Glendon – Gilbert 115		
b0350	kV circuit		JCPL (100%)
* Nep	otune Regional Transmission Sys	stem, LLC	

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

Required T	Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b0356	Replace wave trap on the Portland – Greystone 230 kV		JCPL (100%)
b0361	Change tap of limiting CT at Morristown 230 kV		JCPL (100%)
b0362	Change tap setting of limiting CT at Pohatcong 230 kV		JCPL (100%)
b0363	Change tap setting of limiting CT at Windsor 230 kV		JCPL (100%)
b0364	Change tap setting of CT at Cookstown 230 kV		JCPL (100%)
b0423.1	Upgrade terminal equipment at Readington (substation conductor)		JCPL (100%)
b0520	Replace Gilbert circuit breaker 12A		JCPL (100%)
b0657	Construct Boston Road 34.5 kV stations, construct Hyson 34.5 stations, add a 7.2 MVAR capacitor at Boston Road 34.5 kV		JCPL (100%)
b0726	Add a 2 nd Raritan River 230/115 kV transformer	The following rates are consistent with the settlement agreement filed in and approved by the Commission in Docket No. ER17-217, 2017: \$950,666 2018: \$846,872 2019: \$827,854	AEC (2.45%) / JCPL (97.55%)
b1020	Replace wave trap at Englishtown on the Englishtown - Manalapan circuit		JCPL (100%)

Daguired Transmission Enhancements Annual Devenue Decuirement Desponsible Customer(s)

Required T	ransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1075	Replace the West Wharton - Franklin - Vermont D931 and J932 115 kV line conductors with 1590 45/7 ACSR wire between the tower structures 78 and 78-B		JCPL (100%)
b1154.1	Upgrade the Whippany 230 kV breaker 'JB'		JCPL (100%)
b1155.1	Upgrade the Red Oak 230 kV breaker 'G1047'		JCPL (100%)
b1155.2	Upgrade the Red Oak 230 kV breaker 'T1034'		JCPL (100%)
b1345	Install Martinsville 4- breaker 34.5 rink bus		JCPL (100%)
b1346	Reconductor the Franklin – Humburg (R746) 4.7 miles 34.5 kV line with 556 ACSR and build 2.7 miles 55 ACSR line extension to Sussex		JCPL (100%)
b1347	Replace 500 CU substation conductor with 795 ACSR on the Whitesville – Asbury Tap 34.5 kV (U47) line		JCPL (100%)
b1348	Upgrade the Newton – North Newton 34.5 kV (F708) line by adding a second underground 1250 CU egress cable		JCPL (100%)
b1349	Reconductor 5.2 miles of the Newton – Woodruffs Gap 34.5 kV (A703) line with 556 ACSR		JCPL (100%)
b1350	Upgrade the East Flemington – Flemington 34.5 kV (V724) line by adding second underground 1000 AL egress cable and replacing 4/0		JCPL (100%)

Required '	Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
	Add 34.5 kV breaker on		
b1351	the Larrabee A and D bus		
	tie		JCPL (100%)
	Upgrade the Smithburg –		
	Centerstate Tap 34.5 kV		
b1352	(X752) line by adding		
01552	second 200 ft		
	underground 1250 CU		
	egress cable		JCPL (100%)
	Upgrade the Larrabee –		
	Laurelton 34.5 kV (Q43)		
b1353	line by adding second 700		
	ft underground 1250 CU		
	egress cable		JCPL (100%)

Required 7	Fransmission Enhancements	Annual Revenue Requirement	Responsible

Add four 34.5 kV breakers and re-configure A/B bus at Rockaway JCPL (100%) Build a new section 3.3 miles 34.5 kV 556 ACSR line from Riverdale to Builet Build 10.2 miles new JCPL (100%) b1357 34.5 kV bine from Larrabee - Howell JCPL (100%) b1359 Install a Troy Hills 34.5 kV configure the Montville - - Whippany 34.5 kV JCPL (100%) Reconductor 0.7 miles of - the Englishtown - Freehold Tap 34.5 kV (L12) line with 556 JCPL (100%) ACSR JCPL (100%) B1361 Reconductor the Occanview - Neptune Tap 34.5 kV (D130) line with 795 ACSR JCPL (100%) b1362 Install a 23.8 MVAR b1363 Gel kV JUpgrade South Lebanon JCPL (100%) J30/69 kV transformer JCPL (100%) b1364 # by replacing 69 kV substation conductor with JCPL (100%) J30/54 kV transformer JCPL (100%) b1399.1 Upgrade the Whippany 230 /kV transformer JCPL (100%) b1399.1 So kV transformer b1399.1 JCPL (100%) Kocktown - Install a	Required T	Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
A/B bus at RockawayJCPL (100%)Build a new section 3.3 miles 34.5 kV 556 ACSR line from Riverdale to ButlerJCPL (100%)b1357Build 10.2 miles new 34.5 kV line from Larrabee – HowellJCPL (100%)b1357Build 10.2 miles new 34.5 kV line from Larrabee – HowellJCPL (100%)b1359Install a Troy Hills 34.5 kV by-pass switch and reconfigure the Montville – Whippany 34.5 kV (D4) lineJCPL (100%)b1360Freehold Tap 34.5 kV (L12) line with 556 ACSRJCPL (100%)b1361Reconductor 0.7 miles of the Englishtown – Freehold Tap 34.5 kV (L12) line with 556 ACSRJCPL (100%)b1361Oceanview – Neptune Tap 34.5 kV (D130) line with 795 ACSRJCPL (100%)b1362Install a 23.8 MVAR capacitor at Wood Street 69 kVJCPL (100%)b1364Upgrade South Lebanon 230/69 kV transformer #1 by replacing 69 kV substation conductor with 1590 ACSRJCPL (100%)b1379Upgrade the Whippany 230 kV breaker 'Q1'JCPL (100%)b1374Rocktown - Install a 230/34.5 kV transformer by looping the Pleasant Valley - E Flemington 230 kV Q-2243 line (0.4 miles) through theJCPL (100%)				
Build a new section 3.3 miles 34.5 kV 556 ACSR line from Riverdale to BuildrJCPL (100%)b1357 34.5 kV 556 ACSR line from Riverdale to Build 10.2 miles new 34.5 kV line from Larrabee – HowellJCPL (100%)b1357 34.5 kV line from Larrabee – HowellJCPL (100%)b1359Install a Troy Hills 34.5 kV by-pass switch and reconfigure the Montville – Whippany 34.5 kV (D4) lineJCPL (100%)b1360Reconductor 0.7 miles of the Englishtown – Freehold Tap 34.5 kV (L12) line with 556 ACSRJCPL (100%)b1361Reconductor the Oceanview – Neptune Tap 34.5 kV (D130) line with 795 ACSRJCPL (100%)b1362Install a 23.8 MVAR capacitor at Wood Street 69 kVJCPL (100%)b1364Upgrade South Lebanon 230/69 kV transformer #1 by replacing 69 kV substation conductor with 1590 ACSRJCPL (100%)b1367Upgrade the Whippany 230 kV breaker 'QJ'JCPL (100%)b1673Rocktown - Install a 230/34.5 kV transformer by looping the Pleasant Valley - E Flemington 230 kV Q-2243 line (0.4 miles) through theJCPL (100%)	b1354	breakers and re-configure		
b1355miles 34.5 kV 556 ACSR line from Riverdale to BuilerJCPL (100%)Build 10.2 miles new b135734.5 kV line from Larrabee – HowellJCPL (100%)b135734.5 kV line from Larrabee – HowellJCPL (100%)b1359Install a Troy Hills 34.5 reconfigure the Montville – Whippany 34.5 kV (D4) lineJCPL (100%)b1359Reconductor 0.7 miles of the Englishtown – Freehold Tap 34.5 kV (L12) line with 556 ACSRJCPL (100%)b1360Reconductor the Oceanview – Neptune Tap 34.5 kV (D130) line with 795 ACSRJCPL (100%)b1362Install a 23.8 MVAR capacitor at Wood Street 69 kVJCPL (100%)b1364Upgrade South Lebanon 230/69 kV transformer #1 by replacing 69 kV substation conductor with 1590 ACSRJCPL (100%)b1399.1Upgrade the Whippany 230 kV breaker 'QI'JCPL (100%)b1673Recktown - Install a 230/45 kV transformer by looping the Pleasant Valley - E Flemington 230 kV Q-2243 line (0.4 miles) through theJCPL (100%)		A/B bus at Rockaway		JCPL (100%)
		Build a new section 3.3		
Interform Riverdale to ButlerJCPL (100%)Build 10.2 miles newJCPL (100%)b135734.5 kV line from Larrabee – HowellJCPL (100%)and the exponent of the set of the configure the Montville – Whippany 34.5 kV (D4) lineJCPL (100%)b1359Reconductor 0.7 miles of the Englishtown – Freehold Tap 34.5 kV (L12) line with 556 ACSRJCPL (100%)b1360Reconductor the Oceanview – Neptune Tap 34.5 kV (D130) line with 795 ACSRJCPL (100%)b1361Install a 23.8 MVAR capacitor at Wood Street 69 kVJCPL (100%)b1364Upgrade South Lebanon 230/69 kV transformer # 1 by replacing 69 kV substation conductor with 1590 ACSRJCPL (100%)b1399.1Upgrade the Whippany 230 kV breaker 'QJ'JCPL (100%)b1367Recktown - Install a 230/34.5 kV transformer by looping the Pleasant by looping the Pleasant	h1255	miles 34.5 kV 556 ACSR		
Build 10.2 miles new $34.5 kV$ line from Larabee – HowellJCPL (100%)Install a Troy Hills 34.5 kV by-pass switch and reconfigure the Montville – Whippany 34.5 kV (D4) lineJCPL (100%)b1359Reconductor 0.7 miles of the Englishtown – Freehold Tap 34.5 kV (L12) line with 556 ACSRJCPL (100%)b1360Reconductor the Oceanview – Neptune Tap 34.5 kV (D130) line with 795 ACSRJCPL (100%)b1361Install a 23.8 MVAR capacitor at Wood Street $69 kV$ JCPL (100%)b1364Upgrade South Lebanon 230/69 kV transformer #1 by replacing 69 kV substation conductor with $1590 ACSR$ JCPL (100%)b1399.1Upgrade the Whippany 230/34.5 kV transformer by looping the Pleasant Valley - E Flemington $230 kV V = 2243$ line (0.4 miles) through theJCPL (100%)	01555	line from Riverdale to		
b1357 34.5 kV line from Larrabee – Howell JCPL (100%) Install a Troy Hills 34.5 kV by-pass switch and reconfigure the Montville – Whippany 34.5 kV (D4) line JCPL (100%) b1359 Reconductor 0.7 miles of the Englishtown – Freehold Tap 34.5 kV (L12) line with 556 ACSR JCPL (100%) b1360 Reconductor 0.7 miles of the Englishtown – freehold Tap 34.5 kV (L12) line with 556 ACSR JCPL (100%) b1361 Reconductor the Occeanview – Neptune Tap 34.5 kV (D130) line with 795 ACSR JCPL (100%) b1362 Install a 23.8 MVAR capacitor at Wood Street 69 kV JCPL (100%) b1364 Upgrade South Lebanon 230/69 kV transformer JCPL (100%) b1364 Upgrade the Whippany 230 kV breaker 'QJ' JCPL (100%) b1367 Rocktown - Install a 230/34.5 kV transformer JCPL (100%) b1673 Rocktown - Install a 230 kV 0-2243 line (0.4 miles) through the JCPL (100%)		Butler		JCPL (100%)
Larrabee – HowellJCPL (100%)Install a Troy Hills 34.5 kV by-pass switch and reconfigure the Montville – Whippany 34.5 kV (D4) lineJCPL (100%)Basel Conductor 0.7 miles of the Englishtown – Freehold Tap 34.5 kV (L12) line with 556 ACSRJCPL (100%)Basel Conductor 0.7 miles of the Englishtown – Freehold Tap 34.5 kV (L12) line with 556 ACSRJCPL (100%)Basel Conductor the Occanview – Neptune Tap 34.5 kV (D130) line with 795 ACSRJCPL (100%)Basel Conductor the Occanview – Neptune Tap 34.5 kV (D130) line with 795 ACSRJCPL (100%)Basel Conductor the Occanview – Neptune Tap 34.5 kV (D130) line with 795 ACSRJCPL (100%)Basel Conductor the Occanview – Neptune Tap 34.5 kV (D130) line with 795 ACSRJCPL (100%)Basel Conductor with 1300JCPL (100%)Basel Conductor with 1590 ACSRJCPL (100%)Basel Conductor Vith 1590 ACSRJCPL (100%)Basel Conductor With 1590 ACSRJCPL (100%)Basel Conductor		Build 10.2 miles new		
Install a Troy Hills 34.5 kV by-pass switch and reconfigure the Montville – Whippany 34.5 kV (D4) lineJCPL (100%)Beconductor 0.7 miles of the Englishtown – Freehold Tap 34.5 kV (L12) line with 556 ACSRJCPL (100%)b1360Reconductor the Oceanview – Neptune Tap 34.5 kV (D130) line with 795 ACSRJCPL (100%)b1361Install a 23.8 MVAR capacitor at Wood Street 69 kVJCPL (100%)b1364Upgrade South Lebanon 230/69 kV transformer #1 by replacing 69 kV substation conductor with 1590 ACSRJCPL (100%)b1364Upgrade the Whippany 230 kV breaker 'QJ'JCPL (100%)b1673Rocktown - Install a 230/34.5 kV transformer by looping the Pleasant Valley - E Flemington 230 kV Q-2243 line (0.4 miles) through theJCPL (100%)	b1357	34.5 kV line from		
kV by-pass switch and reconfigure the Montville - Whippany 34.5 kV (D4) lineJCPL (100%)Reconductor 0.7 miles of the Englishtown - Freehold Tap 34.5 kV (L12) line with 556 ACSRJCPL (100%)b1360Freehold Tap 34.5 kV (L12) line with 556 ACSRJCPL (100%)b1361Reconductor the Oceanview - Neptune Tap 34.5 kV (D130) line with 795 ACSRJCPL (100%)b1362Install a 23.8 MVAR capacitor at Wood Street 69 kVJCPL (100%)b1364Upgrade South Lebanon 230/69 kV transformer substation conductor with 1590 ACSRJCPL (100%)b1399.1Upgrade the Whippany 230 kV breaker 'QJ'JCPL (100%)b13673Rocktown - Install a 230/34.5 kV transformer by looping the Pleasant Valley - E Flemington 230 kV Q-2243 line (0.4 miles) through theJCPL (100%)		Larrabee – Howell		JCPL (100%)
kV by-pass switch and reconfigure the Montville - Whippany 34.5 kV (D4) lineJCPL (100%)Reconductor 0.7 miles of the Englishtown - Freehold Tap 34.5 kV (L12) line with 556 ACSRJCPL (100%)b1360Freehold Tap 34.5 kV (L12) line with 556 ACSRJCPL (100%)b1361Reconductor the Oceanview - Neptune Tap 34.5 kV (D130) line with 795 ACSRJCPL (100%)b1362Install a 23.8 MVAR capacitor at Wood Street 69 kVJCPL (100%)b1364Upgrade South Lebanon 230/69 kV transformer substation conductor with 1590 ACSRJCPL (100%)b1364Upgrade the Whippany 230 kV breaker 'QJ'JCPL (100%)b13673Rocktown - Install a 230/34.5 kV transformer by looping the Pleasant Valley - E Flemington 230 kV Q-2243 line (0.4 miles) through theJCPL (100%)		Install a Troy Hills 34.5		
b1359 reconfigure the Montville – Whippany 34.5 kV (D4) line JCPL (100%) Reconductor 0.7 miles of the Englishtown – JCPL (100%) b1360 Freehold Tap 34.5 kV (L12) line with 556 ACSR JCPL (100%) b1361 Reconductor the Oceanview – Neptune Tap 34.5 kV (D130) line with 795 ACSR JCPL (100%) b1362 Install a 23.8 MVAR capacitor at Wood Street 69 kV JCPL (100%) b1364 Upgrade South Lebanon 230/69 kV transformer JCPL (100%) b1364 Upgrade South Lebanon 230/69 kV transformer JCPL (100%) b1364 Rocktown - Install a 230/34.5 kV transformer JCPL (100%) b1399.1 Upgrade the Whippany 230 kV breaker 'QJ' JCPL (100%) b1673 Rocktown - Install a 230/34.5 kV transformer by looping the Pleasant Valley - E Flemington 230 kV Q-2243 line (0.4 miles) through the Integrade the content of the		kV by-pass switch and		
	b1359			
Reconductor 0.7 miles of the Englishtown – Freehold Tap 34.5 kV (L12) line with 556 ACSRJCPL (100%)BaselineReconductor the Oceanview – Neptune Tap 34.5 kV (D130) line with 795 ACSRJCPL (100%)Install a 23.8 MVAR capacitor at Wood Street 69 kVJCPL (100%)Upgrade South Lebanon 230/69 kV transformer #1 by replacing 69 kV substation conductor with 1590 ACSRJCPL (100%)b1364Upgrade South Lebanon 230/69 kV transformer #1 by replacing 69 kV substation conductor with 1590 ACSRJCPL (100%)b1399.1Upgrade the Whippany 230 kV breaker 'QJ'JCPL (100%)b1673Rocktown - Install a 230/34.5 kV transformer by looping the Pleasant Valley - E Flemington 230 kV Q-2243 line (0.4 miles) through theJCPL (100%)		– Whippany 34.5 kV		
b1360the Englishtown - Freehold Tap 34.5 kV (L12) line with 556 ACSRJCPL (100%)B1361Reconductor the Oceanview - Neptune Tap 34.5 kV (D130) line with 795 ACSRJCPL (100%)B1362Install a 23.8 MVAR capacitor at Wood Street 69 kVJCPL (100%)B1362Upgrade South Lebanon 230/69 kV transformerJCPL (100%)B1364#1 by replacing 69 kV substation conductor with 1590 ACSRJCPL (100%)b1399.1Upgrade the Whippany 230 kV breaker 'QJ'JCPL (100%)b1399.2Rocktown - Install a 230/34.5 kV transformer by looping the Pleasant Valley - E Flemington 230 kV Q-2243 line (0.4 miles) through theJCPL (100%)		(D4) line		JCPL (100%)
b1360 Freehold Tap 34.5 kV (L12) line with 556 ACSR JCPL (100%) b1361 Reconductor the Oceanview – Neptune Tap 34.5 kV (D130) line with 795 ACSR JCPL (100%) b1362 Install a 23.8 MVAR capacitor at Wood Street 69 kV JCPL (100%) b1362 Upgrade South Lebanon 230/69 kV transformer JCPL (100%) b1364 #1 by replacing 69 kV substation conductor with 1590 ACSR JCPL (100%) b1399.1 Upgrade the Whippany 230 kV breaker 'QJ' JCPL (100%) b1673 Rocktown - Install a 230/34.5 kV transformer by looping the Pleasant JCPL (100%) b1673 Valley - E Flemington 230 kV Q-2243 line (0.4 miles) through the Here and the state of the state		Reconductor 0.7 miles of		
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b1855breaker from the A bus to the B busJCPL (100%)Madison Tp to Madison (N14) line - Upgrade limiting 250 Cu substation conductor with 795 ACSR at Madison subJCPL (100%)b1856Montville substation - Replace both the 397 ACSR and the 500 Cu substation conductor with 795 ACSR on the 34.5 kVJCPL (100%)		Oceanview Substation -		
breaker from the A bus to the B busJCPL (100%)Madison Tp to Madison (N14) line - Upgrade limiting 250 Cu substation conductor with 795 ACSR at Madison subJCPL (100%)b1856Montville substation - Replace both the 397 ACSR and the 500 Cu substation conductor with 795 ACSR on the 34.5 kVJCPL (100%)	1 1055	Relocate the H216		
Madison Tp to Madison (N14) line - Upgrade limiting 250 Cu substation conductor with 795 ACSR at Madison subJCPL (100%)b1857Montville substation - Replace both the 397 ACSR and the 500 Cu substation conductor with 795 ACSR on the 34.5 kVJCPL (100%)	61855	breaker from the A bus to		
Madison Tp to Madison (N14) line - Upgrade limiting 250 Cu substation conductor with 795 ACSR at Madison subJCPL (100%)b1857Montville substation - Replace both the 397 ACSR and the 500 Cu substation conductor with 795 ACSR on the 34.5 kVJCPL (100%)		the B bus		JCPL (100%)
b1856(N14) line - Upgrade limiting 250 Cu substation conductor with 795 ACSR at Madison subJCPL (100%)b1857Montville substation - Replace both the 397 ACSR and the 500 Cu substation conductor with 795 ACSR on the 34.5 kVJCPL (100%)				
b1856limiting 250 Cu substation conductor with 795 ACSR at Madison subJCPL (100%)Montville substation - Replace both the 397 ACSR and the 500 Cu substation conductor with 795 ACSR on the 34.5 kVJCPL (100%)				
conductor with 795 ACSR at Madison subJCPL (100%)Montville substation - Replace both the 397 ACSR and the 500 Cu substation conductor with 795 ACSR on the 34.5 kVJCPL (100%)	b1856	10		
b1857 Montville substation - Replace both the 397 ACSR and the 500 Cu substation conductor with 795 ACSR on the 34.5 kV		0		
b1857 Montville substation - Replace both the 397 ACSR and the 500 Cu substation conductor with 795 ACSR on the 34.5 kV				JCPL (100%)
b1857 Replace both the 397 ACSR and the 500 Cu substation conductor with 795 ACSR on the 34.5 kV	1.4055			
b1857 ACSR and the 500 Cu substation conductor with 795 ACSR on the 34.5 kV				
substation conductor with 795 ACSR on the 34.5 kV		-		
795 ACSR on the 34.5 kV	b1857			
		(M117) line		JCPL (100%)

Required '	Fransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1858	Reconductor the Newton - Mohawk (Z702) 34.5 kV line with 1.9 miles of 397 ACSR		JCPL (100%)
b2003	Construct a Whippany to Montville 230 kV line (6.4 miles)		JCPL (100%)
b2015	Build a new 230 kV circuit from Larrabee to Oceanview	The following rates are consistent with the settlement agreement filed in and approved by the Commission in Docket No. ER17-217, 2017: \$9,616,241 2018: \$18,839,128 2019: \$19,935,489	JCPL (35.83<u>37.04</u>%) / NEPTUNE* (23.6124.40%) / HTP (1.77%) / ECP** (1.49%) / PSEG (35.87<u>37.08</u>%) / RE (1.43<u>1.48</u>%)
b2147	At Deep Run, install 115 kV line breakers on the B2 and C3 115 kV lines		JCPL (100%)

* Neptune Regional Transmission System, LLC <u>** East Coast Power, L.L.C.</u>

SCHEDULE 12 – APPENDIX

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

Required	Transmission Enhancements A	Annual Revenue Requirem	hent Responsible Customer(s)
			AEC (6.71<u>6.75</u>%) / APS
			(3.97<u>4.00</u>%) / DPL
			(9.10<u>9.16</u>%) / JCPL
	Install 230Kv series reactor		(16.85<u>16.96</u>%) / ME
	and 2- 100MVAR PLC		(10.53<u>10.60</u>%) / Neptune*
b0215			(1.69<u>1.70</u>%) / PECO
	switched capacitors at Hunterstown		(19.00<u>19.12</u>%) / PPL
	Humerstown		(7.55<u>8.55</u>%) / PSEG
			(22.67<u>22.82</u>%) / RE (0.34%)≁
			UGI (0.95%) / ECP**
			(0.64%)
b0404.1	Replace South Reading 230		
	kV breaker 107252		ME (100%)
	Replace South Reading 230		
b0404.2	kV breaker 100652		
			ME (100%)
b0575.1	Rebuild Hunterstown –		
00373.1	Texas Eastern Tap 115 kV		ME (100%)
	Rebuild Texas Eastern Tap		WIE (10070)
	– Gardners 115 kV and		
b0575.2	associated upgrades at		
00075.2	Gardners including		
	disconnect switches		ME (100%)
	Reconductor Jackson – JE		
b0650	Baker – Taxville 115 kV		
	line		ME (100%)
	Install bus tie circuit breaker		
	on Yorkana 115 kV bus and		
	expand the Yorkana 230 kV		
b0652	ring bus by one breaker so		
	that the Yorkana 230/115		
	kV banks 1, 3, and 4 cannot		
	be lost for either B-14		
	breaker fault or a 230 kV		
	line or bank fault with a		
	stuck breaker		ME (100%)
N. D.T.	Decional Transmission System	II.C	

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

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

Required '	Transmission Enhancements	Annual Revenue Requiremen	t Responsible Customer(s)
b0653	Construct a 230 kV Bernville station by tapping the North Temple – North Lebanon 230 kV line. Install a 230/69 kV transformer at existing Bernville 69 kV station		ME (100%)
b1000	Replace Portland 115kV breaker '95312'		ME (100%)
b1001	Replace Portland 115kV breaker '92712'		ME (100%)
b1002	Replace Hunterstown 115 kV breaker '96392'		ME (100%)
b1003	Replace Hunterstown 115 kV breaker '96292'		ME (100%)
b1004	Replace Hunterstown 115 kV breaker '99192'		ME (100%)
b1061	Replace existing Yorkana 230/115 kV transformer banks 1 and 4 with a single, larger transformer similar to transformer bank #3		ME (100%)
b1061.1	Replace the Yorkana 115 kV breaker '97282'		ME (100%)
b1061.2	Replace the Yorkana 115 kV breaker 'B282'		ME (100%)
b1302	Replace the limiting bus conductor and wave trap at the Jackson 115 kV terminal of the Jackson – JE Baker Tap 115 kV line		ME (100%)
b1365	Reconductor the Middletown – Collins 115 kV (975) line 0.32 miles of 336 ACSR		ME (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

* Neptune Regional Transmission System, LLC <u>** East Coast Power, L.L.C.</u>

		· · ·	· · · · · · · · · · · · · · · · · · ·
	Reconductor the Collins –		
b1366	Cly – Newberry 115 kV		
01500	(975) line 5 miles with 795		
	ACSR		ME (100%)
	Reconductor 2.4 miles of		
	existing 556 and 795		
b1727	ACSR from Harley		
01/2/	Davidson to Pleasureville		
	115 kV with 795 ACSS to		
	raise the ratings		ME (100%)
			AEC (1.66%) / AEP (14.16%) /
			APS (5.73%) / ATSI (7.88%) /
	Install a 500 MVAR SVC at the existing Hunterstown 500kV substation		BGE (4.22%) / ComEd
			(13.31%) / Dayton (2.11%) /
			DEOK (3.29%) / DL (1.75%) /
1,1000			DPL (2.50%) / Dominion
b1800			(12.86%) / EKPC (1.87%) /
			JCPL (3.74%) / ME (1.90%) /
			NEPTUNE* (0.44%) / PECO
			(5.34%) / PENELEC (1.89%) /
			PEPCO (3.99%) / PPL (4.84%)
			/ PSEG (6.26%) / RE (0.26%)
			AEC (6.47<u>6.48</u>%) / AEP
			(2.58%) / APS (<u>6.886.89</u> %) /
			BGE (<u>6.576.58</u> %) / DPL
			(12.39<u>12.40</u>%) / Dominion
b1801	Build a 250 MVAR SVC at		(14.89<u>14.90</u>%) / JCPL
	Altoona 230 kV		(8.14<u>8.15</u>%) / ME (6.21%) /
			Neptune* (0.82%) / PECO
			(21.56 21.58%)/PPL (4.89%)/
			PSEG (8.18<u>8.19</u>%) / RE
			(0.33%) / ECP** (0.09%)
	1	1	

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

-	ransmission Ennancements	Annual Revenue Requirement	Responsible
Customer			
	Replace SCCIR (Sub-		
b1816.5	conductor) at Hunterstown		
	Substation on the No. 1,		ME(1000/)
	230/115 kV transformer		ME (100%)
	Replace limiting wave trap,		
1 1000	circuit breaker, substation		
b1999	conductor, relay and		
	current transformer		
	components at Northwood		ME (100%)
1	Replace limiting wave trap		
b2000	on the Glendon -		
	Hosensack line		ME (100%)
	Replace limiting circuit		
	breaker and substation		
b2001	conductor transformer		
	components at Portland		
	230kV		ME (100%)
b2002	Northwood 230/115 kV		
02002	Transformer upgrade		ME (100%)
	Construct a new North		
b2023	Temple - Riverview -		
02025	Cartech 69 kV line (4.7		
	miles) with 795 ACSR		ME (100%)
	Upgrade 4/0 substation		
b2024	conductors at Middletown		
	69 kV		ME (100%)
	Upgrade 4/0 and 350 Cu		
	substation conductors at		
b2025	the Middletown Junction		
02023	terminal of the Middletown		
	Junction - Wood Street Tap		
	69 kV line		ME (100%)
b2026	Upgrade an OC protection		
	relay at the Baldy 69 kV		
	substation		ME (100%)
b2148	Install a 115 kV 28.8		·
	MVAR capacitor at		
	Pleasureville substation		ME (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible

Required Transmission Enhancements	Annual Revenue Requirement	Responsible
Customer(s)		

b2149	Upgrade substation riser on the Smith St York Inc. 115 kV line	ME (100%)
b2150	Upgrade York Haven structure 115 kV bus conductor on Middletown Jct Zions View 115 kV	ME (100%)

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

SCHEDULE 12 – APPENDIX

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

Required T	ransmission Enhancements	Annual Revenue Requirem	ent Responsible Customer(s)
b0284.1	Build 500 kV substation in PENELEC – Tap the Keystone – Juniata and Conemaugh – Juniata 500 kV, connect the circuits with a breaker and half scheme, and install new 400 MVAR capacitor		AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%)
b0284.3	Replace wave trap and upgrade a bus section at Keystone 500 kV – on the Keystone – Airydale 500 kV		AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%)

* Neptune Regional Transmission System, LLC <u>** East Coast Power, L.L.C.</u> <u>***Hudson Transmission Partners, LLC</u>

Required T	ransmission Enhancements	Annual Revenue Requirement	t Responsible Customer(s)
			AEC (1.66%) / AEP (14.16%)
			/ APS (5.73%) / ATSI
			(7.88%) / BGE (4.22%) /
			ComEd (13.31%) / Dayton
	Replace wave trap at		(2.11%) / DEOK (3.29%) /
	Keystone 500 kV – on the		DL (1.75%) / DPL (2.50%) /
b0285.1	Keystone – Conemaugh		Dominion (12.86%) / EKPC
	500 kV		(1.87%) / JCPL (3.74%) / ME
	500 K V		(1.90%) / NEPTUNE*
			(0.44%) / PECO (5.34%) /
			PENELEC (1.89%) / PEPCO
			(3.99%) / PPL (4.84%) /
			PSEG (6.26%) / RE (0.26%)
			AEC (1.66%) / AEP (14.16%)
			/ APS (5.73%) / ATSI
			(7.88%) / BGE (4.22%) /
			ComEd (13.31%) / Dayton
	Replace wave trap and		(2.11%) / DEOK (3.29%) /
	relay at Conemaugh 500		DL (1.75%) / DPL (2.50%) /
b0285.2	kV - on the Conemaugh -		Dominion (12.86%) / EKPC
	Keystone 500 kV		(1.87%) / JCPL (3.74%) / ME
	Reystone 500 KV		(1.90%) / NEPTUNE*
			(0.44%) / PECO (5.34%) /
			PENELEC (1.89%) / PEPCO
			(3.99%) / PPL (4.84%) /
			PSEG (6.26%) / RE (0.26%)

* Neptune Regional Transmission System, LLC <u>** East Coast Power, L.L.C.</u> <u>***Hudson Transmission Partners, LLC</u>

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

Required 7	Transmission Enhancements	Annual Revenue Requiremen	t Responsible Customer(s)
b0349	Upgrade Rolling Meadows-Gore Jct 115 kV		PENELEC (100%)
b0360	Construction of a ring bus on the 345 kV side of Wayne substation		PENELEC (100%)
b0365	Add a 50 MVAR, 230 kV cap bank at Altoona 230 kV		PENELEC (100%)
b0369	Install 100 MVAR Dynamic Reactive Device at Airydale 500 kV substation		AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%)
b0370	Install 500 MVAR Dynamic Reactive Device at Airydale 500 kV substation		AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%)

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

Customer		Annual Revenue Requirement Responsible
b0376	Install 300 MVAR capacitor at Conemaugh 500 kV substation	AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%)
b0442	Spare Keystone 500/230 kV transformer	PENELEC (100%)
b0515	Replace Lewistown circuit breaker 1LY Yeagertown	PENELEC (100%)
b0516	Replace Lewistown circuit breaker 2LY Yeagertown	PENELEC (100%)
b0517	Replace Shawville bus section circuit breaker	PENELEC (100%)
b0518	Replace Homer City circuit breaker 201 Johnstown	PENELEC (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible

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

***Hudson Transmission Partners, LLC

Required 7	Transmission Enhancements	Annual Revenue Requirement	t Responsible Customer(s)
	Replace Keystone circuit		
b0519	breaker 4 Transformer -		
	20		PENELEC (100%)
			AEC (1.66%) / AEP (14.16%) /
			APS (5.73%) / ATSI (7.88%) /
			BGE (4.22%) / ComEd
			(13.31%) / Dayton (2.11%) /
	Lestell 250 MALAD		DEOK (3.29%) / DL (1.75%) /
b0549	Install 250 MVAR		DPL (2.50%) / Dominion
00549	capacitor at Keystone 500		(12.86%) / EKPC (1.87%) /
	kV		JCPL (3.74%) / ME (1.90%) /
			NEPTUNE* (0.44%) / PECO
			(5.34%) / PENELEC (1.89%) /
			PEPCO (3.99%) / PPL (4.84%)
			/ PSEG (6.26%) / RE (0.26%)
			AEC (8.588.64%) / APS
			(1.69 1.70%) / DPL
	Install 25 MVAR capacitor at Lewis Run		(12.24 12.33%) / JCPL
			(18.16 18.30%) / ME
10550			(1.55 1.56%) / Neptune*
b0550			(1.771.78 %) / PECO
	115 kV substation		(21.7821.94 %) / PPL
			(6.40 6.45%) / ECP** (0.73%) /
			PSEG (26.13 26.32%) / RE
			(0.97<u>0.98</u>%)
			AEC (8.588.64%) / APS
			(1.69 1.70%) / DPL
			(12.24 12.33%) / JCPL
	Install 25 MVAR		(18.16 18.30%) / ME
1.0551			(1.55 1.56%) / Neptune*
b0551	capacitor at Saxton 115		(1.77<u>1.78</u>%) / PECO
	kV substation		(21.78 21.94%) / PPL
			(6.40<u>6.45</u>%) / ECP** (0.73%) /
			PSEG (26.1326.32 %) / RE
			(0.97 0.98%)
			AEC (8.588.64%) / APS
			(1.69 1.70%) / DPL
			(12.24<u>12.33</u>%) / JCPL
1.0552	Install 50 MVAR		(18.1618.30 %) / ME
b0552	capacitor at Altoona 230		(<u>1.551.56</u> %) / Neptune*
	kV substation		(1.77 1.78%) / PECO
			(21.78 21.94%) / PPL
			(6.40 6.45%) / ECP** (0.73%) /

			PSEG (26.1326.32 %) / RE (0.97<u>0.98</u>%)		
-	* Neptune Regional Transmission System, LLC				
** East Coast Power, L.L.C.					
***Hudson	Transm		Partners, LLC		

Required 7	Fransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
			AEC (8.588.64%) / APS
			(1.69<u>1.70</u>%) / DPL
			(12.24 12.33%) / JCPL
			(18.16 18.30%) / ME
1.0552	Install 50 MVAR		(<u>1.551.56</u> %) / Neptune*
b0553	capacitor at Raystown 230		(1.77<u>1.78</u>%)/PECO
	kV substation		(21.7821.94 %) / PPL
			(6.40<u>6.45</u>%) / ECP** (0.73%)
			/ PSEG (26.13<u>2</u>6.32 %) / RE
			(0.97<u>0.98</u>%)
			AEC (8.58<u>8.64</u>%) / APS
			(1.69<u>1.70</u>%) / DPL
			(12.24<u>12.33</u>%) / JCPL
	Install 100 MVAR		(18.16<u>18.30</u>%)/ME
b0555	capacitor at Johnstown		(1.55<u>1.56</u>%) / Neptune*
00555	230 kV substation		(1.77<u>1.78</u>%) / PECO
			(21.78<u>21.94</u>%) / PPL
			(6.40<u>6.45</u>%) / ECP** (0.73%)
			/ PSEG (26.13<u>26.32</u>%) / RE
			(0.97<u>0.98</u>%)
			AEC (8.58<u>8.64</u>%) / APS
			(1.69<u>1.70</u>%) / DPL
			(12.24<u>12.33</u>%) / JCPL
	Install 50 MVAR		(18.16<u>18.30</u>%) / ME
b0556	capacitor at Grover 230		(1.55<u>1.56</u>%) / Neptune*
00550	kV substation		(1.77<u>1.78</u>%) / PECO
	k v substation		(21.78<u>21.94</u>%) / PPL
			(6.40<u>6.45</u>%) / ECP** (0.73%)
			/ PSEG (26.13<u>26.32</u>%) / RE
			(0.97<u>0.98</u>%)
			AEC (8.58<u>8.64</u>%) / APS
			(1.69<u>1.70</u>%) / DPL
			(12.24<u>12.33</u>%) / JCPL
	Install 75 MVAR		(18.16<u>18.30</u>%) / ME
b0557	capacitor at East Towanda		(1.55<u>1.56</u>%) / Neptune*
00337	230 kV substation		(1.77<u>1.78</u>%) / PECO
			(21.78<u>21.94</u>%) / PPL
			(6.40<u>6.45</u>%) / ECP** (0.73%)
			/ PSEG (26.13<u>26.32</u>%) / RE
			(0.97<u>0.98</u>%)

b0563	Install 25 MVAR capacitor at Farmers	
	Valley 115 kV substation	PENELEC (100%)
	Install 10 MVAR	
b0564	capacitor at Ridgeway	
	115 kV substation	PENELEC (100%)

* Neptune Regional Transmission System, LLC <u>** East Coast Power, L.L.C.</u>

Required 7	Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b0654	Reconfigure the Cambria Slope 115 kV and Wilmore Junction 115 kV stations to eliminate Wilmore Junction 115 kV 3-terminal line		PENELEC (100%)
b0655	Reconfigure and expand the Glade 230 kV ring bus to eliminate the Glade Tap 230 kV 3-terminal line		PENELEC (100%)
b0656	Add three breakers to form a ring bus at Altoona 230 kV		PENELEC (100%)
b0794	Upgrade the Homer City 230 kV breaker 'Pierce Road'		PENELEC (100%)
b1005	Replace Glory 115 kV breaker '#7 XFMR'		PENELEC (100%)
b1006	Replace Shawville 115 kV breaker 'NO.14 XFMR'		PENELEC (100%)
b1007	Replace Shawville 115 kV breaker 'NO.15 XFMR'		PENELEC (100%)
b1008	Replace Shawville 115 kV breaker '#1B XFMR'		PENELEC (100%)
b1009	Replace Shawville 115 kV breaker '#2B XFMR'		PENELEC (100%)
b1010	Replace Shawville 115 kV breaker 'Dubois'		PENELEC (100%)

* Neptune Regional Transmission System, LLC <u>** East Coast Power, L.L.C.</u>

Mid-Atlantic Interstate	Transmission,	LLC for	the Pennsy	lvania Elect	ric Company Zone
(cont.)					

Required T	Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1011	Replace Shawville 115 kV breaker 'Philipsburg'		PENELEC (100%)
b1012	Replace Shawville 115 kV breaker 'Garman'		PENELEC (100%)
b1059	Replace a CRS relay at Hooversville 115 kV station		PENELEC (100%)
b1060	Replace a CRS relay at Rachel Hill 115 kV station		PENELEC (100%)
b1153	Upgrade Conemaugh 500/230 kV transformer and add a new line from Conemaugh-Seward 230 kV		AEC (3.743.86%) / APS (6.266.45%) / BGE (16.8217.33%) / DL (0.320.33%) / JCPL (12.5712.95%) / ME (6.897.10%) / PECO (11.5311.88%) / PEPCO (0.550.57%) / PPL (15.4215.89%) / PSEG (20.5221.15%) / RE (0.720.74%) / NEPTUNE* (1.701.75%) / ECP** (2.96%)
b1153.1	Revise the reclosing on the Shelocta 115 kV breaker 'Lucerne'		PENELEC (100%)
b1169	Replace Shawville 115 kV breaker '#1A XFMR'		PENELEC (100%)
b1170	Replace Shawville 115 kV breaker '#2A XFMR'		PENELEC (100%)
b1277	Build a new Osterburg East – Bedford North 115 kV Line, 5.7 miles of 795 ACSR		PENELEC (100%)
b1278	Install 25 MVAR Capacitor Bank at Somerset 115 kV		PENELEC (100%)

-	Fransmission Enhancements	Annual Revenue Requirement Responsible
Customer(b1367	Replace the Cambria Slope 115/46 kV 50 MVA transformer with 75 MVA	PENELEC (100%)
b1368	Replace the Claysburg 115/46 kV 30 MVA transformer with 75 MVA	PENELEC (100%)
b1369	Replace the 4/0 CU substation conductor with 795 ACSR on the Westfall S21 Tap 46 kV line	PENELEC (100%)
b1370	Install a 3rd 115/46 kV transformer at Westfall	PENELEC (100%)
b1371	Reconductor 2.6 miels of the Claysburg – HCR 46 kV line with 636 ACSR	PENELEC (100%)
b1372	Replace 4/0 CU substation conductor with 795 ACSR on the Hollidaysburg – HCR 46 kV	PENELEC (100%)
b1373	Re-configure the Erie West 345 kV substation, add a new circuit breaker and relocate the Ashtabula line exit	PENELEC (100%)
b1374	Replace wave traps at Raritan River and Deep Run 115 kV substations with higher rated equipment for both B2 and C3 circuits	PENELEC (100%)
b1535	Reconductor 0.8 miles of the Gore Junction – ESG Tap 115 kV line with 795 ACSS	PENELEC (100%)

* Neptune Regional Transmission System, LLC <u>** East Coast Power, L.L.C.</u>

Required T Customer(Fransmission Enhancements	Annual Revenue Requirement Responsible
b1607	Reconductor the New Baltimore - Bedford North 115 kV	PENELEC (100%)
b1608	Construct a new 345/115 kV substation and loop the Mansfield - Everts 115 kV	APS (8.61%) / PECO (1.72%) / PENELEC (89.67%)
b1609	Construct Four Mile Junction 230/115 kV substation. Loop the Erie South - Erie East 230 kV line, Buffalo Road - Corry East and Buffalo Road - Erie South 115 kV lines	APS (4.86%) / PENELEC (95.14%)
b1610	Install a new 230 kV breaker at Yeagertown	PENELEC (100%)
b1713	Install a 345 kV breaker at Erie West and relocate Ashtabula 345 kV line	PENELEC (100%)
b1769	Install a 75 MVAR cap bank on the Four Mile 230 kV bus	PENELEC (100%)
b1770	Install a 50 MVAR cap bank on the Buffalo Road 115 kV bus	PENELEC (100%)
b1802	Build a 100 MVAR Fast Switched Shunt and 200 MVAR Switched Shunt at Mansfield 345 kV	AEC (6.476.48%) / AEP (2.58%) / APS (6.886.89%) / BGE (6.576.58%) / / DPL (12.3912.40%) / Dominion (14.8914.90%) / JCPL (8.148.15%) / ME (6.21%) / NEPTUNE* (0.82%) / PECO (21.5621.58%) / PPL (4.89%) / PSEG (8.188.19%) / RE (0.33%) / ECP** (0.09%)

* Neptune Regional Transmission System, LLC

Required T	Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1821	Replace the Erie South 115 kV breaker 'Union City'		PENELEC (100%)
b1943	Construct a 115 kV ring bus at Claysburg Substation. Bedford North and Saxton lines will no longer share a common breaker		PENELEC (100%)
b1944	Reconductor Eclipse substation 115 kV bus with 1033 kcmil conductor		PENELEC (100%)
b1945	Install second 230/115 kV autotransformer at Johnstown		PENELEC (100%)
b1966	Replace the 1200 Amp Line trap at Lewistown on the Raystown- Lewistown 230 kV line and replace substation conductor at Lewistown		PENELEC (100%)
b1967	Replace the Blairsville 138/115 kV transformer		PENELEC (100%)
b1990	Install a 25 MVAR 115 kV Capacitor at Grandview		PENELEC (100%)
b1991	Construct Farmers Valley 345/230 kV and 230/115 kV substation. Loop the Homer City-Stolle Road 345 kV line into Farmers Valley		PENELEC (100%)
b1992	Reconductor Cambria Slope-Summit 115kV with 795 ACSS Conductor		PENELEC (100%)

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b1993Relocate the Erie South 345 kV line terminalAPS $(\frac{10.0910.19}{0.45\%}) / \text{HTP }(0.49\%) /$ JCPL $(5.145.19\%) / \text{Neptune}^*$ $(0.45\%) / \text{HTP }(0.49\%) /$ JCPL $(5.145.19\%) / \text{Neptune}^*$ $(0.540.55\%) / \text{PENELEC}$ $(70.7171.38\%) / \text{PSEG}$ $(\frac{12.1012.21\%}) / \text{RE }(0.48\%)$ b1994Convert Lewis Run- Farmers Valley to 230 kV using 1033.5 ACSR conductor. Project to be completed in conjunctionAPS $(\frac{33.2033.49\%}{/ \text{HTP }(0.44\%)}) /$ JCPL $(\frac{8.648.72\%}{/ \text{Neptune}}) / \text{ME}$ $(\frac{5.525.57\%}{/ \text{Neptune}}) / \text{Neptune}$
b1993Relocate the Erie South 345 kV line terminalJCPL ($5.145.19\%$) / Neptune* ($0.540.55\%$) / PENELEC ($70.71171.38\%$) / PSEG ($12.1012.21\%$) / RE (0.48%)Convert Lewis Run- Farmers Valley to 230 kV using 1033.5 ACSR conductor. Project to be completed in conjunctionAPS ($33.2033.49\%$) / ECP** (0.44%) / HTP (0.44%) / JCPL ($8.648.72\%$) / ME ($5.525.57\%$) / Neptune
b1995 345 kV line terminal (0.540.55%) / PENELEC (70.7171.38%) / PSEG (12.1012.21%) / RE (0.48%) Convert Lewis Run- Farmers Valley to 230 kV using 1033.5 ACSR conductor. Project to be completed in conjunction APS (33.2033.49%) / ECP** (0.44%) / HTP (0.44%) / JCPL (8.648.72%) / ME (5.525.57%) / Neptune
b1995 345 kV line terminal (0.540.55%) / PENELEC (70.7171.38%) / PSEG (12.1012.21%) / RE (0.48%) Convert Lewis Run- Farmers Valley to 230 kV using 1033.5 ACSR conductor. Project to be completed in conjunction APS (33.2033.49%) / ECP** (0.44%) / HTP (0.44%) / JCPL (8.648.72%) / ME (5.525.57%) / Neptune
Convert Lewis Run- Farmers Valley to 230 kV using 1033.5 ACSR conductor. Project to be completed in conjunction APS (33.2033.49)/ECP** (0.44%)/HTP (0.44%)/ JCPL (8.648.72%)/ME (5.525.57%)/Neptune
Convert Lewis Run- Farmers Valley to 230 kV using 1033.5 ACSR conductor. Project to be completed in conjunctionAPS (33.2033.49%) / ECP** (0.44%) / HTP (0.44%) / JCPL (8.648.72%) / ME (5.525.57%) / Neptune
b1994 Farmers Valley to 230 kV using 1033.5 ACSR conductor. Project to be completed in conjunction $APS (\frac{33.2033.49\%}{/ HTP (0.44\%)})/$ JCPL ($\frac{8.648.72\%}{/ ME}$) / ME ($\frac{5.525.57\%}{/ ME}$) / Neptune
b1994kV using 1033.5 ACSR conductor. Project to be completed in conjunction(0.44%) / HTP (0.44%) / JCPL (8.648.72%) / ME (5.525.57%) / Neptune
b1994conductor. Project to be completed in conjunctionJCPL (8.648.72%) / ME (5.525.57%) / Neptune
completed in conjunction $(5.525.57\%)$ / Neptune
completed in conjunction $(5.525.57\%)$ / Neptune
with new Farmers Valley (0.860.87%) / PENELEC
345/230 kV (36.81<u>37.14</u>%) / PSEG
transformation $(\frac{13.5513.67}{}) / \text{RE}(0.54\%)$
Change CT Datie at
b1995 Change CT Ratio at
Claysburg PENELEC (100%)
Replace 600 Amp
Disconnect Switches on
b1996.1 Ridgeway-Whetstone
115 kV line with 1200
Amp DisconnectsPENELEC (100%)
Reconductor Ridgway
b1996.2 and Whetstone 115 kV
Bus PENELEC (100%)
b1996.3 Replace Wave Trap at
Ridgway PENELEC (100%)
b1996.4 Change CT Ratio at
Ridgway PENELEC (100%)
Replace 600 Amp
Disconnect Switches on
Dubois-Harvey Run-
b1997 Whetstone 115 kV line
with 1200 Amp
Disconnects PENELEC (100%)

Required Transmission Enhancements Customer(s)

Annual Revenue Requirement Responsible

Required Transmission Enhancements

Annual Revenue Requirement Responsible

Customer(s)

- Customer(s)				
b1998	Install a 75 MVAR 115 kV Capacitor at Shawville	PENELEC (100%)		
b2016	Reconductor bus at Wayne 115 kV station	PENELEC (100%)		

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

SCHEDULE 12 – APPENDIX

(8) **PECO Energy Company**

Required Transmission Enhancements		Annual Revenue Requirement	t Responsible Customer(s)
b0171.1	Replace two 500 kV circuit breakers and two wave traps at Elroy substation to increase rating of Elroy - Hosensack 500 kV		AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%)
b0180	Replace Whitpain 230kV circuit breaker #165		PECO (100%)
b0181	Replace Whitpain 230kV circuit breaker #J105		PECO (100%)
b0182	Upgrade Plymouth Meeting 230kV circuit breaker #125		PECO (100%)
b0205	Install three 28.8Mvar capacitors at Planebrook 35kV substation		PECO (100%)
b0205	Install 161Mvar capacitor at Planebrook 230kV substation		AEC (14.20%) / DPL (24.39%) / PECO (57.94%) / PSEG (3.47%)

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*** Hudson Transmission Partners, LLC

PECO Energy Company (cont.)

Required 7		nnual Revenue Requirement	Responsible Customer(s)
	Install 161Mvar capacitor		AEC (14.20%) / DPL
b0207	at Newlinville 230kV		(24.39%) / PECO (57.94%) /
	substation		PSEG (3.47%)
b0208	Install 161Mvar capacitor		AEC (14.20%) / DPL
	Heaton 230kV substation		(24.39%) / PECO (57.94%) /
	Heaton 250k V substation		PSEG (3.47%)
b0209	Install 2% series reactor at		
	Chichester substation on		AEC (65.23%) / JCPL
	the Chichester -		(25.87%)/ Neptune* (2.55%) /
	Mickleton 230kV circuit		PSEG (6.35%)
	Upgrade Chichester –		
	Delco Tap 230 kV and the		
b0264	PECO portion of the		
	Delco Tap – Mickleton		AEC (89.87%) / JCPL
	230 kV circuit		(9.48%) / Neptune* $(0.65%)$
	Replace two wave traps		
b0266	and ammeter at Peach		
	Bottom, and two wave		
	traps and ammeter at		
	Newlinville 230 kV		
	substations		PECO (100%)
			AEC (1.66%) / AEP (14.16%)
			/ APS (5.73%) / ATSI
			(7.88%) / BGE (4.22%) /
	Install a new 500/230 kV		ComEd (13.31%) / Dayton
	substation in PECO, and		(2.11%) / DEOK (3.29%) /
	tap the high side on the		DL (1.75%) / DPL (2.50%) /
b0269	Elroy – Whitpain 500 kV		Dominion (12.86%) / EKPC
	and the low side on the		(1.87%) / JCPL (3.74%) / ME
	North Wales – Perkiomen		(1.90%) / NEPTUNE*
	230 kV circuit		(0.44%) / PECO (5.34%) /
			PENELEC (1.89%) / PEPCO
			(3.99%) / PPL (4.84%) /
			PSEG (6.26%) / RE (0.26%)*

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

***Hudson Transmission Partners, LLCPECO Energy Company (cont.)

Required T	ransmission Enhancements A	Annual Revenue Requirement	Responsible Customer(s)
b0269	Install a new 500/230 kV substation in PECO, and tap the high side on the Elroy – Whitpain 500 kV and the low side on the North Wales – Perkiomen 230 kV circuit		AEC (8.25%) / DPL (9.56%) / PECO (82.19%)††
b0269.1	Add a new 230 kV circuit between Whitpain and Heaton substations		AEC (8.25%) / DPL (9.56%) / PECO (82.19%)††
b0269.2	Reconductor the Whitpain 1 – Plymtg 1 230 kV circuit		AEC (8.25%) / DPL (9.56%) / PECO (82.19%)††
b0269.3	Convert the Heaton bus to a ring bus		AEC (8.25%) / DPL (9.56%) / PECO (82.19%)††
b0269.4	Reconductor the Heaton – Warminster 230 kV circuit		AEC (8.25%) / DPL (9.56%) / PECO (82.19%)††
b0269.5	Reconductor Warminster – Buckingham 230 kV circuit		AEC (8.25%) / DPL (9.56%) / PECO (82.19%)††

* Neptune Regional Transmission System, LLC

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

*** Hudson Transmission Partners, LLC

[†]Cost allocations associated with Regional Facilities and Necessary Lower Voltage Facilities associated with the project

††Cost allocations associated with below 500 kV elements of the project

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

AEC (1.66%) / AEP (14.16% / APS (5.73%) / ATSI (7.88% / BGE (4.22%) / ComEd	%)
/ BGE (4.22%) / ComEd	,
	/
(12, 210/)/D (2.110/)	/
(13.31%) / Dayton (2.11%)	
Add a new 500 kV DEOK (3.29%) / DL (1.75%)/
breaker at Whitpain DPL (2.50%) / Dominion	
00209.0 between #3 transformer $(12.80%)/EKPC (1.87%)$	
JCPL (3.74%) / ME (1.90%	
NEPTUNE* (0.44%) / PEC	
(5.34%) / PENELEC (1.89%)/
PEPCO (3.99%) / PPL	
(4.84%) / PSEG (6.26%) / R	Е
(0.26%)	
b0269.7 Replace North Wales 230	
b0209.7 kV breaker #105 PECO (100%)	
Install 161 MVAR	
b0280.1 capacitor at Warrington	
230 kV substation PECO 100%	
Install 161 MVAR	
b0280.2 capacitor at Bradford 230	
kV substation PECO 100%	
Install 28.8 MVAR	
b0280.3 capacitor at Warrington	
34 kV substation PECO 100%	
Install 18 MVAR	
b0280.4 capacitor at Waverly 13.8	
kV substation PECO 100%	

* Neptune Regional Transmission System, LLC

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

*** Hudson Transmission Partners, LLC

[†]Cost allocations associated with Regional Facilities and Necessary Lower Voltage Facilities associated with the project

††Cost allocations associated with below 500 kV elements of the project

Required T	ransmission Enhancements	Annual Revenue Requirement Responsible Customer(s)
b0287	Install 600 MVAR Dynamic Reactive Device in Whitpain 500 kV vicinity	AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / DD (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%)
b0351	Reconductor Tunnel – Grays Ferry 230 kV	PECO (100%)
b0352	Reconductor Tunnel – Parrish 230 kV	PECO (100%)
b0353.1	Install 2% reactors on both lines from Eddystone – Llanerch 138 kV	PECO (100%)
b0353.2	Install identical second 230/138 kV transformer in parallel with existing 230/138 kV transformer at Plymouth Meeting	PECO 100%
b0353.3	Replace Whitpain 230 kV breaker 135	PECO (100%)
b0353.4	Replace Whitpain 230 kV breaker 145	PECO (100%)
b0354	Eddystone – Island Road Upgrade line terminal equipment	PECO 100%

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

*** Hudson Transmission Partners, LLC

 † Cost allocations associated with below 500 kV elements of the project

1.0255	Reconductor Master –	
b0355	North Philadelphia 230	DECO 100%
	kV line	PECO 100%
b0357	Reconductor Buckingham – Pleasant Valley 230 kV	JCPL (37.17<u>37.89</u>%) / Neptune* (4.46<u>4.55</u>%) / PSEG (54.14<u>55.19</u>%) / RE (<u>2.322.37</u>%) / ECP** (1.91%)
b0359	Reconductor North Philadelphia – Waneeta 230 kV circuit	PECO 100%
b0402.1	Replace Whitpain 230 kV breaker #245	PECO (100%)
b0402.2	Replace Whitpain 230 kV breaker #255	PECO (100%)
b0438	Spare Whitpain 500/230 kV transformer	PECO (100%)
b0443	Spare Peach Bottom 500/230 kV transformer	PECO (100%)
b0505	Reconductor the North Wales – Whitpain 230 kV circuit	AEC (8.58%) / DPL (7.76%) / PECO (83.66%)
b0506	Reconductor the North Wales – Hartman 230 kV circuit	AEC (8.58%) / DPL (7.76%) / PECO (83.66%)
b0507	Reconductor the Jarrett – Whitpain 230 kV circuit	AEC (8.58%) / DPL (7.76%) PECO (83.66%)
b0508.1	Replace station cable at Hartman on the Warrington - Hartman 230 kV circuit	PECO (100%)
b0509	Reconductor the Jarrett – Heaton 230 kV circuit	PECO (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Requireu I	1	Annual Revenue Requirement	Responsible Customer(s)
	Rebuild Bryn Mawr –		
b0727	Plymouth Meeting 138		AEC (1.25%) / DPL
	kV line		(3.11%) / PECO (95.64%)
			AEC (0.720.73%) / JCPL
	Reconductor the line to		(17.36<u>17.52</u>%)/
	provide a normal rating of		NEPTUNE* (<u>1.701.72</u> %)/
b0789	677 MVA and an		PECO (44.47 <u>44.88</u> %) /
	emergency rating of 827		ECP** (0.92%) / PSEG
	MVA		(33.52<u>33.83</u>%) / RE
			(1.31<u>1.32</u>%)
	Reconductor the Bradford		JCPL (17.30<u>17.46</u>%) /
	– Planebrook 230 kV Ckt.		NEPTUNE* (1.69<u>1.71</u>%) /
1.0700	220-31 to provide a		PECO (45.0945.51%) /
b0790	normal rating of 677		ECP** (0.93%) / PSEG
	MVA and emergency		(33.68<u>34.00</u>%) / RE
	rating of 827 MVA		(<u>1.31</u> <u>1.32</u> %)
b0829.1	Replace Whitpain 230 kV		
00829.1	breaker '155'		PECO (100%)
	Install 2 new 230 kV		
	breakers at Planebrook		
11072	(on the 220-02 line		
b1073	terminal and on the 230		
	kV side of the #9		
	transformer)		PECO (100%)
10020.2	Replace Whitpain 230 kV		
b0829.2	breaker '525'		PECO (100%)
1.0000.2	Replace Whitpain 230 kV		
b0829.3	breaker '175'		PECO (100%)
	Replace Plymouth		
b0829.4	Meeting 230 kV breaker		
	'225'		PECO (100%)
	Replace Plymouth		
b0829.5	Meeting 230 kV breaker		
	'335'		PECO (100%)
	Move the connection		``````````````````````````````````````
1.00.41	points for the 2nd		
b0841	Plymouth Meeting		
	230/138 kV XFMR		PECO (100%)
NA D.T.	Decional Transmission Su	, IIG	

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

b0842	Install a 2nd 230/138 kV XFMR and 35 MVAR CAP at Heaton 138 kV	
	bus	PECO (100%)
b0842.1	Replace Heaton 138 kV breaker '150'	PECO (100%)
b0843	Install a 75 MVAR CAP at Llanerch 138 kV bus	PECO (100%)
b0844	Move the connection point for the Llanerch 138/69 kV XFMR	PECO (100%)
b0887	Replace Richmond- Tacony 69 kV line	PECO (100%)
b0920	Replace station cable at Whitpain and Jarrett substations on the Jarrett - Whitpain 230 kV circuit	PECO (100%)
b1014.1	Replace Circuit breaker, Station Cable, CTs and Wave Trap at Eddistone 230 kV	PECO (100%)
b1014.2	Replace Circuit breaker, Station Cable, CTs Disconnect Switch and Wave Trap at Island Rd. 230 kV	PECO (100%)
b1015	Replace Breakers #115 and #125 at Printz 230 kV substation	PECO (100%)
b1156.1	Upgrade at Richmond 230 kV breaker '525'	PECO (100%)
b1156.2	Upgrade at Richmond 230 kV breaker '415'	PECO (100%)
b1156.3	Upgrade at Richmond 230 kV breaker '475'	PECO (100%)
b1156.4	Upgrade at Richmond 230 kV breaker '575'	PECO (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required Tra	ansmission Enhancements Ar	nual Revenue Requirement	Responsible Customer(s)
b1156.5	Upgrade at Richmond 230 kV breaker '185'		PECO (100%)
b1156.6	Upgrade at Richmond 230 kV breaker '285'		PECO (100%)
b1156.7	Upgrade at Richmond 230 kV breaker '85'		PECO (100%)
b1156.8	Upgrade at Waneeta 230 kV breaker '425'		PECO (100%)
b1156.9	Upgrade at Emilie 230 kV breaker '815'		PECO (100%)
b1156.10	Upgrade at Plymouth Meeting 230 kV breaker '265'		PECO (100%)
b1156.11	Upgrade at Croydon 230 kV breaker '115'		PECO (100%)
b1156.12	Replace Emilie 138 kV breaker '190'		PECO (100%)
b1178	Add a second 230/138 kV transformer at Chichester. Add an inductor in series with the parallel transformers		JCPL (4.14 <u>4.17</u> %) / Neptune (0.44%) / PECO (82.1982.73 %) / ECP (0.33%) / HTP (0.32%) / PSEG (<u>12.1012.18</u> %) / RE (0.48%)
b1179	Replace terminal equipment at Eddystone and Saville and replace underground section of the line		PECO (100%)
b1180.1	Replace terminal equipment at Chichester		PECO (100%)
b1180.2	Replace terminal equipment at Chichester		PECO (100%)
b1181	Install 230/138 kV transformer at Eddystone		PECO (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required II	ransmission Ennancements A	nnual Revenue Requirement	Responsible Customer(s)
b1182	Reconductor Chichester – Saville 138 kV line and upgrade terminal equipment		JCPL (5.08<u>5</u>.12 %) / Neptune (0.54%) / PECO (78.85<u>7</u>9.46 %) / ECP (0.39%) / HTP (0.38%) / PSEG (14.20<u>14</u>.31 %) / RE (0.560.57 %)
b1183	Replace 230/69 kV transformer #6 at Cromby. Add two 50 MVAR 230 kV banks at Cromby		PECO (100%)
b1184	Add 138 kV breakers at Cromby, Perkiomen, and North Wales; add a 35 MVAR capacitor at Perkiomen 138 kV		PECO (100%)
b1185	Upgrade Eddystone 230 kV breaker #365		PECO (100%)
b1186	Upgrade Eddystone 230 kV breaker #785		PECO (100%)
b1197	Reconductor the PECO portion of the Burlington – Croydon circuit		PECO (100%)
b1198	Replaceterminalequipmentsincludingstation cable, disconnectsand relay atConowingo230 kV station		PECO (100%)
b1338	Replace Printz 230 kV breaker '225'		PECO (100%)
b1339	Replace Printz 230 kV breaker '315'		PECO (100%)
b1340	Replace Printz 230 kV breaker '215'		PECO (100%)
b1398.6	Reconductor the Camden – Richmond 230 kV circuit (PECO portion) and upgrade terminal equipments at Camden substations		JCPL (<u>12.8213.03</u> %) / NEPTUNE (<u>1.181.20</u> %) / <u>HTP (0.79%)</u> / PECO (<u>51.0851.93</u> %) / PEPCO (<u>0.570.58</u> %) / ECP** (<u>0.85%)</u> / PSEG (<u>31.4631.99</u> %) / RE

	(<u>1.25</u> <u>1.27</u> %)

JCPL (12.82 <u>13.03</u> NEPTUNE (1.18 1.2	
Reconductor Richmond	
- Waneeta 230 kV and $(51.0851.93\%) / PE$	
b1398.8 replace terminal $(0.570.58\%) / EC$	
equipments at Richmond (0.85%)/PSEC	
and Waneeta substations (31.4631.99%)/	
$(\frac{51.4051.27}{(1.251.27\%)})$	KĽ
Replace Graveferry 230	
b1398.12 Keplace Glassienty 250 kV breaker '115' PECO (100%)	
AEC (1.66%) / A	
(14.16%) / APS (5.7)	
ATSI (7.88%) / B	,
(4.22%) / ComEd (13	
/ Dayton (2.11%) / I	/
(3.29%) / DL (1.75	
DPL (2.50%) / Dom	
$ _{b1398,13}$ Upgrade Peach Bottom $ _{(12,86\%)}/EKPC (1)$	
$\begin{bmatrix} 01378.13 \\ 500 \text{ kV breaker '225'} \end{bmatrix} = \begin{bmatrix} (12.80\%) / \text{LKPC} (1.374\%) / \text{LKPC} (1.37$	· ·
(1.90%) / NEPTU	
(0.44%) / PECO (5.3	
PENELEC (1.899	
PEPCO (3.99%) /	·
(4.84%) / PSEG (6.2	
RE (0.26%)†	,
L1208 14 Replace Whitpain 230	
b1398.14 Keplace Wintpain 250 kV breaker '105' PECO (100%))
UpgradethePECOBGE $(3.053.06\%)$	/ ME
portion of the Camden – (0.83%) / HTP (0.2	1%)/
b1590.1 Richmond 230 kV to a PECO (91.3691.70)/()/
$\begin{bmatrix} 01390.1 \\ \text{six wire conductor and} \end{bmatrix} PEPCO \left(\frac{1.931.94}{\%}\right)$) / PPL
replace terminal $(2.462.47\%)/EC$	<u>P**</u>
equipment at Richmond. (0.16%)	
Reconductorthe $BGE (4.54\%) / DL (0.55\%) / DL (0.5\%) / DL (0.5\%) / DL (0.5\%$	0.27%)
underground portion of / ME (1.04%) / H	TP
b1591 the Richmond – Waneeta (0.03%) / PECC	C
230 kV and replace $(\frac{88.0888.11}{)})/PE$	EPCO
terminal equipment (2.79%) / PPL (3.2 * Nontune Regional Transmission System, LLC	25%)

Required T	Transmission Enhancements A	nnual Revenue Requirement	Responsible Customer(s)
	Install a second Waneeta		
b1717	230/138 kV transformer		HTP (0.04%) / PECO
	on a separate bus section		(99.96<u>100</u>%)
	Reconductor the		
b1718	Crescentville - Foxchase		
	138 kV circuit		PECO (100%)
	Reconductor the		
b1719	Foxchase - Bluegrass 138		
	kV circuit		PECO (100%)
	Increase the effective		
	rating of the Eddystone		
b1720	230/138 kV transformer		
	by replacing a circuit		
	breaker at Eddystone		PECO (100%)
	Increase the rating of the		
	Waneeta - Tuna 138 kV		
b1721	circuit by replacing two		
	138 kV CTs at Waneeta		PECO (100%)
	Increase the normal		
	rating of the Cedarbrook		
	- Whitemarsh 69 kV		
b1722	circuit by changing the		
01722	CT ratio and replacing		
	station cable at		
	Whitemarsh 69 kV		PECO (100%)
	Install 39 MVAR		
b1768	capacitor at Cromby 138		
01700	kV bus		PECO (100%)
	K v Dus		PECO (69.62 70.24%) /
	Add a 3rd 230 kV		JCPL (6.02 6.07%) / ATSI
	transmission line between		$(\frac{1.23}{1.24\%}) / PSEG$
b1900	Chichester and Linwood		$(\frac{1.23}{20.8321.01}\%)$ / RE
01900	substations and remove		(20.83 0.84%) / NEPTUNE*
	the Linwood SPS		· /
			(0.59<u>0.60</u>%) / ECP** (0.45%) / HTP (0.43%)
h2140	Install a 3rd Emilie		PECO (97.04<u>100</u>%) / ECP** (1.62%) / HTP
b2140	230/138 kV transformer		
	Declass two sections f		(1.34%)
1-0145	Replace two sections of		
b2145	conductor inside		
	Richmond substation		PECO (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

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

SCHEDULE 12 – APPENDIX

(9) **PPL Electric Utilities Corporation**

Required T	ransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b0074	Rebuild 12 miles of S. Akron – Berks 230 kV to double circuit, looping Met Ed's S. Lebanon – S. Reading line into Berks; replacement of S. Reading 230 kV breaker 107252		PPL (100%)
b0171.2	Replace wavetrap at Hosensack 500kV substation to increase rating of Elroy - Hosensack 500 kV		AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%)
b0172.1	Replace wave trap at Alburtis 500kV substation		AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%)

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

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Required T	ransmission Enhancements	Annual Revenue Requirement	t Responsible Customer(s)
b0284.2	Replace two wave traps at Juniata 500 kV – on the two Juniata – Airydale 500 kV		AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / DDL (1.75%) / DPL (2.50%) / DOminion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%)
b0284.4	Changes at Juniata 500 kV substation		PPL (100%)
b0293.1	Replace wavetrap at the Martins Creek 230 kV bus		PPL (100%)
b0293.2	Raise the operating temperature of the 2- 1590 ACSR to 140C for the Martins Creek – Portland 230 kV circuit		PPL (100%)
b0440	Spare Juniata 500/230 kV transformer		PPL (100%)
b0468	Build a new substation with two 150 MVA transformers between Dauphin and Hummelstown 230/69 kV substations by sectionalizing the Middletown Junction – New Lebanon 230 kV line	4	JCPL (4.554.56%) / Neptune* (0.37%) / PECO (1.79%) / PENELEC (0.33%) / PPL (86.63<u>86.79</u>%) / ECP** (0.18%) / PSEG (5.935.94 %) / RE (0.22%)

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

Required Tr	ransmission Enhancements	Annual Revenue Requirement Responsible Customer(s)
b0469	Install 130 MVAR capacitor at West Shore 230 kV line	PPL (100%)
b0487	Build new 500 kV transmission facilities from Susquehanna to Pennsylvania – New Jersey border at Bushkill	AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%)
b0487.1	Install Lackawanna 500/230 kV transformer and upgrade 230 kV substation and switchyard	PENELEC (16.90<u>16.93</u>%) / PPL (77.59<u>77.74</u>%) / <u>ECP**</u> (0.19%) / PSEG (<u>5.13<u>5.14</u>%) / RE (0.19%)</u>
b0500.1	Conastone – Otter Creek 230 kV – Reconductor approximately 17.2 miles of 795 kcmil ACSR with new 795 kcmil ACSS operated at 160 deg C	AEC (6.27 <u>6.31</u> %) / DPL (8.65 <u>8.70</u> %) / JCPL (14.54 <u>14.62</u> %) / ME (10.59<u>10.65</u>%) / Neptune* (<u>1.371.38</u>%) / PECO (<u>15.6615.75</u>%) / PPL (<u>21.0221.14</u>%) / <u>ECP**</u> (<u>0.57%) / PSEG</u> (<u>20.5620.68</u>%) / RE (0.77%)

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The Annual Revenue Requirements associated with the Transmission Enhancement Charges are set forth and determined in Appendix A to Attachment H-8G.

Required'	Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b0558	Install 250 MVAR capacitor at Juniata 500 kV substation		AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%)
b0593	Eldred – Pine Grove 69 kV line Rebuild Part 2: 8 miles		PPL (100%)
b0595	Rebuild Lackawanna – Edella 69 kV line to double circuit		PPL (100%)
b0596	Reconductor and rebuild Stanton – Providence 69 kV #1 and #2 lines with 69 kV design; approximately 8 miles total		PPL (100%)
b0597	Reconductor Suburban – Providence 69 kV #1 and resectionalize the Suburban 69 kV lines		PPL (100%)
b0598	Reconductor Suburban Taps #1 and #2 for 69 kV line portions		PPL (100%)

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Required	Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b0600	Tripp Park Substation: 69 kV tap off Stanton – Providence 69 kV line #3 to new substation		PPL (100%)
b0601	Jessup Substation: New 138/69 kV tap off of Peckville – Jackson 138/69 kV line		PPL (100%)
b0604	Add 150 MVA, 230/138/69 transformer #6 to Harwood substation		PPL (100%)
b0605	Reconductor Stanton – Old Forge 69 kV line and resectionalize the Jenkins – Scranton 69 kV #1 and #2 lines		PPL (100%)
b0606	New 138 kV tap off Monroe – Jackson 138 kV #1 line to Bartonsville substation		PPL (100%)
b0607	New 138 kV taps off Monroe – Jackson 138 kV lines to Stroudsburg substation		PPL (100%)
b0608	New 138 kV tap off Siegfried – Jackson 138 kV #2 to transformer #2 at Gilbert substation		PPL (100%)
b0610	At South Farmersville substation, a new 69 kV tap off Nazareth – Quarry #2 to transformer #2		PPL (100%)
b0612	Rebuild Siegfried – North Bethlehem portion (6.7 miles) of Siegfried – Quarry 69 kV line		PPL (100%)
b0613	East Tannersville Substation: New 138 kV tap to new substation		PPL (100%)

Required '	Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b0614	Elroy substation expansion and new Elroy – Hatfield 138/69 kV double circuit lines (1.9 miles)		PPL (100%)
b0615	Reconductor and rebuild 12 miles of Seidersville – Quakerstown 138/69 kV and a new 75 MVA, 230/69 kV transformer #4		PPL (100%)
b0616	New Springfield 230/69 kV substation and transmission line connections		PPL (100%)
b0620	New 138 kV line and terminal at Monroe 230/138 substation		PPL (100%)
b0621	New 138 kV line and terminal at Siegfried 230/138 kV substation and add a second circuit to Siegfried – Jackson for		, , , , , , , , , , , , , , , , , , ,
b0622	8.0 miles 138 kV yard upgrades and transmission line rearrangements at Jackson 138/69 kV substation		PPL (100%)
b0623	New West Shore – Whitehill Taps 138/69 kV double circuit line (1.3 miles)		PPL (100%)
b0624	Reconductor Cumberland – Wertzville 69 kV portion (3.7 miles) of Cumberland – West Shore 69 kV line		PPL (100%)
b0625	Reconductor Mt. Allen – Rossmoyne 69 kV portions (1.6 miles) of West Shore – Cumberland #3 and #4 lines		PPL (100%)

Required	Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b0627	Replace UG cable from Walnut substation to Center City Harrisburg substation for higher ampacity (0.25 miles)		PPL (100%)
b0629	Lincoln substation: 69 kV tap to convert to modified Twin A		PPL (100%)
b0630	W. Hempfield – Donegal 69 kV line: Reconductor / rebuild from Landisville Tap – Mt. Joy (2 miles)		PPL (100%)
b0631	W. Hempfield – Donegal 69 kV line: Reconductor / rebuild to double circuit from Mt. Joy – Donegal (2 miles)		PPL (100%)
b0632	Terminate new S. Manheim – Donegal 69 kV circuit into S. Manheim 69 kV #3		PPL (100%)
b0634	Rebuild S. Manheim – Fuller 69 kV portion (1.0 mile) of S. Manheim – West Hempfield 69 kV #3 line into a 69 kV double circuit		PPL (100%)
b0635	Reconductor Fuller Tap – Landisville 69 kV (4.1 miles) into a 69 kV double circuit		PPL (100%)
b0703	Berks substation modification on Berks – South Akron 230 kV line. Modification will isolate the line fault on the South Akron line and will allow Berks transformer #2 to be energized by the South Lebanon 230 kV circuit		PPL (100%)

Required	Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b0705	New Derry – Millville 69 kV line		PPL (100%)
b0707	Construct Bohemia – Twin Lakes 69 kV line, install a 10.9 MVAR capacitor bank near Bohemia 69 kV substation		PPL (100%)
b0708	New 69 kV double circuit from Jackson – Lake Naomi Tap		PPL (100%)
b0709	Install new 69 kV double circuit from Carlisle – West Carlisle		PPL (100%)
b0710	Install a third 69 kV line from Reese's Tap to Hershey substation		PPL (100%)
b0711	New 69 kV that taps West Shore – Cumberland 69 kV #1 to Whitehill 69 kV substation		PPL (100%)
b0712	Construct a new 69 kV line between Strassburg Tap and the Millwood – Engleside 69 kV #1 line		PPL (100%)
b0713	Construct a new 138 kV double circuit line between Dillersville Tap and the West Hempfield – Prince 138 kV line		PPL (100%)
b0714	Prepare Roseville Tap for 138 kV conversion		PPL (100%)
b0715	Transfer S. Akron – S. Manheim #1 and #2 lines from the S. Akron 69 kV Yard to the S. Akron 138 kV Yard; Install switches on S. Akron – S. Manheim 138 kV #1 and #2 lines		PPL (100%)

Required Transmission Enhancements		Annual Revenue Requirement	Responsible Customer(s
10705	New Derry – Millville 69		

Required	Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b0716	Add a second 69 kV line from Morgantown – Twin Valley		PPL (100%)
b0717	Rebuild existing Brunner Island – West Shore 230 kV line and add a second Brunner Island – West Shore 230 kV line		PPL (100%)
b0718	Shore 250 KV line SPS scheme to drop 190 MVA of 69 kV radial load at West Shore and 56 MVA of 69 kV radial load at Cumberland		PPL (100%)
b0719	SPS scheme at Jenkins substation to open the Stanton #1 and Stanton #2 230 kV circuit breakers after the second contingency		PPL (100%)
b0791	Add a fourth 230/69 kV transformer at Stanton		PENELEC (9.55%) / PPL (90.45%)
b1074	Install motor operators on the Jenkins 230 kV '2W' disconnect switch and build out Jenkins Bay 3 and have MOD '3W' operated as normally open		PPL (100%)
b0881	Install motor operators on Susquehanna T21 - Susquehanna 230 kV line East CB at Susquehanna 230 kV switching station		PPL (100%)
b0908	Install motor operators at South Akron 230 kV		PPL (100%)

Required	Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b0909	Convert Jenkins 230 kV yard into a 3-breaker ring bus		PPL (100%)
b0910	Install a second 230 kV line between Jenkins and Stanton		PPL (100%)
b0911	Install motor operators at Frackville 230 kV		PPL (100%)
b0912	Install 2, 10.8 MVAR capacitor banks at Scranton 69 kV		PPL (100%)
b0913	Extend Cando Tap to the Harwood-Jenkins #2 69 kV line		PPL (100%)
b0914	Build a 3rd 69 kV line from Harwood to Valmont Taps		PPL (100%)
b0915	Replace Walnut-Center City 69 kV cable		PPL (100%)
b0916	Reconductor Sunbury- Dalmatia 69 kV line		PPL (100%)
b1021	Install a new (#4) 138/69 kV transformer at Wescosville		PPL (100%)
b1196	Remove the Siegfried bus tie breaker and install a new breaker on the Martins Creek 230 kV line west bay to maintain two ties between the 230 kV buses		PPL (100%)
b1201	Rebuild the Hercules Tap to Double Circuit 69 kV		PPL (100%)

Required	Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1202	Mack-Macungie Double Tap, Single Feed Arrangement		PPL (100%)
b1203	Add the 2nd Circuit to the East Palmerton-Wagners- Lake Naomi 138/69 kV Tap		PPL (100%)
b1204	New Breinigsville 230-69 kV Substation		PPL (100%)
b1205	Siegfried-East Palmerton #1 69 kV Line- Install new 69 kV LSAB, Sectionalize, and Transfer Treichlers Substation		PPL (100%)
b1206	Siegfried-Quarry #1 & #2 69 kV Lines- Rebuild 3.3 mi from Quarry Substation to Macada Taps		PPL (100%)
b1209	Convert Neffsville Taps from 69 kV to 138 kV Operation		PPL (100%)
b1210	Convert Roseville Taps from 69 kV to 138 kV Operation (Part 1 – operate on the 69 kV system)		PPL (100%)
b1211	Convert Roseville Taps from 69 kV to 138 kV Operation (Part 2 – operate on the 138 kV system)		PPL (100%)
b1212	New 138 kV Taps to Flory Mill 138/69 kV Substation		PPL (100%)

Required T	ransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1213	Convert East Petersburg Taps from 69 kV to 138 kV operation, install two 10.8 MVAR capacitor banks		PPL (100%)
b1214	Terminate South Manheim-Donegal #2 at South Manheim, Reduce South Manheim 69 kV Capacitor Bank, Resectionalize 69 kV		PPL (100%)
b1215	Reconductor and rebuild 16 miles of Peckville- Varden 69 kV line and 4 miles of Blooming Grove-Honesdale 69 kV line		PPL (100%)
b1216	Build approximately 2.5 miles of new 69 kV transmission line to provide a "double tap – single feed" connection to Kimbles 69/12 kV substation		PPL (100%)
b1217	Provide a "double tap – single feed" connection to Tafton 69/12 kV substation		PPL (100%)
b1524	Build a new Pocono 230/69 kV substation		PPL (100%)
b1524.1	Build approximately 14 miles new 230 kV South Pocono – North Pocono line		PPL (100%)
b1524.2	Install MOLSABs at Mt. Pocono substation		PPL (100%)

Required T	ransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1525	Build new West Pocono 230/69 kV Substation		PPL (100%)
b1525.1	Build approximately 14 miles new 230 kV Jenkins-West Pocono 230 kV Line		PPL (100%)
b1525.2	Install Jenkins 3E 230 kV circuit breaker		PPL (100%)
b1526	Install a new Honeybrook – Twin Valley 69/138 kV tie		PPL (100%)
b1527	Construct a new 230/69 kV North Lancaster substation. The sub will be supplied from the SAKR-BERK 230kV Line		PPL (100%)
b1527.1	Construct new 69/138 kV transmission from North Lancaster 230/69 kV sub to Brecknock and Honeybrook areas		PPL (100%)
b1528	Install Motor-Operated switches on the Wescosville-Trexlertown #1 & #2 69 kV lines at East Texas Substation		PPL (100%)
b1529	Add a double breaker 230 kV bay 3 at Hosensack		PPL (100%)
b1530	Replace Lock Haven 69kV ring bus with standard breaker and half design		PPL (100%)
b1532	Install new 32.4 MVAR capacitor bank at Sunbury		PPL (100%)

Required'	Transmission Enhancements	Annual Revenue Requirem	ent Responsible Customer(s)
b1533	Rebuild Lycoming-Lock Haven #1 and Lycoming-Lock Haven #2 69kV lines		PPL (100%)
b1534	Rebuild 1.4 miles of the Sunbury-Milton 69kV		PPL (100%)
b1601	Re-configure the Breinigsville 500 kV substation with addition two 500 kV circuit breakers		AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%) [†]
b1602	Re-configure the Elimsport 230 kV substation to breaker and half scheme and install 80 MVAR capacitor		PPL (100%)
b1740	Install a 90 MVAR cap bank on the Frackville 230 kV bus #207973		PPL (100%)
b1756	Install a 3rd West Shore 230/69 kV transformer		PPL (100%)
b1757	Install a 230 kV motor- operated air-break switch on the Clinton - Elimsport 230 kV line		PPL (100%)

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

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Required	Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1758	Rebuild 1.65 miles of Columbia - Danville 69 kV line		PPL (100%)
b1759	Install a 69 kV 16.2 MVAR Cap at Milton substation		PPL (100%)
b1760	Install motor operated devices on the existing disconnect switches that are located on each side of all four 230 kV CBs at Stanton		PPL (100%)
b1761	Build a new Paupack - North 230 kV line (Approximately 21 miles)		PPL (100%)
b1762	Replace 3.7 miles of the existing 230 kV Blooming Grove - Peckville line by building 8.4 miles of new 230 kV circuit onto the Lackawanna - Hopatcong tower-line		PPL (100%)
b1763	Re-terminate the Peckville - Jackson and the Peckville - Varden 69 kV lines from Peckville into Lackawanna		PPL (100%)
b1764	Build a new 230-69 kV substations (Paupack)		PPL (100%)
b1765	Install a 16.2 MVAR capacitor bank at Bohemia 69-12 kV substation		PPL (100%)
b1766	Reconductor/rebuild 3.3 miles of the Siegfried - Quarry #1 and #2 lines		PPL (100%)
b1767	Install 6 motor-operated disconnect switches at Quarry substation		PPL (100%)

Required	Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1788	Install a new 500 kV circuit breaker at Wescosville		PPL (100%)
b1890	Add a second 230/69 kV transformer at North Pocono (NE/Pocono Reliability Project)		PPL (100%)
b1891	Build a new 230/138 kV Yard at Lackawanna (138 kV conversion from Lackawanna to Jenkins)		PPL (100%)
b1892	Rebuild the Throop Taps for 138 kV operation (138 kV Conversion from Lackawanna to Jenkins)		PPL (100%)
b1893	Swap the Staton - Old Forge and Stanton - Brookside 69 kV circuits at Stanton (138 kV Conversion from Lackawanna to Jenkins)		PPL (100%)
b1894	Rebuild and re-conductor 2.5 miles of the Stanton - Avoca 69 kV line		PPL (100%)
b1895	Rebuild and re-conductor 4.9 miles of the Stanton - Providence #1 69 kV line		PPL (100%)
b1896	Install a second 230/138 kV transformer and expand the 138 kV yard at Monroe		PPL (100%)
b1897	Build a new 230/138 kV substation at Jenkins (138 kV Conversion from Lackawanna to Jenkins)		PPL (100%)
b1898	Install a 69 kV Tie Line between Richfield and Dalmatia substations		PPL (100%)
b2004	Replace the CTs and switch in South Akron Bay 4 to increase the rating		PPL (100%)

Required T	Transmission Enhancements	Annual Revenue Requiremen	t Responsible Customer(s)
b2005	Replace the CTs and switch in SAKR Bay 3 to increase the rating of the Millwood-South Akron 230 kV Line and of the		
	rating in Bay 3		PPL (100%)
b2006	Install North Lancaster 500/230 kV substation (below 500 kV portion)		AEC (1.101.11%) / ECP** (0.37%) / HTP (0.37%) / JCPL (9.619.68%) / ME (19.4219.56%) / Neptune* (0.750.76%) / PECO (6.016.06%) / PPL (50.5750.95%) / PSEG (11.3511.43%) / RE (0.45%)
b2006.1	Install North Lancaster 500/230 kV substation (500 kV portion)		AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%)
b2007	Install a 90 MVAR capacitor bank at the Frackville 230 kV Substation		PPL (100%)
b2158	Install 10.8 MVAR capacitor at West Carlisle 69/12 kV substation		PPL (100%)

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SCHEDULE 12 – APPENDIX

(10) Potomac Electric Power Company

Required '	Transmission Enhancements	Annual Revenue Requiremen	t Responsible Customer(s)
	Installation of (2) new 230		
	kV circuit breakers at		
b0146	Quince Orchard substation		
	on circuits 23028 and		
	23029		PEPCO (100%)
	Install two new 230 kV		
	circuits between Palmers		
b0219	Corner and Blue Plains		PEPCO (100%)
	Upgrade Burtonsville –		
	Sandy Springs 230 kV		
b0228	circuit		PEPCO (100%)
	Modify Dickerson Station		
b0238.1	H 230 kV		PEPCO (100%)
	Install 100 MVAR of 230		
b0251	kV capacitors at Bells		
	Mill		PEPCO (100%)
	Install 100 MVAR of 230		
b0252	kV capacitors at Bells		
	Mill		PEPCO (100%)
	Brighton Substation – add		
	2 nd 1000 MVA 500/230		
b0288	kV transformer, 2 500 kV		
	circuit breakers and		BGE (19.33%) / Dominion
	miscellaneous bus work		(17%) / PEPCO (63.67%)
	Add a second 1000 MVA		
b0319	Bruches Hill 500/230 kV		
	transformer		PEPCO (100%)
b0366	Install a 4 th Ritchie 230/69		
* N	kV transformer		PEPCO (100%)

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

The Annual Revenue Requirement associated with the Transmission Enhancement Charges are set forth and determined in Appendix A to Attachment H-9.

Required '	Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b0367.1	Reconductor circuit "23035" for Dickerson – Quince Orchard 230 kV		AEC (1.78%) / BGE (26.5226.54%) / DPL (3.25%) / JCPL (2.67%) / ME (1.16%) / Neptune* (0.25%) / PECO (4.794.80%) / PEPCO (52.4652.50%) / PPL (3.23%) / PSEG (3.813.82%) / ECP** (0.08%)
b0367.2	Reconductor circuit "23033" for Dickerson – Quince Orchard 230 kV		AEC (1.78%) / BGE (26.5226.54%) / DPL (3.25%) / JCPL (2.67%) / ME (1.16%) / Neptune* (0.25%) / PECO (4.794.80%) / PEPCO (52.4652.50%) / PPL (3.23%) / PSEG (3.813.82%) / ECP** (0.08%)
b0375	Install 0.5% reactor at Dickerson on the Pleasant View – Dickerson 230 kV circuit		AEC (1.02%) / BGE (25.42%) / DPL (2.97%) / ME (1.72%) / PECO (3.47%) / PEPCO (65.40%)
b0467.1	Reconductor the Dickerson – Pleasant View 230 kV circuit		AEC (1.75%) / APS (19.70%) / BGE (22.13%) / DPL (3.70%) / JCPL (0.71%) / ME (2.48%) / Neptune* (0.06%) / PECO (5.54%) / PEPCO (41.86%) / PPL (2.07%)
b0478	Reconductor the four circuits from Burches Hill to Palmers Corner		APS (1.68%) / BGE (1.83%) / PEPCO (96.49%)
b0496	Replace existing 500/230 kV transformer at Brighton		APS (5.67%) / BGE (29.68%) / Dominion (10.91%) / PEPCO (53.74%)
b0499	Install third Burches Hill 500/230 kV transformer		APS (3.54%) / BGE (7.31%) / PEPCO (89.15%)

*Neptune Regional Transmission System, LLC

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

*** Hudson Transmission Partners, LLC

The Annual Revenue Requirement associated with the Transmission Enhancement Charges are set forth and determined in Appendix A to Attachment H-9.

Required '	Transmission Enhancements	Annual Revenue Requirement Responsible Customer(s)
		AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) /
	MAPP Project – install	BGE (4.22%) / ComEd
	new 500 kV transmission	(13.31%) / Dayton (2.11%) /
	from Possum Point to	DEOK (3.29%) / DL (1.75%) /
0512	Calvert Cliffs and install a	DPL (2.50%) / Dominion
0312	DC line from Calvert	(12.86%) / EKPC (1.87%) /
	Cliffs to Vienna and a DC	JCPL (3.74%) / ME (1.90%) /
	line from Calvert Cliffs to	NEPTUNE* (0.44%) / PECO
	Indian River	(5.34%) / PENELEC (1.89%) /
		PEPCO (3.99%) / PPL (4.84%)
		/ PSEG (6.26%) / RE (0.26%)
		AEC (1.66%) / AEP (14.16%) /
		APS (5.73%) / ATSI (7.88%) /
		BGE (4.22%) / ComEd
	Advance n0772 (Replace	(13.31%) / Dayton (2.11%) /
	Chalk Point 230 kV	DEOK (3.29%) / DL (1.75%) /
b0512.7	breaker (1A) with 80 kA	DPL (2.50%) / Dominion
00312.7	breaker)	(12.86%) / EKPC (1.87%) /
	breakery	JCPL (3.74%) / ME (1.90%) /
		NEPTUNE* (0.44%) / PECO
		(5.34%) / PENELEC (1.89%) /
		PEPCO (3.99%) / PPL (4.84%)
		/ PSEG (6.26%) / RE (0.26%)

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Required 7	Fransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b0512.8	Advance n0773 (Replace Chalk Point 230 kV breaker (1B) with 80 kA breaker)		AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%)
b0512.9	Advance n0774 (Replace Chalk Point 230 kV breaker (2A) with 80 kA breaker)	I I I I I I I I I I I I I I I I I I I	AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%)

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Required T	ransmission Enhancements	Annual Revenue Requiremen	t Responsible Customer(s)
			AEC (1.66%) / AEP (14.16%) /
			APS (5.73%) / ATSI (7.88%) /
			BGE (4.22%) / ComEd
			(13.31%) / Dayton (2.11%) /
	Advance n0775 (Replace		DEOK (3.29%) / DL (1.75%) /
b0512.10	Chalk Point 230 kV		DPL (2.50%) / Dominion
00312.10	breaker (2B) with 80 kA		(12.86%) / EKPC (1.87%) /
	breaker)		JCPL (3.74%) / ME (1.90%) /
			NEPTUNE* (0.44%) / PECO
			(5.34%) / PENELEC (1.89%) /
			PEPCO (3.99%) / PPL (4.84%)
			/ PSEG (6.26%) / RE (0.26%)
			AEC (1.66%) / AEP (14.16%) /
			APS (5.73%) / ATSI (7.88%) /
			BGE (4.22%) / ComEd
			(13.31%) / Dayton (2.11%) /
	Advance n0776 (Replace		DEOK (3.29%) / DL (1.75%) /
h0512 11	Chalk Point 230 kV		DPL (2.50%) / Dominion
b0512.11	breaker (2C) with 80 kA		(12.86%) / EKPC (1.87%) /
	breaker)		JCPL (3.74%) / ME (1.90%) /
			NEPTUNE* (0.44%) / PECO
			(5.34%) / PENELEC (1.89%) /
			PEPCO (3.99%) / PPL (4.84%)
			/ PSEG (6.26%) / RE (0.26%)

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Required T	ransmission Enhancements	Annual Revenue Requirement Responsible Customer(s)
		AEC (1.66%) / AEP (14.16%) /
		APS (5.73%) / ATSI (7.88%) /
		BGE (4.22%) / ComEd
		(13.31%) / Dayton (2.11%) /
	Advance n0777 (Replace	DEOK (3.29%) / DL (1.75%) /
b0512.12	Chalk Point 230 kV	DPL (2.50%) / Dominion
00312.12	breaker (3A) with 80 kA	(12.86%) / EKPC (1.87%) /
	breaker)	JCPL (3.74%) / ME (1.90%) /
		NEPTUNE* (0.44%) / PECO
		(5.34%) / PENELEC (1.89%) /
		PEPCO (3.99%) / PPL (4.84%)
		/ PSEG (6.26%) / RE (0.26%)
		AEC (1.66%) / AEP (14.16%) /
		APS (5.73%) / ATSI (7.88%) /
		BGE (4.22%) / ComEd
		(13.31%) / Dayton (2.11%) /
	Advance n0778 (Replace	DEOK (3.29%) / DL (1.75%) /
b0512.13	Chalk Point 230 kV	DPL (2.50%) / Dominion
00312.13	breaker (3B) with 80 kA	(12.86%) / EKPC (1.87%) /
	breaker)	JCPL (3.74%) / ME (1.90%) /
		NEPTUNE* (0.44%) / PECO
		(5.34%) / PENELEC (1.89%) /
		PEPCO (3.99%) / PPL (4.84%)
		/ PSEG (6.26%) / RE (0.26%)

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Required T	ransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b0512.14	Advance n0779 (Replace		AEC (1.66%) / AEP (14.16%) /
			APS (5.73%) / ATSI (7.88%) /
			BGE (4.22%) / ComEd
			(13.31%) / Dayton (2.11%) /
			DEOK (3.29%) / DL (1.75%) /
	Chalk Point 230 kV		DPL (2.50%) / Dominion
	breaker (3C) with 80 kA		(12.86%) / EKPC (1.87%) /
	breaker)		JCPL (3.74%) / ME (1.90%) /
			NEPTUNE* (0.44%) / PECO
			(5.34%) / PENELEC (1.89%) /
			PEPCO (3.99%) / PPL (4.84%)
			/ PSEG (6.26%) / RE (0.26%)
			AEC (1.66%) / AEP (14.16%) /
			APS (5.73%) / ATSI (7.88%) /
			BGE (4.22%) / ComEd
			(13.31%) / Dayton (2.11%) /
	Advance n0780 (Replace		DEOK (3.29%) / DL (1.75%) /
b0512.15	Chalk Point 230 kV		DPL (2.50%) / Dominion
00312.13	breaker (4A) with 80 kA		(12.86%) / EKPC (1.87%) /
	breaker)		JCPL (3.74%) / ME (1.90%) /
			NEPTUNE* (0.44%) / PECO
			(5.34%) / PENELEC (1.89%) /
			PEPCO (3.99%) / PPL (4.84%)
			/ PSEG (6.26%) / RE (0.26%)

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Required T	ransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)		
b0512.16			AEC (1.66%) / AEP (14.16%) /		
			APS (5.73%) / ATSI (7.88%) /		
			BGE (4.22%) / ComEd		
			(13.31%) / Dayton (2.11%) /		
	Advance n0781 (Replace		DEOK (3.29%) / DL (1.75%) /		
	Chalk Point 230 kV		DPL (2.50%) / Dominion		
	breaker (4B) with 80 kA		(12.86%) / EKPC (1.87%) /		
	breaker)		JCPL (3.74%) / ME (1.90%) /		
			NEPTUNE* (0.44%) / PECO		
			(5.34%) / PENELEC (1.89%) /		
			PEPCO (3.99%) / PPL (4.84%)		
			/ PSEG (6.26%) / RE (0.26%)		
			AEC (1.66%) / AEP (14.16%) /		
			APS (5.73%) / ATSI (7.88%) /		
			BGE (4.22%) / ComEd		
			(13.31%) / Dayton (2.11%) /		
	Advance n0782 (Replace		DEOK (3.29%) / DL (1.75%) /		
b0512.17	Chalk Point 230 kV		DPL (2.50%) / Dominion		
00312.17	breaker (5A) with 80 kA		(12.86%) / EKPC (1.87%) /		
	breaker)		JCPL (3.74%) / ME (1.90%) /		
			NEPTUNE* (0.44%) / PECO		
			(5.34%) / PENELEC (1.89%) /		
			PEPCO (3.99%) / PPL (4.84%)		
			/ PSEG (6.26%) / RE (0.26%)		
* Neptune Regional Transmission System, LLC					
** East Coast Power, L.L.C					
***	Hudson	Transmission	Partners, LLC		

Required T	ransmission Enhancements	Annual Revenue Requirement	nt Responsible Customer(s)
			AEC (1.66%) / AEP (14.16%) /
			APS (5.73%) / ATSI (7.88%) /
			BGE (4.22%) / ComEd
			(13.31%) / Dayton (2.11%) /
	Advance n0783 (Replace		DEOK (3.29%) / DL (1.75%) /
b0512.18	Chalk Point 230 kV		DPL (2.50%) / Dominion
00312.18	breaker (5B) with 80 kA		(12.86%) / EKPC (1.87%) /
	breaker)		JCPL (3.74%) / ME (1.90%) /
			NEPTUNE* (0.44%) / PECO
			(5.34%) / PENELEC (1.89%) /
			PEPCO (3.99%) / PPL (4.84%)
			/ PSEG (6.26%) / RE (0.26%)
			AEC (1.66%) / AEP (14.16%) /
			APS (5.73%) / ATSI (7.88%) /
			BGE (4.22%) / ComEd
			(13.31%) / Dayton (2.11%) /
	Advance n0784 (Replace		DEOK (3.29%) / DL (1.75%) /
h0512 10	Chalk Point 230 kV		DPL (2.50%) / Dominion
b0512.19	breaker (6A) with 80 kA		(12.86%) / EKPC (1.87%) /
	breaker)		JCPL (3.74%) / ME (1.90%) /
			NEPTUNE* (0.44%) / PECO
			(5.34%) / PENELEC (1.89%) /
			PEPCO (3.99%) / PPL (4.84%)
			/ PSEG (6.26%) / RE (0.26%)

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Required T	ransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
			AEC (1.66%) / AEP (14.16%) /
			APS (5.73%) / ATSI (7.88%) /
			BGE (4.22%) / ComEd
			(13.31%) / Dayton (2.11%) /
	Advance n0785 (Replace		DEOK (3.29%) / DL (1.75%) /
b0512.20	Chalk Point 230 kV		DPL (2.50%) / Dominion
00312.20	breaker (6B) with 80 kA		(12.86%) / EKPC (1.87%) /
	breaker		JCPL (3.74%) / ME (1.90%) /
			NEPTUNE* (0.44%) / PECO
			(5.34%) / PENELEC (1.89%) /
			PEPCO (3.99%) / PPL (4.84%)
			/ PSEG (6.26%) / RE (0.26%)
			AEC (1.66%) / AEP (14.16%) /
			APS (5.73%) / ATSI (7.88%) /
			BGE (4.22%) / ComEd
			(13.31%) / Dayton (2.11%) /
	Advance n0786 (Replace		DEOK (3.29%) / DL (1.75%) /
b0512.21	Chalk Point 230 kV		DPL (2.50%) / Dominion
00312.21	breaker (7B) with 80 kA		(12.86%) / EKPC (1.87%) /
	breaker)		JCPL (3.74%) / ME (1.90%) /
			NEPTUNE* (0.44%) / PECO
			(5.34%) / PENELEC (1.89%) /
			PEPCO (3.99%) / PPL (4.84%)
			/ PSEG (6.26%) / RE (0.26%)

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Required T	ransmission Enhancements	Annual Revenue Requireme	ent Responsible Customer(s)	
b0512.22	Advance n0787 (Replace Chalk Point 230 kV breaker (8A) with 80 kA breaker)		AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%)	
b0512.23	Advance n0788 (Replace Chalk Point 230 kV breaker (8B) with 80 kA breaker)		AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%)	
	* Neptune Regional Transmission System, LLC			
*** East Co	bast Power, L.L.C Hudson	Transmission	Partners, LLC	

Required T	ransmission Enhancements	Annual Revenue Requiremer	nt Responsible Customer(s)
b0512.24	Advance n0789 (Replace Chalk Point 230 kV breaker (7A) with 80 kA breaker)		AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%)
b0512.25	Advance n0790 (Replace Chalk Point 230 Kv breaker (1C) with 80 kA breaker)		AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%)

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Required T	ransmission Enhancements	Annual Revenue Requiremer	nt Responsible Customer(s)
b0512.26	Advance n0791 (Replace Chalk Point 230 Kv breaker (4C) with 80 kA breaker)		AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%)
b0512.27	Advance n0792 (Replace Chalk Point 230 Kv breaker (5C) with 80 kA breaker)		AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%)

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Required T	ransmission Enhancements A	Annual Revenue Requirement	t Responsible Customer(s)	
b0512.28	Advance n0793 (Replace Chalk Point 230 Kv breaker (6C) with 80 kA breaker)		AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%)	
b0512.29	Advance n0794 (Replace Chalk Point 230 Kv breaker (7C) with 80 kA breaker)		AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%)	
b0526	Build two Ritchie – Benning Station A 230 kV lines		AEC (0.77%) / BGE (16.76%) / DPL (1.22%) / JCPL (1.39%) / ME (0.59%) / Neptune* (0.13%) / PECO (2.10%) / PEPCO (74.86%) / PSEG (2.10%) / RE (0.08%)	
	* Neptune Regional Transmission System, LLC			
	oast Power, L.L.C			
***	Hudson	Transmission	Partners, LLC	

Required T	ransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b0561	Install 300 MVAR capacitor at Dickerson Station "D" 230 kV substation		AEC (8.588.64%) / APS (1.691.70%) / DPL (12.2412.33%) / JCPL (18.1618.30%) / ME (1.551.56%) / Neptune* (1.771.78%) / PECO (21.7821.94%) / PPL (6.406.45%) / ECP** (0.73%) / PSEG (26.1326.32%) / RE (0.970.98%)
b0562	Install 500 MVAR capacitor at Brighton 230 kV substation		AEC (8.588.64%) / APS (1.691.70%) / DPL (12.2412.33%) / JCPL (18.1618.30%) / ME (1.551.56%) / Neptune* (1.771.78%) / PECO (21.7821.94%) / PPL (6.406.45%) / ECP** (0.73%) / PSEG (26.1326.32%) / RE (0.970.98%)
b0637	Replace 13 Oak Grove 230 kV breakers		PEPCO (100%)
b0638	Replace 13 Oak Grove 230 kV breakers		PEPCO (100%)
b0639	Replace 13 Oak Grove 230 kV breakers		PEPCO (100%)
b0640	Replace 13 Oak Grove 230 kV breakers		PEPCO (100%)
b0641	Replace 13 Oak Grove 230 kV breakers		PEPCO (100%)
b0642	Replace 13 Oak Grove 230 kV breakers		PEPCO (100%)
b0643	Replace 13 Oak Grove 230 kV breakers		PEPCO (100%)
b0644	Replace 13 Oak Grove 230 kV breakers		PEPCO (100%)
b0645	Replace 13 Oak Grove 230 kV breakers		PEPCO (100%)
b0646	Replace 13 Oak Grove 230 kV breakers		PEPCO (100%)

b0647	Replace 13 Oak Grove	
	230 kV breakers	PEPCO (100%)
b0648	Replace 13 Oak Grove	
	230 kV breakers	PEPCO (100%)
b0649	Replace 13 Oak Grove	
	230 kV breakers	PEPCO (100%)

Required 1		Annual Revenue Requirement	Responsible Customer(s)
	Expand Benning 230 kV		
	station, add a new 250		
b0701	MVA 230/69 kV		
00701	transformer at Benning		
	Station 'A', new 115 kV		BGE (30.57%) / PEPCO
	Benning switching station		(69.43%)
	Add a second 50 MVAR		
b0702	230 kV shunt reactor at		
00702	the Benning 230 kV		
	substation		PEPCO (100%)
1.0720	Upgrade terminal		
b0720	equipment on both lines		PEPCO (100%)
	Upgrade Oak Grove –		
b0721	Ritchie 23061 230 kV		
	line		PEPCO (100%)
	Upgrade Oak Grove –		
b0722	Ritchie 23058 230 kV		
	line		PEPCO (100%)
	Upgrade Oak Grove –		
b0723	Ritchie 23059 230 kV		
	line		PEPCO (100%)
	Upgrade Oak Grove –		
b0724	Ritchie 23060 230 kV		
	line		PEPCO (100%)
	Add slow oil circulation		
	to the four Bells Mill		
	Road – Bethesda 138 kV		
	lines, add slow oil		
	circulation to the two		
h0720	Buzzard Point –		
b0730	Southwest 138 kV lines;		
	increasing the thermal		
	ratings of these six lines		
	allows for greater		
	adjustment of the O Street		
	phase shifters		PEPCO (100%)
* NT 4	- Regional Transmission Sy		

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

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

Required		Annual Revenue Requirement	Responsible Customer(s)
	Implement an SPS to		
	automatically shed load		
	on the 34 kV Bells Mill		
	Road bus for this N-2		
b0731	condition. The SPS will		
	be in effect for 2013 and		
	2014 until a third Bells		
	Mill 230/34 kV is placed		
	in-service in 2015		PEPCO (100%)
			AEC (0.73%) / BGE
b0746	Upgrade circuit for 3,000		(31.05%) / DPL (1.45%) /
00740	amps using the ACCR		PECO (2.46%) / PEPCO
			(62.88%) / PPL (1.43%)
	Upgrade terminal		
	equipment on both lines:		
b0747	Quince Orchard - Bells		
	Mill 230 kV (030) and		
	(028)		PEPCO (100%)
	Advance n0259 (Replace		
b0802	Dickerson Station H		
	Circuit Breaker 412A)		PEPCO (100%)
	Advance n0260 (Replace		
b0803	Dickerson Station H		
	Circuit Breaker 42A)		PEPCO (100%)
	Advance n0261 (Replace		
b0804	Dickerson Station H		
	Circuit Breaker 42C)		PEPCO (100%)
	Advance n0262 (Replace		
b0805	Dickerson Station H		
	Circuit Breaker 43A)		PEPCO (100%)
	Advance n0264 (Replace		
b0806	Dickerson Station H		
	Circuit Breaker 44A)		PEPCO (100%)
* NT /	Decional Transmission Sug		

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

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

Required 7	Transmission Enhancements A	nnual Revenue Requirement Responsible Customer(s)
	Advance n0267 (Replace	
b0809	Dickerson Station H	
	Circuit Breaker 45B)	PEPCO (100%)
	Advance n0270 (Replace	
b0810	Dickerson Station H	
	Circuit Breaker 47A)	PEPCO (100%)
	Advance n0726 (Replace	
b0811	Dickerson Station H	
	Circuit Breaker SPARE)	PEPCO (100%)
	Replace Chalk Point 230	
b0845	kV breaker (1A) with 80	
	kA breaker	PEPCO (100%)
	Replace Chalk Point 230	
b0846	kV breaker (1B) with 80	
	kA breaker	PEPCO (100%)
	Replace Chalk Point 230	
b0847	kV breaker (2A) with 80	
	kA breaker	PEPCO (100%)
	Replace Chalk Point 230	
b0848	kV breaker (2B) with 80	
	kA breaker	PEPCO (100%)
	Replace Chalk Point 230	
b0849	kV breaker (2C) with 80	
	kA breaker	PEPCO (100%)
	Replace Chalk Point 230	
b0850	kV breaker (3A) with 80	
	kA breaker	PEPCO (100%)
	Replace Chalk Point 230	
b0851	kV breaker (3B) with 80	
	kA breaker	PEPCO (100%)
	Replace Chalk Point 230	
b0852	kV breaker (3C) with 80	
	kA breaker	PEPCO (100%)
	Replace Chalk Point 230	
b0853	kV breaker (4A) with 80	
	kA breaker	PEPCO (100%)
	Replace Chalk Point 230	
b0854	kV breaker (4B) with 80	
	kA breaker	PEPCO (100%)
b0855	Replace Chalk Point 230	
00033	kV breaker (5A) with 80	PEPCO (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

kA breaker

Required'	Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
	Replace Chalk Point 230		
b0856	kV breaker (5B) with 80		
	kA breaker		PEPCO (100%)
	Replace Chalk Point 230		
b0857	kV breaker (6A) with 80		
	kA breaker		PEPCO (100%)
	Replace Chalk Point 230		
b0858	kV breaker (6B) with 80		
	kA breaker		PEPCO (100%)
	Replace Chalk Point 230		
b0859	kV breaker (7B) with 80		
	kA breaker		PEPCO (100%)
	Replace Chalk Point 230		· · · · ·
b0860	kV breaker (8A) with 80		
	kA breaker		PEPCO (100%)
	Replace Chalk Point 230		
b0861	kV breaker (8B) with 80		
	kA breaker		PEPCO (100%)
	Replace Chalk Point 230		· · · · · · · · · · · · · · · · · · ·
b0862	kV breaker (7A) with 80		
	kA breaker		PEPCO (100%)
	Replace Chalk Point 230		· · · · ·
b0863	kV breaker (1C) with 80		
	kA breaker		PEPCO (100%)
1 1 1 0 4	Replace Burtonsville 230		
b1104	kV breaker '1C'		PEPCO (100%)
1 1 1 0 5	Replace Burtonsville 230		
b1105	kV breaker '2C'		PEPCO (100%)
11100	Replace Burtonsville 230		
b1106	kV breaker '3C'		PEPCO (100%)
1.1107	Replace Burtonsville 230		
b1107	kV breaker '4C'		PEPCO (100%)
	Convert the 138 kV line		
	from Buzzard 138 -		
	Ritchie 851 to a 230 kV		
L1105	line and Remove 230/138		
b1125	kV Transformer at Ritchie		
	and install a spare 230/138		
	kV transformer at Buzzard		APS (4.74%) / PEPCO
	Pt		(95.26%)
	Upgrade the 230 kV line		
b1126	from Buzzard 016 –		APS (4.74%) / PEPCO
	Ritchie 059		(95.26%)

Required 7	Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
			AEC (2.392.40%) / APS
			(3.82 3.83%) / BGE
	Reconductor the Oak		(65.72<u>65.87</u>%) / DPL
	Grove – Bowie 230 kV		(4.43 <u>4.44</u> %) / JCPL
h1500	circuit and upgrade		(3.93<u>3.94</u>%) / ME (2.16%) /
b1592	terminal equipments at		Neptune* (0.39%) / HTP
	Oak Grove and Bowie 230		(0.10%) / PECO (8.35 8.37%)
	kV substations		/ PPL (2.83<u>2.84</u>%) / ECP**
			(0.13%) / PSEG (<u>5.535.54</u> %)
			/ RE (0.22%)
			AEC (2.39 <u>2.40</u> %) / APS
			(3.82<u>3.83</u>%) / BGE
	Reconductor the Bowie -		(65.72<u>65.87</u>%) / DPL
	Burtonsville 230 kV		(4.43 <u>4.44</u> %) / JCPL
b1593	circuit and upgrade		(3.93<u>3.94</u>%) / ME (2.16%) /
01393	terminal equipments at		Neptune* (0.39%) / HTP
	Bowie and Burtonsville		(0.10%) / PECO (8.35<u>8.37</u>%)
	230 kV substations		/ PPL (2.83<u>2.84</u>%) / ECP**
			(0.13%) / PSEG (5.53<u>5.54</u>%)
			/ RE (0.22%)
	Reconductor the Oak Grove – Bowie 230 kV '23042' circuit and upgrade terminal equipments at Oak Grove and Bowie 230 kV substations		AEC (2.38<u>2.39</u>%) / APS
			(3.84<u>3.85</u>%) / BGE
			(65.72<u>65.87</u>%) / DPL
			(<u>4.444.45</u> %) / JCPL
b1594			(3.93<u>3.94</u>%) / ME (2.16%) /
01571			Neptune* (0.39%) / HTP
			(0.10%) / PECO (8.33<u>8.35</u>%)
			/ PPL (2.83<u>2.84</u>%) / ECP**
			(0.13%)/ PSEG (5.53<u>5.54</u>%)
			/ RE (0.22%)
	Reconductor the Bowie – Burtonsville 230 kV '23042' circuit and		AEC (2.382.39 %) / APS
			(3.84<u>3.85</u>%) / BGE
			(65.72<u>65.87</u>%) / DPL
			(<u>4.44<u>4.45</u>%) / JCPL</u>
b1595	upgrade terminal		(3.93<u>3.94</u>%) / ME (2.16%) /
01070	equipments at Oak Grove and Burtonsville 230 kV substations		Neptune* (0.39%) / HTP
			(0.10%) / PECO (8.33<u>8.35</u>%)
			/ PPL (2.83<u>2.84</u>%) / <u>ECP**</u>
			(0.13%)/ PSEG (<u>5.535.54</u> %)
			/ RE (0.22%)
1 4 8 6 5	Reconductor the		AEC (0.80%) / BGE
b1596	Dickerson station "H" –		(33.68%) / DPL (2.09%) /
	Quince Orchard 230 kV		PECO (3.07%) / PEPCO

'23032' circuit and	(60.36%)
upgrade terminal	
equipments at Dickerson	
station "H" and Quince	
Orchard 230 kV	
substations	

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Required 7	Fransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
	Reconductor the Oak		
	Grove - Aquasco 230 kV		
	'23062' circuit and		
b1597	upgrade terminal		AEC (1.44%) / BGE
	equipments at Oak Grove		(48.60%) / DPL (2.52%) /
	and Aquasco 230 kV		PECO (5.00%) / PEPCO
	substations		(42.44%)
	Reconductor feeder 23032		BGE (33.05%) / DPL
b2008	and 23034 to high temp.		(1.38%) / PECO (1.35%) /
	conductor (10 miles)		PEPCO (64.22%) /
	Reconductor the		
	Morgantown - V3-017		
b2136	230 kV '23086' circuit and		
02130	replace terminal		
	equipments at		
	Morgantown		PEPCO (100%)
	Reconductor the		
	Morgantown - Talbert 230		
b2137	kV '23085' circuit and		
	replace terminal		
	equipment at Morgantown		PEPCO (100%)
	Replace terminal		
b2138	equipments at Hawkins		
	230 kV substation		PEPCO (100%)

SCHEDULE 12 – APPENDIX

(12) Public Service Electric and Gas Company

Required 7	Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
	Convert the Bergen-		
	Leonia 138 Kv circuit to		
b0025	230 kV circuit.		PSEG (100%)
	Add 150 MVAR capacitor		
b0090	at Camden 230 kV		PSEG (100%)
	Add 150 MVAR capacitor		
b0121	at Aldene 230 kV		PSEG (100%)
	Bypass the Essex 138 kV		
b0122	series reactors		PSEG (100%)
	Add Special Protection		
	Scheme at Bridgewater to		
	automatically open 230		
	kV breaker for outage of		
	Branchburg – Deans 500		
	kV and Deans 500/230 kV		
b0125	#1 transformer		PSEG (100%)
	Replace wavetrap on		
	Branchburg – Flagtown		
b0126	230 kV		PSEG (100%)
	Replace terminal		
	equipment to increase		
	Brunswick – Adams –		
	Bennetts Lane 230 kV to		
b0127	conductor rating		PSEG (100%)
	Replace wavetrap on		
	Flagtown – Somerville		
b0129	230 kV		PSEG (100%)
	Replace all derated		
	Branchburg 500/230 kV		AEC (1.36%) / JCPL
b0130	transformers		(47.76%) / PSEG (50.88%)
	Upgrade or Retension		
	PSEG portion of		
	Kittatinny – Newton 230		JCPL (51.11%) / PSEG
b0134	kVcircuit		(45.96%) / RE (2.93%)

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

Required Transmission Enhancements

Annual Revenue Requirement

Responsible Customer(s)

	Build new Essex – Aldene	
	230 kV cable connected	
	through a phase angle	PSEG (21.78%) / JCPL
b0145	regulator at Essex	
00143		(73.45%) /RE (4.77%) PSEG (100%)
	Add 100MVAR capacitor	PSEG (100%)
10157	at West Orange 138kV	
b0157	substation	
1.0150	Close the Sunnymeade	PSEG (100%)
b0158	"C" and "F" bus tie	
10170	Make the Bayonne reactor	PSEG (100%)
b0159	permanent installation	
	Relocate the X-2250	PSEG (100%)
	circuit from Hudson 1-6	
b0160	bus to Hudson 7-12 bus	
	Install 230/138kV	PSEG (99.80%) / RE
	transformer at Metuchen	(0.20%)
b0161	substation	
	Upgrade the Edison –	PSEG (100%)
	Meadow Rd 138kV "Q"	
b0162	circuit	
	Upgrade the Edison –	PSEG (100%)
	Meadow Rd 138kV "R"	
b0163	circuit	
	Build a new 230 kV	
	section from Branchburg	AEC (1.72<u>1.76</u>%) / JCPL
b0169	– Flagtown and move the	(25.94<u>26.50</u>%) / Neptune*
00109	Flagtown – Somerville	(10.62<u>10.85</u>%) / PSEG
	230 kV circuit to the new	(59.59<u>60.89</u>%)/<u>/ECP**</u>
	section	(2.13%)
	Reconductor the	
b0170	Flagtown-Somerville-	JCLP (42.95%) / Neptune*
00170	Bridgewater 230 kV	(17.90%) / PSEG (38.36%)
	circuit with 1590 ACSS	RE (0.79%)

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Annual Revenue Requirement

Responsible Customer(s)

		AEC (1.66%) / AEP
		(14.16%) / APS (5.73%) /
		ATSI (7.88%) / BGE
		(4.22%) / ComEd (13.31%) /
		Dayton (2.11%) / DEOK
	Dealess were tren at	(3.29%) / DL (1.75%) / DPL
10172.2	Replace wave trap at	(2.50%) / Dominion
b0172.2	Branchburg 500kV	(12.86%) / EKPC (1.87%) /
	substation	JCPL (3.74%) / ME (1.90%)
		/ NEPTUNE* (0.44%) /
		PECO (5.34%) / PENELEC
		(1.89%) / PEPCO (3.99%) /
		PPL (4.84%) / PSEG
		(6.26%) / RE (0.26%)
	Replace Hudson 230kV	PSEG (100%)
b0184	circuit breakers #1-2	
	Replace Deans 230kV	PSEG (100%)
b0185	circuit breakers #9-10	, , , , , , , , , , , , , , , , , , ,
00105		PSEG (100%)
10100	Replace Essex 230kV	1528 (10070)
b0186	circuit breaker #5-6	
	Install 230/138 kV	PENELEC (16.52%) / PSEG
1 1 0 0 0	transformer at Bergen	(80.29%) / RE (3.19%)
b1082	substation	

* Neptune Regional Transmission System, LLC <u>** East Coast Power, L.L.C.</u>

*** Hudson Transmission Partners, LLC

Required T	ransmission Enhancements	Annual Revenue Requirer	ment Responsible Customer(s)
b0201	Branchburg substation: replace wave trap on Branchburg – Readington 230 kV circuit		PSEG (100%)
b0213.1	Replace New Freedom 230 kV breaker BS2-6		PSEG (100%)
b0213.3	Replace New Freedom 230 kV breaker BS2-8		PSEG (100%)
b0274	Replace both 230/138 kV transformers at Roseland		PSEG (96.77<u>100</u>%) / ECP** (3.23%)
b0275	Upgrade the two 138 kV circuits between Roseland and West Orange		PSEG (100%)
b0278	Install 228 MVAR capacitor at Roseland 230 kV substation		PSEG (100%)
60290	Install 400 MVAR capacitor in the Branchburg 500 kV vicinity	1	AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%)
b0358	Reconductor the PSEG portion of Buckingham – Pleasant Valley 230 kV, replace wave trap and metering transformer		PSEG (100%)

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

Required T	ransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b0368	Reconductor Tosco – G22_MTX 230 kV circuit with 1033 bundled ACSS		PSEG (100%)
b0371	Make the Metuchen 138 kV bus solid and upgrade 6 breakers at the Metuchen substation		PSEG (100%)
b0372	Make the Athenia 138 kV bus solid and upgrade 2 breakers at the Athenia substation		PSEG (100%)
b0395	Replace Hudson 230 kV breaker BS4-5		PSEG (100%)
b0396	Replace Hudson 230 kV breaker BS1-6		PSEG (100%)
b0397	Replace Hudson 230 kV breaker BS3-4		PSEG (100%)
b0398	Replace Hudson 230 kV breaker BS5-6		PSEG (100%)
b0401.1	Replace Roseland 230 kV breaker BS6-7		PSEG (100%)
b0401.2	Replace Roseland 138 kV breaker O-1315		PSEG (100%)
b0401.3	Replace Roseland 138 kV breaker S-1319		PSEG (100%)
b0401.4	Replace Roseland 138 kV breaker T-1320		PSEG (100%)
b0401.5	Replace Roseland 138 kV breaker G-1307		PSEG (100%)
b0401.6	Replace Roseland 138 kV breaker P-1316		PSEG (100%)
b0401.7	Replace Roseland 138 kV breaker 220-4		PSEG (100%)

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Required T	ransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
	Replace W. Orange 138		
b0401.8	kV breaker 132-4		PSEG (100%)
b0411	Install 4 th 500/230 kV transformer at New Freedom		AEC (47.01%) / JCPL (7.04%) / Neptune* (0.28%) / PECO (23.36%) / PSEG (22.31%)
b0423	ReconductorReadington(2555)–Branchburg(4962)230kVw/1590ACSS		PSEG (100%)
b0424	ReplaceReadingtonwavetraponReadington(2555)–Roseland230 kV circuit		PSEG (100%)
b0425	Reconductor Linden (4996) – Tosco (5190) 230 kV circuit w/1590 ACSS (Assumes operating at 220 degrees C)		PSEG (100%)
00+23	Reconductor Tosco (5190) – G22_MTX5 (90220) 230 kV circuit w/1590 ACSS (Assumes operation at 220		1323 (10070)
b0426	degrees C)		PSEG (100%)
b0427	Reconductor Athenia (4954) – Saddle Brook (5020) 230 kV circuit river section		PSEG (100%)
b0428	ReplaceRoselandwavetraponRoseland(5019)–WestCaldwell"G" (5089)138 kV circuit		PSEG (100%)
b0429	Reconductor Kittatinny (2553) – Newton (2535) 230 kV circuit w/1590		JCPL (41.9142.63%) / Neptune* (3.593.65%) / PSEG (50.5951.45%) / RE (2.232.27%) / ECP**
	ACSS		(1.68%)
b0439	Spare Deans 500/230 kV transformer		PSEG (100%)
b0446.1	Upgrade Bayway 138 kV breaker #2-3		PSEG (100%)

	Upgrade Bayway 138 kV	
b0446.2	breaker #3-4	PSEG (100%)

Required T	ransmission Enhancements	Annual Revenue Requirem	nent Responsible Customer(s)
	Upgrade Bayway 138 kV		
b0446.3	breaker #6-7		PSEG (100%)
	Upgrade the breaker		
	associated with TX 132-5		
b0446.4	on Linden 138 kV		PSEG (100%)
	Install 138 kV breaker at		
b0470	Roseland and close the		
	Roseland 138 kV buses		PSEG (100%)
	Replace the wave traps at		
	both Lawrence and		
b0471	Pleasant Valley on the		
	Lawrence – Pleasant		
	Vallen 230 kV circuit		PSEG (100%)
	Increase the emergency		
b0472	rating of Saddle Brook -		
00472	Athenia 230 kV by 25% by		ECP (2.06%) / PSEG
	adding forced cooling		(94.41<u>96.40</u>%) / RE (<u>3.533.60</u>%)
	Move the 150 MVAR		
	mobile capacitor from		
b0473	Aldene 230 kV to		
	Lawrence 230 kV		
	substation		PSEG (100%)
			AEC (1.66%) / AEP (14.16%) /
			APS (5.73%) / ATSI (7.88%) /
			BGE (4.22%) / ComEd (13.31%)
	Build new 500 kV		/ Dayton (2.11%) / DEOK
	transmission facilities from		(3.29%) / DL (1.75%) / DPL
b0489			(2.50%) / Dominion (12.86%) /
00407	Pennsylvania – New Jersey border at Bushkill to		EKPC (1.87%) / JCPL (3.74%) /
	Roseland		ME (1.90%) / NEPTUNE*
	Koseianu		(0.44%) / PECO (5.34%) /
			PENELEC (1.89%) / PEPCO
			(3.99%) / PPL (4.84%) / PSEG
			(6.26%) / RE (0.26%)†

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

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††Cost allocations associated with below 500 kV elements of the project

[†]Cost allocations associated with Regional Facilities and Necessary Lower Voltage Facilities associated with the project

Required T	ransmission Enhancements	Annual Revenue Requirement	t Responsible Customer(s)
b489.1	Replace Athenia 230 kV breaker 31H		PSEG (100%)
b489.2	Replace Bergen 230 kV breaker 10H		PSEG (100%)
b489.3	Replace Saddlebrook 230 kV breaker 21P		PSEG (100%)
b0489.4	Install two Roseland 500/230 kV transformers as part of the Susquehanna – Roseland 500 kV project		AEC (5.095.14%) / ComEd (0.29%) / Dayton (0.03%) / DPL (1.761.78%) / JCPL (32.7333.04%) / Neptune* (6.326.38%) / PECO (10.0410.14%) / PENELEC (0.560.57%) / ECP** (0.95%) / PSEG (41.1040.71%) / RE (1.521.53%) ††
b0489.5	Replace Roseland 230 kV breaker '42H' with 80 kA		AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%)

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Required T	ransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
			AEC (1.66%) / AEP (14.16%)
			/ APS (5.73%) / ATSI
			(7.88%) / BGE (4.22%) /
			ComEd (13.31%) / Dayton
			(2.11%) / DEOK (3.29%) /
	Deplace Decelord 220 I-V		DL (1.75%) / DPL (2.50%) /
b0489.6	Replace Roseland 230 kV		Dominion (12.86%) / EKPC
	breaker '51H' with 80 kA		(1.87%) / JCPL (3.74%) / ME
			(1.90%) / NEPTUNE*
			(0.44%) / PECO (5.34%) /
			PENELEC (1.89%) / PEPCO
			(3.99%) / PPL (4.84%) /
			PSEG (6.26%) / RE (0.26%)
			AEC (1.66%) / AEP (14.16%)
			/ APS (5.73%) / ATSI
			(7.88%) / BGE (4.22%) /
			ComEd (13.31%) / Dayton
			(2.11%) / DEOK (3.29%) /
	Replace Roseland 230 kV breaker '71H' with 80 kA		DL (1.75%) / DPL (2.50%) /
b0489.7			Dominion (12.86%) / EKPC
	bleaker / III with 80 kA		(1.87%) / JCPL (3.74%) / ME
			(1.90%) / NEPTUNE*
			(0.44%) / PECO (5.34%) /
			PENELEC (1.89%) / PEPCO
			(3.99%) / PPL (4.84%) /
			PSEG (6.26%) / RE (0.26%)
* Neptune	Regional Transmission Syste	m, LLC	
** East Co	oast Power, L.L.C.		
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	AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) /
b0489.8 Replace Roseland 230 kV breaker '31H' with 80 kA	DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%)

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Required Transmission Enhancements		Annual Revenue Requireme	ent Responsible Customer(s)	
			AEC (1.66%) / AEP (14.16%) /	
			APS (5.73%) / ATSI (7.88%) /	
			BGE (4.22%) / ComEd	
			(13.31%) / Dayton (2.11%) /	
	Replace Roseland 230		DEOK (3.29%) / DL (1.75%) /	
b0489.9	kV breaker '11H' with		DPL (2.50%) / Dominion	
00489.9	80 kA		(12.86%) / EKPC (1.87%) /	
	80 KA		JCPL (3.74%) / ME (1.90%) /	
			NEPTUNE* (0.44%) / PECO	
			(5.34%) / PENELEC (1.89%) /	
			PEPCO (3.99%) / PPL (4.84%)	
			/ PSEG (6.26%) / RE (0.26%)	
			AEC (1.66%) / AEP (14.16%) /	
			APS (5.73%) / ATSI (7.88%) /	
			BGE (4.22%) / ComEd	
			(13.31%) / Dayton (2.11%) /	
	Replace Roseland 230 kV breaker '21H'		DEOK (3.29%) / DL (1.75%) /	
b0489.10			DPL (2.50%) / Dominion	
00489.10			(12.86%) / EKPC (1.87%) /	
			JCPL (3.74%) / ME (1.90%) /	
			NEPTUNE* (0.44%) / PECO	
			(5.34%) / PENELEC (1.89%) /	
			PEPCO (3.99%) / PPL (4.84%)	
			/ PSEG (6.26%) / RE (0.26%)	
* Neptune I	* Neptune Regional Transmission System, LLC			
** East Coa	** East Coast Power, L.L.C.			

***	Hudson	Transmission	Partners.	<u> </u>

Required Tra	ansmission Enhancements	Annual Revenue Requireme	ent Responsible Customer(s)
			AEC (1.66%) / AEP (14.16%) /
			APS (5.73%) / ATSI (7.88%) /
			BGE (4.22%) / ComEd (13.31%)
			/ Dayton (2.11%) / DEOK
			(3.29%) / DL (1.75%) / DPL
b0489.11	Replace Roseland 230		(2.50%) / Dominion (12.86%) /
00409.11	kV breaker '32H'		EKPC (1.87%) / JCPL (3.74%) /
			ME (1.90%) / NEPTUNE*
			(0.44%) / PECO (5.34%) /
			PENELEC (1.89%) / PEPCO
			(3.99%) / PPL (4.84%) / PSEG
			(6.26%) / RE (0.26%)
			AEC (1.66%) / AEP (14.16%) /
			APS (5.73%) / ATSI (7.88%) /
			BGE (4.22%) / ComEd (13.31%)
			/ Dayton (2.11%) / DEOK
			(3.29%) / DL (1.75%) / DPL
b0489.12	Replace Roseland 230		(2.50%) / Dominion (12.86%) /
00409.12	kV breaker '12H'		EKPC (1.87%) / JCPL (3.74%) /
			ME (1.90%) / NEPTUNE*
			(0.44%) / PECO (5.34%) /
			PENELEC (1.89%) / PEPCO
			(3.99%) / PPL (4.84%) / PSEG
			(6.26%) / RE (0.26%)

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			AEC (1.66%) / AEP (14.16%)
			APS (5.73%) / ATSI (7.88%)
			BGE (4.22%) / ComEd
			(13.31%) / Dayton (2.11%) /
			DEOK (3.29%) / DL (1.75%)
b0489.13	Replace Roseland 230		DPL (2.50%) / Dominion
00409.13	kV breaker '52H'		(12.86%) / EKPC (1.87%) /
			JCPL (3.74%) / ME (1.90%) /
			NEPTUNE* (0.44%) / PECO
			(5.34%) / PENELEC (1.89%)
			PEPCO (3.99%) / PPL (4.84%
			/ PSEG (6.26%) / RE (0.26%)
			AEC (1.66%) / AEP (14.16%)
			APS (5.73%) / ATSI (7.88%)
			BGE (4.22%) / ComEd
			(13.31%) / Dayton (2.11%) /
			DEOK (3.29%) / DL (1.75%)
b0489.14	Replace Roseland 230		DPL (2.50%) / Dominion
00407.14	kV breaker '41H'		(12.86%) / EKPC (1.87%) /
			JCPL (3.74%) / ME (1.90%)
			NEPTUNE* (0.44%) / PECO
			(5.34%) / PENELEC (1.89%)
			PEPCO (3.99%) / PPL (4.84%
			/ PSEG (6.26%) / RE (0.26%)
-	Regional Transmission Sys	stem, LLC	
<u>* East Coa</u> **	st Power, L.L.C. Hudson	Transmission	Partners, LLC

***	Hudson	Transmission	Partners	
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Required Transmission Enhancements		Annual Revenue Requirement Responsible Customer(s)
		AEC (1.66%) / AEP (14.16%) /
		APS (5.73%) / ATSI (7.88%) /
		BGE (4.22%) / ComEd
		(13.31%) / Dayton (2.11%) /
		DEOK (3.29%) / DL (1.75%) /
b0489.15	Replace Roseland 230 kV	DPL (2.50%) / Dominion
00407.15	breaker '72H'	(12.86%) / EKPC (1.87%) /
		JCPL (3.74%) / ME (1.90%) /
		NEPTUNE* (0.44%) / PECO
		(5.34%) / PENELEC (1.89%) /
		PEPCO (3.99%) / PPL (4.84%)
		/ PSEG (6.26%) / RE (0.26%)
	Loop the 5021 circuit into	AEC (1.66%) / AEP (14.16%) /
		APS (5.73%) / ATSI (7.88%) /
		BGE (4.22%) / ComEd
		(13.31%) / Dayton (2.11%) /
		DEOK (3.29%) / DL (1.75%) /
b0498	New Freedom 500 kV	DPL (2.50%) / Dominion
00470	substation	(12.86%) / EKPC (1.87%) /
	substation	JCPL (3.74%) / ME (1.90%) /
		NEPTUNE* (0.44%) / PECO
		(5.34%) / PENELEC (1.89%) /
		PEPCO (3.99%) / PPL (4.84%)
		/ PSEG (6.26%) / RE (0.26%)

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Required Transmission Enhancements		Annual Revenue Requirement	Responsible Customer(s)
b0498.1	Upgrade the 20H circuit breaker		PSEG (100%)
b0498.2	Upgrade the 22H circuit breaker		PSEG (100%)
b0498.3	Upgrade the 30H circuit breaker		PSEG (100%)
b0498.4	Upgrade the 32H circuit breaker		PSEG (100%)
b0498.5	Upgrade the 40H circuit breaker		PSEG (100%)
b0498.6	Upgrade the 42H circuit breaker		PSEG (100%)
b0512	MAPP Project – install new 500 kV transmission from Possum Point to Calvert Cliffs and install a DC line from Calvert Cliffs to Vienna and a DC line from Calvert Cliffs to Indian River	APS (B) (13.3 DEOI DP (12. JCPL NEP (5.349 PEPC	(1.66%) / AEP (14.16%) / (5.73%) / ATSI (7.88%) / GE (4.22%) / ComEd 31%) / Dayton (2.11%) / K (3.29%) / DL (1.75%) / PL (2.50%) / Dominion 86%) / EKPC (1.87%) / L (3.74%) / ME (1.90%) / TUNE* (0.44%) / PECO %) / PENELEC (1.89%) / O (3.99%) / PPL (4.84%) EG (6.26%) / RE (0.26%)
b0565	Install 100 MVAR capacitor at Cox's Corner 230 kV substation Regional Transmission System		PSEG (100%)

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Required 7	Fransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b0578	Replace Essex 138 kV breaker 4LM (C1355 line to ECRRF)		PSEG (100%)
b0579	Replace Essex 138 kV breaker 1LM (220-1 TX)		PSEG (100%)
b0580	Replace Essex 138 kV breaker 1BM (BS1-3 tie)		PSEG (100%)
b0581	Replace Essex 138 kV breaker 2BM (BS3-4 tie)		PSEG (100%)
b0582	Replace Linden 138 kV breaker 3 (132-7 TX)		PSEG (100%)
b0592	Replace Metuchen 138 kV breaker '2-2 Transfer'		PSEG (100%)
b0664	Reconductor with 2x1033 ACSS conductor		JCPL (36.35%) / NEPTUNE* (18.80%) / PSEG (43.24%) / RE (1.61%)
b0665	Reconductor with 2x1033 ACSS conductor		JCPL (36.35%) / NEPTUNE* (18.80%) / PSEG (43.24%) / RE (1.61%)
b0668	Reconductor with 2x1033 ACSS conductor		JCPL (39.41%) / NEPTUNE* (20.38%) / PSEG (38.76%) / RE (1.45%)
b0671	Replace terminal equipment at both ends of line		PSEG (100%)
b0743	Add a bus tie breaker at Roseland 138 kV		PSEG (100%)
b0812	Increase operating temperature on line for one year to get 925E MVA rating		PSEG (100%)
b0813	Reconductor Hudson – South Waterfront 230 kV circuit	(BGE (1.25%) / JCPL (9.92%) / NEPTUNE* 0.87%) / PEPCO (1.11%) / PSEG (83.73%) / RE (3.12%)

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Required T	ransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b0814	New Essex – Kearney 138 kV circuit and Kearney 138 kV bus tie		JCPL (23.49%) / NEPTUNE* (1.61%) /
			PENELEC (5.37%) / PSEG (67.03%) / RE (2.50%)
	Replace Kearny 138 kV breaker '1-SHT' with 80 kA breaker		JCPL (23.49%) /
b0814.1			NEPTUNE* (1.61%) /
			PENELEC (5.37%) / PSEG (67.03%) / RE (2.50%)
	Replace Kearny 138 kV breaker '15HF' with 80 kA breaker		JCPL (23.49%) /
b0814.2			NEPTUNE* (1.61%) /
			PENELEC (5.37%) / PSEG
			(67.03%) / RE (2.50%)
b0814.3	Replace Kearny 138 kV		JCPL (23.49%) / NEPTUNE* (1.61%) /
	breaker '14HF' with 80 kA		PENELEC (5.37%) / PSEG
	breaker		(67.03%) / RE (2.50%)
	Replace Kearny 138 kV		JCPL (23.49%) /
b0814.4	breaker '10HF' with 80 kA breaker		NEPTUNE* (1.61%) / PENELEC (5.37%) / PSEG
			(67.03%) / RE (2.50%)
	Demlage Keemer 120 kV		JCPL (23.49%) /
b0814.5	Replace Kearny 138 kV breaker '2HT' with 80 kA breaker		NEPTUNE* (1.61%) /
00014.5			PENELEC (5.37%) / PSEG
			(67.03%) / RE (2.50%) JCPL (23.49%) /
b0814.6	Replace Kearny 138 kV breaker '22HF' with 80 kA breaker		NEPTUNE* (1.61%) /
			PENELEC (5.37%) / PSEG
			(67.03%) / RE (2.50%)
b0814.7	Replace Kearny 138 kV breaker '4HT' with 80 kA breaker		JCPL (23.49%) /
			NEPTUNE* (1.61%) /
			PENELEC (5.37%) / PSEG (67.03%) / RE (2.50%)
b0814.8	Replace Kearny 138 kV breaker '25HF' with 80 kA breaker		JCPL (23.49%) /
			NEPTUNE* (1.61%) /
			PENELEC (5.37%) / PSEG
			(67.03%) / RE (2.50%)
b0814.9	Replace Essex 138 kV breaker '2LM' with 63 kA breaker and 2.5 cycle contact parting time		JCPL (23.49%) / NEPTUNE* (1.61%) /
			PENELEC (5.37%) / PSEG
			(67.03%) / RE (2.50%)

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Required Tra	ansmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b0814.10	Replace Essex 138 kV breaker '1BT' with 63 kA		JCPL (23.49%) / NEPTUNE* (1.61%) /
	breaker and 2.5 cycle		PENELEC (5.37%) /
	contact parting time		PSEG (67.03%) / RE
			(2.50%)
	Replace Essex 138 kV		JCPL (23.49%) /
	breaker '2PM' with 63 kA		NEPTUNE* (1.61%) /
b0814.11	breaker and 2.5 cycle contact parting time		PENELEC (5.37%) /
			PSEG (67.03%) / RE
			(2.50%)
	Replace Marion 138 kV breaker '2HM' with 63 kA		JCPL (23.49%) /
b0814.12			NEPTUNE* (1.61%) /
	breaker		PENELEC (5.37%) /
	breaker		PSEG (67.03%) / RE
			(2.50%)
	Replace Marion 138 kV		JCPL (23.49%) /
	breaker '2LM' with 63 kA		NEPTUNE* (1.61%) /
b0814.13	breaker		PENELEC (5.37%) /
	bleaker		PSEG (67.03%) / RE
			(2.50%)
	Replace Marion 138 kV breaker '1LM' with 63 kA breaker		JCPL (23.49%) /
			NEPTUNE* (1.61%) /
b0814.14			PENELEC (5.37%) /
			PSEG (67.03%) / RE
			(2.50%)
	Replace Marion 138 kV breaker '6PM' with 63 kA breaker		JCPL (23.49%) /
			NEPTUNE* (1.61%) /
b0814.15			PENELEC (5.37%) /
			PSEG (67.03%) / RE
			(2.50%)
	Replace Marion 138 kV breaker '3PM' with 63 kA breaker		JCPL (23.49%) /
			NEPTUNE* (1.61%) /
b0814.16			PENELEC (5.37%) /
			PSEG (67.03%) / RE
			(2.50%)
	Replace Marion 138 kV breaker '4LM' with 63 kA breaker		JCPL (23.49%) /
b0814.17			NEPTUNE* (1.61%) /
			PENELEC (5.37%) /
			PSEG (67.03%) / RE
			(2.50%)

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Required Tra	ansmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b0814.18	Replace Marion 138 kV breaker '3LM' with 63 kA breaker		JCPL (23.49%) / NEPTUNE* (1.61%) / PENELEC (5.37%) / PSEG (67.03%) / RE (2.50%)
b0814.19	Replace Marion 138 kV breaker '1HM' with 63 kA breaker		JCPL (23.49%) / NEPTUNE* (1.61%) / PENELEC (5.37%) / PSEG (67.03%) / RE (2.50%)
b0814.20	Replace Marion 138 kV breaker '2PM3' with 63 kA breaker		JCPL (23.49%) / NEPTUNE* (1.61%) / PENELEC (5.37%) / PSEG (67.03%) / RE (2.50%)
b0814.21	Replace Marion 138 kV breaker '2PM1' with 63 kA breaker		JCPL (23.49%) / NEPTUNE* (1.61%) / PENELEC (5.37%) / PSEG (67.03%) / RE (2.50%)
b0814.22	Replace ECRR 138 kV breaker '903'		JCPL (23.49%) / NEPTUNE* (1.61%) / PENELEC (5.37%) / PSEG (67.03%) / RE (2.50%)
b0814.23	Replace Foundry 138 kV breaker '21P'		JCPL (23.49%) / NEPTUNE* (1.61%) / PENELEC (5.37%) / PSEG (67.03%) / RE (2.50%)
b0814.24	Change the contact parting time on Essex 138 kV breaker '3LM' to 2.5 cycles		JCPL (23.49%) / NEPTUNE* (1.61%) / PENELEC (5.37%) / PSEG (67.03%) / RE (2.50%)
b0814.25	Change the contact parting time on Essex 138 kV breaker '2BM' to 2.5 cycles		JCPL (23.49%) / NEPTUNE* (1.61%) / PENELEC (5.37%) / PSEG (67.03%) / RE (2.50%)

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Required Tra	ansmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b0814.26	Change the contact parting time on Essex 138 kV breaker '1BM' to 2.5 cycles		JCPL (23.49%) / NEPTUNE* (1.61%) / PENELEC (5.37%) / PSEG (67.03%) / RE (2.50%)
b0814.27	Change the contact parting time on Essex 138 kV breaker '3PM' to 2.5 cycles		JCPL (23.49%) / NEPTUNE* (1.61%) / PENELEC (5.37%) / PSEG (67.03%) / RE (2.50%)
b0814.28	Change the contact parting time on Essex 138 kV breaker '4LM' to 2.5 cycles		JCPL (23.49%) / NEPTUNE* (1.61%) / PENELEC (5.37%) / PSEG (67.03%) / RE (2.50%)
b0814.29	Change the contact parting time on Essex 138 kV breaker '1PM' to 2.5 cycles		JCPL (23.49%) / NEPTUNE* (1.61%) / PENELEC (5.37%) / PSEG (67.03%) / RE (2.50%)
b0814.30	Change the contact parting time on Essex 138 kV breaker '1LM' to 2.5 cycles		JCPL (23.49%) / NEPTUNE* (1.61%) / PENELEC (5.37%) / PSEG (67.03%) / RE (2.50%)

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Required T	ransmission Enhancements	Annual Revenue Requirement	t Responsible Customer(s)
b0829	Build Branchburg to Roseland 500 kV circuit as part of Branchburg – Hudson 500 kV project		AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) (DEC (6.26%) / DE (0.26%)
b0829.6	Replace Branchburg 500 kV breaker 91X		/ PSEG (6.26%) / RE (0.26%) AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / DDL (1.75%) / DPL (2.50%) / DDL (1.75%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%)
b0829.9	Replace Branchburg 230 kV breaker 102H		PSEG (100%)

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Required Tra	ansmission Enhancements	Annual Revenue Requirement	t Responsible Customer(s)
b0829.11	Replace Branchburg 230 kV breaker 32H		PSEG (100%)
b0829.12	Replace Branchburg 230 kV breaker 52H		PSEG (100%)
b0830	Build Roseland - Hudson 500 kV circuit as part of Branchburg – Hudson 500 kV project		AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%)
b0830.1	Replace Roseland 230 kV breaker '82H' with 80 kA		PSEG (100%
b0830.2	Replace Roseland 230 kV breaker '91H' with 80 kA		PSEG (100%)
b0830.3	Replace Roseland 230 kV breaker '22H' with 80 kA		PSEG (100%)

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Required T	ransmission Enhancements	Annual Revenue Requirer	nent Responsible Customer(s)
	Replace 138/13 kV		ComEd (2.512.57%) / Dayton
	transformers with 230/13		(0.09%) / PENELEC
b0831	kV units as part of		(2.75<u>2.82</u>%)/<u>ECP**(2.45%)/</u>
	Branchburg – Hudson 500		PSEG (<mark>88.74<u>90.97</u>%) / RE</mark>
	kV project		(3.46<u>3.55</u>%)
			AEC (1.66%) / AEP (14.16%) /
			APS (5.73%) / ATSI (7.88%) /
			BGE (4.22%) / ComEd (13.31%)
			/ Dayton (2.11%) / DEOK
	Build Hudson 500 kV		(3.29%) / DL (1.75%) / DPL
b0832	switching station as part of		(2.50%) / Dominion (12.86%) /
00832	Branchburg – Hudson 500		EKPC (1.87%) / JCPL (3.74%) /
	kV project		ME (1.90%) / NEPTUNE*
			(0.44%) / PECO (5.34%) /
			PENELEC (1.89%) / PEPCO
			(3.99%) / PPL (4.84%) / PSEG
			(6.26%) / RE (0.26%)
			AEC (1.66%) / AEP (14.16%) /
			APS (5.73%) / ATSI (7.88%) /
			BGE (4.22%) / ComEd (13.31%)
			/ Dayton (2.11%) / DEOK
	Build Roseland 500 kV		(3.29%) / DL (1.75%) / DPL
b0833	switching station as part of		(2.50%) / Dominion (12.86%) /
00855	Branchburg – Hudson 500		EKPC (1.87%) / JCPL (3.74%) /
	kV project		ME (1.90%) / NEPTUNE*
			(0.44%) / PECO (5.34%) /
			PENELEC (1.89%) / PEPCO
			(3.99%) / PPL (4.84%) / PSEG
			(6.26%) / RE (0.26%)

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Required Tr	ransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b0834	Convert the E-1305/F- 1306 to one 230 kV circuit as part of Branchburg – Hudson 500 kV project		ComEd (<u>2.512.57</u> %) / Dayton (0.09%) / PENELEC (<u>2.752.82</u> %) / <u>ECP** (2.45%) /</u> PSEG (<u>88.7490.97</u> %) / RE (<u>3.463.55</u> %)
b0835	Build Hudson 230 kV transmission lines as part of Roseland – Hudson 500 kV project as part of Branchburg – Hudson 500 kV project		ComEd (2.512.57%) / Dayton (0.09%) / PENELEC (2.752.82%) / ECP** (2.45%) / PSEG (88.7490.97%) / RE (3.463.55%)
b0836	Install transformation at new Hudson 500 kV switching station and perform Hudson 230 kV and 345 kV station work as part of Branchburg – Hudson 500 kV project		ComEd (<u>2.512.57</u> %) / Dayton (0.09%) / PENELEC (<u>2.752.82</u> %) / <u>ECP** (2.45%) /</u> PSEG (<u>88.7490.97</u> %) / RE (<u>3.463.55</u> %)
b0882	Replace Hudson 230 kV breaker 1HA with 80 kA		PSEG (100%)
b0883	Replace Hudson 230 kV breaker 2HA with 80 kA		PSEG (100%)
b0884	Replace Hudson 230 kV breaker 3HB with 80 kA		PSEG (100%)
b0885	Replace Hudson 230 kV breaker 4HA with 80 kA		PSEG (100%)
b0886	Replace Hudson 230 kV breaker 4HB with 80 kA		PSEG (100%)
b0889	Replace Bergen 230 kV breaker '21H'		PSEG (100%)
b0890	Upgrade New Freedom 230 kV breaker '21H'		PSEG (100%)
b0891	Upgrade New Freedom 230 kV breaker '31H'		PSEG (100%)
b0899	Replace ECRR 138 kV breaker 901		PSEG (100%)
b0900	Replace ECRR 138 kV breaker 902		PSEG (100%)

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Required T	ransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1013	Replace Linden 138 kV breaker '7PB'		PSEG (100%)
b1017	Reconductor South Mahwah Waldwick 345 kV J-3410 circuit	1 -	JCPL (<u>29.0129.27</u> %) / NEPTUNE* (<u>2.742.76</u> %) / PSEG (<u>64.8565.42</u> %) / RE (<u>2.532.55</u> %) / ECP** (0.87%)
b1018	Reconductor South Mahwah Waldwick 345 kV K-3411 circuit	1 -	JCPL (29.1829.44 %) / NEPTUNE* (2.742.76 %) / PSEG (64.6865.25 %) / RE (2.532.55 %) / ECP** (0.87%)
b1019.1	Replace wave trap, line disconnect and ground switc at Roseland on the F-2206 circuit	ch	PSEG (100%)
b1019.2	Replace wave trap, line disconnect and ground swite at Roseland on the B-2258 circuit	ch	PSEG (100%)
b1019.3	Replace 1-2 and 2-3 section disconnect and ground switches at Cedar Grove on the F-2206 circuit		PSEG (100%)
b1019.4	Replace 1-2 and 2-3 section disconnect and ground switches at Cedar Grove on the B-2258 circuit		PSEG (100%)
b1019.5	Replace wave trap, line disconnect and ground switc at Cedar Grove on the F-220 circuit		PSEG (100%)
b1019.6	Replace line disconnect and ground switch at Cedar Grov on the K-2263 circuit		PSEG (100%)

Required Tra	ansmission Enhancements Ani	nual Revenue Requirement	Responsible Customer(s)
	Replace 2-4 and 4-5 section		
b1019.7	disconnect and ground		
01019.7	switches at Clifton on the B-		
	2258 circuit		PSEG (100%)
	Replace 1-2 and 2-3 section		
b1019.8	disconnect and ground		
01019.8	switches at Clifton on the K-		
	2263 circuit		PSEG (100%)
	Replace line, ground, 230 kV		
b1019.9	main bus disconnects at		
01019.9	Athenia on the B-2258		
	circuit		PSEG (100%)
	Replace wave trap, line,		
	ground 230 kV breaker		
b1019.10	disconnect and 230 kV main		
	bus disconnects at Athenia		
	on the K-2263 circuit		PSEG (100%)

Required T	ransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1082.1	Replace Bergen 138 kV breaker '30P' with 80 kA		PSEG (100%)
b1082.2	Replace Bergen 138 kV breaker '80P' with 80 kA		PSEG (100%)
b1082.3	Replace Bergen 138 kV breaker '70P' with 80 kA		PSEG (100%)
b1082.4	Replace Bergen 138 kV breaker '90P' with 63 kA		PSEG (100%)
b1082.5	Replace Bergen 138 kV breaker '50P' with 63 kA		PSEG (100%)
b1082.6	Replace Bergen 230 kV breaker '12H' with 80 kA		PSEG (100%)
b1082.7	Replace Bergen 230 kV breaker '21H' with 80 kA		PSEG (100%)
b1082.8	Replace Bergen 230 kV breaker '11H' with 80 kA		PSEG (100%)
b1082.9	Replace Bergen 230 kV breaker '20H' with 80 kA		PSEG (100%)
b1098	Re-configure the Bayway 138 kV substation and install three new 138 kV breakers		PSEG (100%)
b1099	Build a new 230 kV substation by tapping the Aldene – Essex circuit and install three 230/26 kV transformers, and serve some of the Newark area load from the new station		PSEG (100%)
b1100	Build a new 138 kV circuit from Bayonne to Marion		PSEG (100%)
b1101	Re-configure the Cedar Grove substation with breaker and half scheme and build a new 69 kV circuit from Cedar Grove		
	to Hinchman		PSEG (100%)

Required Tra	ansmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1154	Convert the West Orange 138 kV substation, the two Roseland – West Orange 138 kV circuits, and the Roseland – Sewaren 138 kV circuit from 138 kV to 230 kV		PSEG (96.18%) / RE (3.82%)
b1155	Build a new 230 kV circuit from Branchburg to Middlesex Sw. Rack. Buil a new 230 kV substation at Middlesex	d	JCPL (4.61%) / PSEG (91.75%) / RE (3.64%)
b1155.3	Replace Branchburg 230 kV breaker '81H' with 63 kA		PSEG (100%)
b1155.4	Replace Branchburg 230 kV breaker '72H' with 63 kA		PSEG (100%)
b1155.5	Replace Branchburg 230 kV breaker '61H' with 63 kA		PSEG (100%)
b1155.6	Replace Branchburg 230 kV breaker '41H' with 63 kA		PSEG (100%)
b1156	Convert the Burlington, Camden, and Cuthbert Blv 138 kV substations, the 133 kV circuits from Burlingto to Camden, and the 138 kV circuit from Camden to Cuthbert Blvd. from 138 k to 230 kV	8 n 7	PSEG (96.18%) / RE (3.82%)
b1156.13	Replace Camden 230 kV breaker '22H' with 80 kA		PSEG (100%)
b1156.14	Replace Camden 230 kV breaker '32H' with 80 kA		PSEG (100%)
b1156.15	Replace Camden 230 kV breaker '21H' with 80 kA		PSEG (100%)

Required Tra	ansmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1156.16	Replace New Freedom 230 kV breaker '50H' with 63 kA		PSEG (100%)
b1156.17	Replace New Freedom 230 kV breaker '41H' with 63 kA		PSEG (100%)
b1156.18	Replace New Freedom 230 kV breaker '51H' with 63 kA		PSEG (100%)
b1156.19	Rebuild Camden 230 kV to 80 kA		PSEG (100%)
b1156.20	Rebuild Burlington 230 kV to 80 kA		PSEG (100%)
b1197.1	Reconductor the PSEG portion of the Burlington – Croydon circuit with 1590 ACSS		PSEG (100%)
b1228	Re-configure the Lawrence 230 kV substation to breaker and half		HTP (0.14%) / ECP (0.22%) /PSEG (95.8396.18%) / RE (3.813.82%)
b1255	Build a new 69 kV substation (Ridge Road) and build new 69 kV circuits from Montgomery – Ridge Road – Penns Neck/Dow Jones		PSEG (96.18%) / RE (3.82%)
b1304.1	Convert the existing 'D1304' and 'G1307' 138 kV circuits between Roseland – Kearny – Hudson to 230 kV operation		AEC (0.230.28%) / BGE (0.971.18%) / ComEd (2.322.83%) / Dayton (0.130.16%) / JCPL (1.171.43%) / Neptune (0.070.09%) / HTP (16.05%) / PENELEC (2.973.63%) / PEPCO (1.041.27%) / ECP (2.11%) / PSEG (70.1685.73%) / RE (2.783.40%)

Required Tr	ansmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1304.2	Expand existing Bergen 230 kV substation and reconfigure the Athenia 230 kV substation to breaker and a half scheme		AEC (0.230.28%) / BGE (0.971.18%) / ComEd (2.322.83%) / Dayton (0.130.16%) / JCPL (1.171.43%) / Neptune (0.070.09%) / HTP (16.05%) / PENELEC (2.973.63%) / PEPCO (1.041.27%) / ECP (2.11%) / PSEG (70.1685.73%) / RE (2.783.40%)
b1304.3	Build second 230 kV underground cable from Bergen to Athenia		AEC (0.230.28%) / BGE (0.971.18%) / ComEd (2.322.83%) / Dayton (0.130.16%) / JCPL (1.171.43%) / Neptune (0.070.09%) / HTP (16.05%) / PENELEC (2.973.63%) / PEPCO (1.041.27%) / ECP (2.11%) / PSEG (70.1685.73%) / RE (2.783.40%)
b1304.4	Build second 230 kV underground cable from Hudson to South Waterfront		AEC (0.230.28%) / BGE (0.971.18%) / ComEd (2.322.83%) / Dayton (0.130.16%) / JCPL (1.171.43%) / Neptune (0.070.09%) / HTP (16.05%) / PENELEC (2.973.63%) / PEPCO (1.041.27%) / ECP (2.11%) / PSEG (70.1685.73%) / RE (2.783.40%)

Required Tra	ansmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1304.5	Replace Athenia 230 kV breaker '21H' with 80 kA		PSEG (100%)
b1304.6	Replace Athenia 230 kV breaker '41H' with 80 kA		PSEG (100%)
b1304.7	Replace South Waterfront 230 kV breaker '12H' with 80 kA		PSEG (100%)
b1304.8	Replace South Waterfront 230 kV breaker '22H' with 80 kA		PSEG (100%)
b1304.9	Replace South Waterfront 230 kV breaker '32H' with 80 kA		PSEG (100%)
b1304.10	Replace South Waterfront 230 kV breaker '52H' with 80 kA		PSEG (100%)
b1304.11	Replace South Waterfront 230 kV breaker '62H' with 80 kA		PSEG (100%)
b1304.12	Replace South Waterfront 230 kV breaker '72H' with 80 kA		PSEG (100%)
b1304.13	Replace South Waterfront 230 kV breaker '82H' with 80 kA		PSEG (100%)
b1304.14	Replace Essex 230 kV breaker '20H' with 80 kA		PSEG (100%)

Required Tra	ansmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1304.15	Replace Essex 230 kV breaker '21H' with 80 kA		PSEG (100%)
b1304.16	Replace Essex 230 kV breaker '10H' with 80 kA		PSEG (100%)
b1304.17	Replace Essex 230 kV breaker '11H' with 80 kA		PSEG (100%)
b1304.18	Replace Essex 230 kV breaker '11HL' with 80 kA		PSEG (100%)
b1304.19	Replace Newport R 230 kV breaker '23H' with 63 kA		PSEG (100%)
b1304.20	Rebuild Athenia 230 kV substation to 80 kA		PSEG (100%)
b1304.21	Rebuild Bergen 230 kV substation to 80 kA		PSEG (100%)
b1398	Build two new parallel underground circuits from Gloucester to Camden		JCPL (12.82]3.03 %) / NEPTUNE (1.18].20 %) / HTP (0.79%) / PECO (51.0851.93%) / PEPCO (0.570.58%) / ECP** (0.85%) / PSEG (31.4631.99%) / RE (<u>1.251.27</u> %)
b1398.1	Install shunt reactor at Gloucester to offset cable charging		JCPL (12.82]3.03 %) / NEPTUNE (1.18].20 %) / HTP (0.79%) / PECO (51.0851.93 %) / PEPCO (0.570.58 %) / ECP** (0.85%) / PSEG (31.4631.99 %) / RE (1.251.27 %)
b1398.2	Reconfigure the Cuthbert station to breaker and a half scheme		JCPL (<u>12.8213.03</u> %) / NEPTUNE (<u>1.181.20</u> %) / <u>HTP (0.79%)</u> / PECO (<u>51.0851.93</u> %) / PEPCO (<u>0.570.58</u> %) / <u>ECP**</u> (<u>0.85%) / PSEG</u> (<u>31.4631.99</u> %) / RE (<u>1.251.27</u> %)

		JCPL (<u>12.8213.03</u> %) /
		NEPTUNE (<u>1.181.20</u> %) /
	Build a second 230 kV	HTP (0.79%) / PECO
b1398.3	parallel overhead circuit	(51.08<u>51.93</u>%) / PEPCO
01396.3	from Mickelton –	(0.57<u>0.58</u>%) / <u>ECP**</u>
	Gloucester	(0.85%) / PSEG
		(31.46<u>31.99</u>%)/RE
		(<u>1.251.27</u> %)

Required Tra	ansmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1398.4	Reconductor the existing Mickleton – Gloucester 230 kV circuit (PSEG portion)		JCPL (<u>12.8213.03</u> %) / NEPTUNE (<u>1.181.20</u> %) / <u>HTP (0.79%)</u> / PECO (<u>51.0851.93</u> %) / PEPCO (<u>0.570.58</u> %) / <u>ECP**</u> (<u>0.85%) / PSEG</u> (<u>31.4631.99</u> %) / RE (<u>1.251.27</u> %)
b1398.7	Reconductor the Camden – Richmond 230 kV circuit (PSEG portion) and upgrade terminal equipments at Camden substations		JCPL (<u>12.8213.03</u> %) / NEPTUNE (<u>1.181.20</u> %) / <u>HTP (0.79%)</u> / PECO (<u>51.0851.93</u> %) / PEPCO (<u>0.570.58</u> %) / <u>ECP**</u> (<u>0.85%) / PSEG</u> (<u>31.4631.99</u> %) / RE (<u>1.251.27</u> %)
b1398.15	Replace Gloucester 230 kV breaker '21H' with 63 kA		PSEG (100%)
b1398.16	Replace Gloucester 230 kV breaker '51H' with 63 kA		PSEG (100%)
b1398.17	Replace Gloucester 230 kV breaker '56H' with 63 kA		PSEG (100%)
b1398.18	Replace Gloucester 230 kV breaker '26H' with 63 kA		PSEG (100%)
b1398.19	Replace Gloucester 230 kV breaker '71H' with 63 kA		PSEG (100%)
b1399	Convert the 138 kV path from Aldene – Springfield Rd. – West Orange to 230 kV		PSEG (96.18%) / RE (3.82%)
b1400	Install 230 kV circuit breakers at Bennetts Ln. "F" and "X" buses		PSEG (100%)

Required T	ransmission Enhancements	Annual Revenue Requirement Responsible Customer(s)
		AEC (1.66%) / AEP (14.16%) /
		APS (5.73%) / ATSI (7.88%) /
		BGE (4.22%) / ComEd
		(13.31%) / Dayton (2.11%) /
		DEOK (3.29%) / DL (1.75%) /
b1410	Replace Salem 500 kV	DPL (2.50%) / Dominion
01410	breaker '11X'	(12.86%) / EKPC (1.87%) /
		JCPL (3.74%) / ME (1.90%) /
		NEPTUNE* (0.44%) / PECO
		(5.34%) / PENELEC (1.89%) /
		PEPCO (3.99%) / PPL (4.84%)
		/ PSEG (6.26%) / RE (0.26%)
	Replace Salem 500 kV breaker '12X'	AEC (1.66%) / AEP (14.16%) /
		APS (5.73%) / ATSI (7.88%) /
		BGE (4.22%) / ComEd
		(13.31%) / Dayton (2.11%) /
		DEOK (3.29%) / DL (1.75%) /
b1411		DPL (2.50%) / Dominion
01411		(12.86%) / EKPC (1.87%) /
		JCPL (3.74%) / ME (1.90%) /
		NEPTUNE* (0.44%) / PECO
		(5.34%) / PENELEC (1.89%) /
		PEPCO (3.99%) / PPL (4.84%)
		/ PSEG (6.26%) / RE (0.26%)
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Required T	ransmission Enhancements	Annual Revenue Requirement	t Responsible Customer(s)
			AEC (1.66%) / AEP (14.16%)
			/ APS (5.73%) / ATSI
			(7.88%) / BGE (4.22%) /
			ComEd (13.31%) / Dayton
			(2.11%) / DEOK (3.29%) /
	Replace Salem 500 kV		DL (1.75%) / DPL (2.50%) /
b1412	breaker '20X'		Dominion (12.86%) / EKPC
	breaker 20X		(1.87%) / JCPL (3.74%) / ME
			(1.90%) / NEPTUNE*
			(0.44%) / PECO (5.34%) /
			PENELEC (1.89%) / PEPCO
			(3.99%) / PPL (4.84%) /
			PSEG (6.26%) / RE (0.26%)
			AEC (1.66%) / AEP (14.16%)
	Replace Salem 500 kV		/ APS (5.73%) / ATSI
			(7.88%) / BGE (4.22%) /
			ComEd (13.31%) / Dayton
			(2.11%) / DEOK (3.29%) /
			DL (1.75%) / DPL (2.50%) /
b1413	breaker '21X'		Dominion (12.86%) / EKPC
	breaker 21A		(1.87%) / JCPL (3.74%) / ME
			(1.90%) / NEPTUNE*
			(0.44%) / PECO (5.34%) /
			PENELEC (1.89%) / PEPCO
			(3.99%) / PPL (4.84%) /
			PSEG (6.26%) / RE (0.26%)

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Required T	ransmission Enhancements	Annual Revenue Requirement	nt Responsible Customer(s)
b1414	Replace Salem 500 kV breaker '31X'		AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%)
b1415	Replace Salem 500 kV breaker '32X'		AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%)

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Required T	ransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1539	Replace Tosco 230 kV breaker 'CB1' with 63 kA		PSEG (100%)
b1540	Replace Tosco 230 kV breaker 'CB2' with 63 kA		PSEG (100%)
b1541	Open the Hudson 230 kV bus tie		PSEG (100%)
b1588	Reconductor the Eagle Point - Gloucester 230 kV circuit #1 and #2 with higher conductor rating		JCPL (10.31 <u>10.48</u> %) / Neptune* (0.98 <u>1.00</u> %) / <u>HTP (0.75%) /</u> PECO (30.81 <u>31.30</u> %) / ECP** (0.82%) / PSEG (54.17<u>55.03</u>%) / RE (<u>2.162.19</u>%)
b1589	Re-configure the Kearny 230 kV substation and loop the P-2216-1 (Essex - NJT Meadows) 230 kV circuit		ATSI (<u>8.0010.02</u> %) / HTP (20.18%) / PENELEC (7.779.74 %) / PSEG (<u>61.5977.16</u> %) / RE (<u>2.463.08</u> %)
b1590	Upgrade the PSEG portion of the Camden Richmond 230 kV circuit to six wire conductor and replace terminal equipment at Camden		BGE (3.053.06 %) / ME (0.83%) / HTP (0.21%) /-PECO (91.36 91.70%) / PEPCO (1.931.94 %) / PPL (2.462.47 %)-/ <u>ECP** (0.16%)</u>
b1749	Advance n1237 (Replace Essex 230 kV breaker '22H' with 80kA)		PSEG (100%)
b1750	Advance n0666.5 (Replace Hudson 230 kV breaker '1HB' with 80 kA (without TRV cap, so actually 63 kA))		PSEG (100%)
b1751	Advance n0666.3 (Replace Hudson 230 kV breaker '2HA' with 80 kA (without TRV cap, so actually 63 kA))		PSEG (100%)

Required T	ransmission Enhancements An	nual Revenue Requirement	Responsible Customer(s)
	Advance n0666.10 (Replace Hudson 230 kV		
b1752	breaker '2HB' with 80 kA		
	(without TRV cap, so		
	actually 63 kA)) Marion 138 kV breaker		PSEG (100%)
b1753	'7PM' - delay the relay time to increase the		
01755	contact parting time to 2.5		
	cycles		PSEG (100%)
	Marion 138 kV breaker		1020 (10070)
	'3PM' - delay the relay		
b1754	time to increase the		
	contact parting time to 2.5		
	cycles		PSEG (100%)
	Marion 138 kV breaker		
	'6PM' - delay the relay		
b1755	time to increase the		
	contact parting time to 2.5		
	cycles		PSEG (100%)
			AEC (4.96 <u>4.97</u> %) /
			JCPL (<u>44.2044.34</u> %) /
b1787	Build a second 230 kV circuit from Cox's Corner		NEPTUNE* (0.53%) / HTP (0.15%) / ECP**
01/8/	- Lumberton		(0.16%) / ECP**
	- Lumberton		(48.0848.23%) / RE
			(1.92<u>1.93</u>%) / KE
	Install a reactor along the		(1.)21.)0
b2034	Kearny - Essex 138 kV		
	line		PSEG (100%)
1 2025	Replace Sewaren 138 kV		
b2035	breaker '11P'		PSEG (100%)
	Replace Sewaren 138 kV		()
b2036	breaker '21P'		PSEG (100%)
b2037	Replace PVSC 138 kV		
02037	breaker '452'		PSEG (100%)
b2038	Replace PVSC 138 kV		
02000	breaker '552'		PSEG (100%)

Required Tr	ransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2039	Replace Bayonne 138 kV breaker '11P'		PSEG (100%)
	Reconductor the Mickleton - Gloucester		
b2139	230 kV parallel circuits		
02109	with double bundle		PSEG (61.11%) / PECO
	conductor		(36.45%) / RE (2.44%)
	Re-configure the		
b2146	Brunswick 230 kV and 69		PSEG (96.16%) / RE
	kV substations		(3.84%)
	Construct Jackson Rd. 69		
	kV substation and loop the		
	Cedar Grove - Hinchmans		
	Ave into Jackson Rd. and		
b2151	construct Hawthorne 69		
	kV substation and build 69		
	kV circuit from		
	Hinchmans Ave -		
	Hawthorne - Fair Lawn		PSEG (100%)
	Reconfigure the Linden,		
	Bayway, North Ave, and		
	Passaic Valley S.C. 138		
b2159	kV substations. Construct		
	and loop new 138 kV		
	circuit to new airport		PSEG (72.61 96.16%) / HTP
	station		(24.49%)/ RE (2.90<u>3.84</u>%)

SCHEDULE 12 – APPENDIX

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

Required	Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b0216	Install -100/+525 MVAR dynamic reactive device at Black Oak	As specified under the procedures detailed in Attachment H-18B, Section 1.b	AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%)
b0218	Install third Wylie Ridge 500/345kV transformer	As specified under the procedures detailed in Attachment H-18B, Section 1.b	AEC (11.83%) / DPL (19.40%) / Dominion (13.81%) / JCPL (15.56%) / PECO (39.40%)
b0220	Upgrade coolers on Wylie Ridge 500/345 kV #7		AEC (11.83%) / DPL (19.40%) / Dominion (13.81%) / JCPL (15.56%) / PECO (39.40%)
b0229	Install fourth Bedington 500/138 kV		APS (50.98%) / BGE (13.42%) / DPL (2.03%) / Dominion (14.50%) / ME (1.43%) / PEPCO (17.64%)
b0230	Install fourth Meadowbrook 500/138 kV	As specified under the procedures detailed in Attachment H-18B, Section 1.b	APS (79.16%) / BGE (3.61%) / DPL (0.86%) / Dominion (11.75%) / ME (0.67%) / PEPCO (3.95%)

Required	Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b0238	Reconductor Doubs – Dickerson and Doubs – Aqueduct 1200 MVA	As specified under the procedures detailed in Attachment H-18B, Section 1.b	BGE (16.66%) / Dominion (33.66%) / PEPCO (49.68%)
b0240	Open the Black Oak #3 500/138 kV transformer for the loss of Hatfield – Back Oak 500 kV line		APS (100%)
b0245	Replacement of the existing 954 ACSR conductor on the Bedington – Nipetown 138 kV line with high temperature/low sag conductor		APS (100%)
b0246	Rebuild of the Double Tollgate – Old Chapel 138 kV line with 954 ACSR conductor	As specified under the procedures detailed in Attachment H-18B, Section 1.b	APS (100%)
b0273	OpenbothNorthShenandoah#3transformerandStrasburg– Edinburgh138 kV line for the lossofMountStorm–Meadowbrook572kV		APS (100%)
b0322	Convert Lime Kiln substation to 230 kV operation		APS (100%)
b0323	Replace the North Shenandoah 138/115 kV transformer	As specified under the procedures detailed in Attachment H-18B, Section 1.b	APS (100%)

* Neptune Regional Transmission System, LLC

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

[†]Cost allocations associated with Regional Facilities and Necessary Lower Voltage Facilities associated with the project

††Cost allocations associated with below 500 kV elements of the project

Required Tr	ransmission Enhancements	Annual Revenue Requiremen	t Responsible Customer(s)
b0328.2	Build new Meadow Brook – Loudoun 500 kV circuit (20 of 50 miles)	As specified under the procedures detailed in Attachment H-18B, Section 1.b	AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%)
b0343	Replace Doubs 500/230 kV transformer #2	As specified under the procedures detailed in Attachment H-18B, Section 1.b	AEC (1.85%) / BGE (21.49%) / DPL (3.91%) / Dominion (28.86%) / ME (2.97%) / PECO (5.73%) / PEPCO (35.19%)
b0344	Replace Doubs 500/230 kV transformer #3	As specified under the procedures detailed in Attachment H-18B, Section 1.b	AEC (1.86%) / BGE (21.50%) / DPL (3.91%) / Dominion (28.82%) / ME (2.97%) / PECO (5.74%) / PEPCO (35.20%)
b0345	Replace Doubs 500/230 kV transformer #4	As specified under the procedures detailed in Attachment H-18B, Section 1.b	AEC (1.85%) / BGE (21.49%) / DPL (3.90%) / Dominion (28.83%) / ME (2.98%) / PECO (5.75%) / PEPCO (35.20%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required T	ransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
			AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) /
			BGE (4.22%) / ComEd (13.31%)
			/ Dayton (2.11%) / DEOK
	Build new Mt. Storm –	As specified under the	(3.29%) / DL (1.75%) / DPL
b0347.1	502 Junction 500 kV	procedures detailed in	(2.50%) / Dominion (12.86%) /
00517.1	circuit	Attachment H-18B,	EKPC (1.87%) / JCPL (3.74%) /
		Section 1.b	ME (1.90%) / NEPTUNE*
			(0.44%) / PECO (5.34%) /
			PENELEC (1.89%) / PEPCO
			(3.99%) / PPL (4.84%) / PSEG
			(6.26%) / RE (0.26%)
			AEC (1.66%) / AEP (14.16%) /
			APS (5.73%) / ATSI (7.88%) /
			BGE (4.22%) / ComEd (13.31%)
		As specified under the procedures detailed in Attachment H-18B, Section 1.b	/ Dayton (2.11%) / DEOK
	Build new Mt. Storm –		(3.29%) / DL (1.75%) / DPL
b0347.2	Meadow Brook 500 kV		(2.50%) / Dominion (12.86%) /
00347.2	circuit		EKPC (1.87%) / JCPL (3.74%) /
	encuit	Section 1.b	ME (1.90%) / NEPTUNE*
			(0.44%) / PECO (5.34%) /
			PENELEC (1.89%) / PEPCO
			(3.99%) / PPL (4.84%) / PSEG
			(6.26%) / RE (0.26%)

Annual Revenue Requirement Responsible Customer(s) Paguirad Transmission Enhancements

Required T	ransmission Enhancements	Annual Revenue Requirement	t Responsible Customer(s)
			AEC (1.66%) / AEP (14.16%) /
			APS (5.73%) / ATSI (7.88%) /
			BGE (4.22%) / ComEd (13.31%)
			/ Dayton (2.11%) / DEOK
		As specified under the	(3.29%) / DL (1.75%) / DPL
b0347.3	Build new 502 Junction	procedures detailed in	(2.50%) / Dominion (12.86%) /
00347.3	500 kV substation	Attachment H-18B,	EKPC (1.87%) / JCPL (3.74%) /
		Section 1.b	ME (1.90%) / NEPTUNE*
			(0.44%) / PECO (5.34%) /
			PENELEC (1.89%) / PEPCO
			(3.99%) / PPL (4.84%) / PSEG
			(6.26%) / RE (0.26%)
			AEC (1.66%) / AEP (14.16%) /
			APS (5.73%) / ATSI (7.88%) /
			BGE (4.22%) / ComEd (13.31%)
			/ Dayton (2.11%) / DEOK
		As specified under the	(3.29%) / DL (1.75%) / DPL
b0347.4	Upgrade Meadow Brook	procedures detailed in	(2.50%) / Dominion (12.86%) /
00347.4	500 kV substation	Attachment H-18B,	EKPC (1.87%) / JCPL (3.74%) /
		Section 1.b	ME (1.90%) / NEPTUNE*
			(0.44%) / PECO (5.34%) /
			PENELEC (1.89%) / PEPCO
			(3.99%) / PPL (4.84%) / PSEG
			(6.26%) / RE (0.26%)

Dequired Transmission Enhancements Annual D Dequimement De aible Custe **man**(a)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required 1	ransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
			AEC (1.66%) / AEP (14.16%) /
			APS (5.73%) / ATSI (7.88%) /
			BGE (4.22%) / ComEd (13.31%)
			/ Dayton (2.11%) / DEOK
			(3.29%) / DL (1.75%) / DPL
b0347.5	Replace Harrison 500		(2.50%) / Dominion (12.86%) /
00347.3	kV breaker HL-3		EKPC (1.87%) / JCPL (3.74%) /
			ME (1.90%) / NEPTUNE*
			(0.44%) / PECO (5.34%) /
			PENELEC (1.89%) / PEPCO
			(3.99%) / PPL (4.84%) / PSEG
			(6.26%) / RE (0.26%)
			AEC (1.66%) / AEP (14.16%) /
			APS (5.73%) / ATSI (7.88%) /
			BGE (4.22%) / ComEd (13.31%)
			/ Dayton (2.11%) / DEOK
			(3.29%) / DL (1.75%) / DPL
b0347.6	Upgrade (per ABB		(2.50%) / Dominion (12.86%) /
00347.0	inspection) breaker HL-6		EKPC (1.87%) / JCPL (3.74%) /
			ME (1.90%) / NEPTUNE*
			(0.44%) / PECO (5.34%) /
			PENELEC (1.89%) / PEPCO
			(3.99%) / PPL (4.84%) / PSEG
			(6.26%) / RE (0.26%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required T	ransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
			AEC (1.66%) / AEP (14.16%) /
			APS (5.73%) / ATSI (7.88%) /
			BGE (4.22%) / ComEd (13.31%)
			/ Dayton (2.11%) / DEOK
			(3.29%) / DL (1.75%) / DPL
b0347.7	Upgrade (per ABB		(2.50%) / Dominion (12.86%) /
00347.7	inspection) breaker HL-7		EKPC (1.87%) / JCPL (3.74%) /
			ME (1.90%) / NEPTUNE*
			(0.44%) / PECO (5.34%) /
			PENELEC (1.89%) / PEPCO
			(3.99%) / PPL (4.84%) / PSEG
			(6.26%) / RE (0.26%)
			AEC (1.66%) / AEP (14.16%) /
			APS (5.73%) / ATSI (7.88%) /
			BGE (4.22%) / ComEd (13.31%)
			/ Dayton (2.11%) / DEOK
			(3.29%) / DL (1.75%) / DPL
b0347.8	Upgrade (per ABB		(2.50%) / Dominion (12.86%) /
00347.8	inspection) breaker HL-8		EKPC (1.87%) / JCPL (3.74%) /
			ME (1.90%) / NEPTUNE*
			(0.44%) / PECO (5.34%) /
			PENELEC (1.89%) / PEPCO
			(3.99%) / PPL (4.84%) / PSEG
			(6.26%) / RE (0.26%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required II		Annual Revenue Requirement	Responsible Customer(s)
			AEC (1.66%) / AEP (14.16%) /
			APS (5.73%) / ATSI (7.88%) /
			BGE (4.22%) / ComEd (13.31%)
			/ Dayton (2.11%) / DEOK
	Upgrade (per ABB		(3.29%) / DL (1.75%) / DPL
b0347.9	inspection) breaker HL-	(2.50%) / Dominion (12.86%) /	
00347.9	10		EKPC (1.87%) / JCPL (3.74%) /
	10	ME (1.90%) / NEPTUNE*	
			(0.44%) / PECO (5.34%) /
			PENELEC (1.89%) / PEPCO
			(3.99%) / PPL (4.84%) / PSEG
			(6.26%) / RE (0.26%)
			AEC (1.66%) / AEP (14.16%) /
			APS (5.73%) / ATSI (7.88%) /
		(3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%) AEC (1.66%) / AEP (14.16%) /	
	Upgrade (per ABB		
b0347.10	Inspection) Hatfield 500		
00347.10	kV breakers HFL-1		
	KV DIEakers HFL-1		ME (1.90%) / NEPTUNE*
			(0.44%) / PECO (5.34%) /
			PENELEC (1.89%) / PEPCO
			(3.99%) / PPL (4.84%) / PSEG
			(6.26%) / RE (0.26%)

Required Tra	ansmission Enhancements	Annual Revenue Requirement Responsible Customer(s)
		AEC (1.66%) / AEP (14.16%) /
		APS (5.73%) / ATSI (7.88%) /
		BGE (4.22%) / ComEd (13.31%)
		/ Dayton (2.11%) / DEOK
	Upgrade (per ABB	(3.29%) / DL (1.75%) / DPL
b0347.11	Inspection) Hatfield	(2.50%) / Dominion (12.86%) /
00347.11	500 kV breakers HFL-3	EKPC (1.87%) / JCPL (3.74%) /
	JOO KV DIEakers III L-J	ME (1.90%) / NEPTUNE*
		(0.44%) / PECO (5.34%) /
		PENELEC (1.89%) / PEPCO
		(3.99%) / PPL (4.84%) / PSEG
		(6.26%) / RE (0.26%)
		AEC (1.66%) / AEP (14.16%) /
		APS (5.73%) / ATSI (7.88%) /
		BGE (4.22%) / ComEd (13.31%)
		/ Dayton (2.11%) / DEOK
	Upgrade (per ABB	(3.29%) / DL (1.75%) / DPL
b0347.12	10 1	(2.50%) / Dominion (12.86%) /
00347.12	Inspection) Hatfield 500 kV breakers HFL-4	EKPC (1.87%) / JCPL (3.74%) /
	300 KV Dieakers HFL-4	ME (1.90%) / NEPTUNE*
		(0.44%) / PECO (5.34%) /
		PENELEC (1.89%) / PEPCO
		(3.99%) / PPL (4.84%) / PSEG
		(6.26%) / RE (0.26%)

Required Transmission Enhancements		Annual Revenue Requirement Responsible Customer(s)
		AEC (1.66%) / AEP (14.16%) /
		APS (5.73%) / ATSI (7.88%) /
		BGE (4.22%) / ComEd (13.31%)
		/ Dayton (2.11%) / DEOK
	Upgrade (per ABB	(3.29%) / DL (1.75%) / DPL
b0347.13	Inspection) Hatfield	(2.50%) / Dominion (12.86%) /
00347.13	500 kV breakers HFL-6	EKPC (1.87%) / JCPL (3.74%) /
	JOO KV DIEakers III L-0	ME (1.90%) / NEPTUNE*
		(0.44%) / PECO (5.34%) /
		PENELEC (1.89%) / PEPCO
		(3.99%) / PPL (4.84%) / PSEG
		(6.26%) / RE (0.26%)
		AEC (1.66%) / AEP (14.16%) /
		APS (5.73%) / ATSI (7.88%) /
		BGE (4.22%) / ComEd (13.31%)
		/ Dayton (2.11%) / DEOK
	Upgrade (per ABB	(3.29%) / DL (1.75%) / DPL
b0347.14	Inspection) Hatfield	(2.50%) / Dominion (12.86%) /
00347.14	500 kV breakers HFL-7	EKPC (1.87%) / JCPL (3.74%) /
	JOO KV DIEakers III L-7	ME (1.90%) / NEPTUNE*
		(0.44%) / PECO (5.34%) /
		PENELEC (1.89%) / PEPCO
		(3.99%) / PPL (4.84%) / PSEG
		(6.26%) / RE (0.26%)

Required Tra	ansmission Enhancements	Annual Revenue Requirement Responsible Customer(s)
		AEC (1.66%) / AEP (14.16%) /
		APS (5.73%) / ATSI (7.88%) /
		BGE (4.22%) / ComEd (13.31%)
		/ Dayton (2.11%) / DEOK
	Upgrade (per ABB	(3.29%) / DL (1.75%) / DPL
b0347.15	Inspection) Hatfield	(2.50%) / Dominion (12.86%) /
00347.13	500 kV breakers HFL-9	EKPC (1.87%) / JCPL (3.74%) /
	500 KV breakers III L-9	ME (1.90%) / NEPTUNE*
		(0.44%) / PECO (5.34%) /
		PENELEC (1.89%) / PEPCO
		(3.99%) / PPL (4.84%) / PSEG
		(6.26%) / RE (0.26%)
		AEC (1.66%) / AEP (14.16%) /
		3
	Upgrade (per ABB	
b0347.16	inspection) Harrison	(2.50%) / Dominion (12.86%) /
00347.10	500 kV breaker 'HL-3'	EKPC (1.87%) / JCPL (3.74%) /
	500 KV bleaker HE-5	(6.26%) / RE (0.26%) AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) /
		(0.44%) / PECO (5.34%) /
		PENELEC (1.89%) / PEPCO
		(3.99%) / PPL (4.84%) / PSEG
		(6.26%) / RE (0.26%)

Required Transmission Enhancements		Annual Revenue Requirement	Responsible Customer(s)
b0347.17	Replace Meadow Brook 138 kV breaker 'MD-10'		AEC (1.66%) / AEP (14.16%) /
			APS (5.73%) / ATSI (7.88%) /
			BGE (4.22%) / ComEd (13.31%)
			/ Dayton (2.11%) / DEOK
			(3.29%) / DL (1.75%) / DPL
			(2.50%) / Dominion (12.86%) /
			EKPC (1.87%) / JCPL (3.74%) /
			ME (1.90%) / NEPTUNE*
			(0.44%) / PECO (5.34%) /
			PENELEC (1.89%) / PEPCO
			(3.99%) / PPL (4.84%) / PSEG
			(6.26%) / RE (0.26%)
b0347.18	Replace Meadow Brook 138 kV breaker 'MD-11'		AEC (1.66%) / AEP (14.16%) /
			APS (5.73%) / ATSI (7.88%) /
			BGE (4.22%) / ComEd (13.31%)
			/ Dayton (2.11%) / DEOK
			(3.29%) / DL (1.75%) / DPL
			(2.50%) / Dominion (12.86%) /
			EKPC (1.87%) / JCPL (3.74%) /
			ME (1.90%) / NEPTUNE*
			(0.44%) / PECO (5.34%) /
			PENELEC (1.89%) / PEPCO
			(3.99%) / PPL (4.84%) / PSEG
			(6.26%) / RE (0.26%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required Transmission Enhancements Annual Revenue Requireme		Allinual Revenue Requirement	Responsible Customer(s)
b0347.19	Replace Meadow Brook 138 kV breaker 'MD-12'		AEC (1.66%) / AEP (14.16%) /
			APS (5.73%) / ATSI (7.88%) /
			BGE (4.22%) / ComEd (13.31%)
			/ Dayton (2.11%) / DEOK
			(3.29%) / DL (1.75%) / DPL
			(2.50%) / Dominion (12.86%) /
			EKPC (1.87%) / JCPL (3.74%) /
			ME (1.90%) / NEPTUNE*
			(0.44%) / PECO (5.34%) /
			PENELEC (1.89%) / PEPCO
			(3.99%) / PPL (4.84%) / PSEG
			(6.26%) / RE (0.26%)
b0347.20	Replace Meadow Brook 138 kV breaker 'MD-13'		AEC (1.66%) / AEP (14.16%) /
			APS (5.73%) / ATSI (7.88%) /
			BGE (4.22%) / ComEd (13.31%)
			/ Dayton (2.11%) / DEOK
			(3.29%) / DL (1.75%) / DPL
			(2.50%) / Dominion (12.86%) /
			EKPC (1.87%) / JCPL (3.74%) /
			ME (1.90%) / NEPTUNE*
			(0.44%) / PECO (5.34%) /
			PENELEC (1.89%) / PEPCO
			(3.99%) / PPL (4.84%) / PSEG
			(6.26%) / RE (0.26%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required In		Allinual Revenue Requirement	Responsible Customer(s)
			AEC (1.66%) / AEP (14.16%) /
			APS (5.73%) / ATSI (7.88%) /
			BGE (4.22%) / ComEd (13.31%)
			/ Dayton (2.11%) / DEOK
	Replace Meadow		(3.29%) / DL (1.75%) / DPL
b0347.21	Brook 138 kV breaker		(2.50%) / Dominion (12.86%) /
00347.21	'MD-14'		EKPC (1.87%) / JCPL (3.74%) /
	IVID-14		ME (1.90%) / NEPTUNE*
			(0.44%) / PECO (5.34%) /
			PENELEC (1.89%) / PEPCO
			(3.99%) / PPL (4.84%) / PSEG
			(6.26%) / RE (0.26%)
	Replace Meadow Brook 138 kV breaker		AEC (1.66%) / AEP (14.16%) /
			APS (5.73%) / ATSI (7.88%) /
			BGE (4.22%) / ComEd (13.31%)
			/ Dayton (2.11%) / DEOK
			(3.29%) / DL (1.75%) / DPL
b0347.22			(2.50%) / Dominion (12.86%) /
00347.22			EKPC (1.87%) / JCPL (3.74%) /
	'MD-15'		ME (1.90%) / NEPTUNE*
			(0.44%) / PECO (5.34%) /
			PENELEC (1.89%) / PEPCO
			(3.99%) / PPL (4.84%) / PSEG
			(6.26%) / RE (0.26%)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
		AEC (1.66%) / AEP (14.16%) /
		APS (5.73%) / ATSI (7.88%) /
		BGE (4.22%) / ComEd (13.31%)
		/ Dayton (2.11%) / DEOK
Replace Meadow		(3.29%) / DL (1.75%) / DPL
b0347.23 Brook 138 kV breaker		(2.50%) / Dominion (12.86%) /
'MD-16'		EKPC (1.87%) / JCPL (3.74%) /
NID-10		ME (1.90%) / NEPTUNE*
		(0.44%) / PECO (5.34%) /
		PENELEC (1.89%) / PEPCO
		(3.99%) / PPL (4.84%) / PSEG
		(6.26%) / RE (0.26%)
		AEC (1.66%) / AEP (14.16%) /
		APS (5.73%) / ATSI (7.88%) /
		BGE (4.22%) / ComEd (13.31%)
		/ Dayton (2.11%) / DEOK
Replace Meadow		(3.29%) / DL (1.75%) / DPL
1		(2.50%) / Dominion (12.86%) /
b0347.24 Brook 138 kV breaker		EKPC (1.87%) / JCPL (3.74%) /
'MD-17'		ME (1.90%) / NEPTUNE*
		(0.44%) / PECO (5.34%) /
		PENELEC (1.89%) / PEPCO
		(3.99%) / PPL (4.84%) / PSEG
		(6.26%) / RE (0.26%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required II		Annual Revenue Requirement	Responsible Customer(s)
			AEC (1.66%) / AEP (14.16%) /
			APS (5.73%) / ATSI (7.88%) /
			BGE (4.22%) / ComEd (13.31%)
			/ Dayton (2.11%) / DEOK
	Replace Meadow		(3.29%) / DL (1.75%) / DPL
	Brook 138 kV breaker		(2.50%) / Dominion (12.86%) /
b0347.25	'MD-18'		EKPC (1.87%) / JCPL (3.74%) /
	IVID-10		ME (1.90%) / NEPTUNE*
			(0.44%) / PECO (5.34%) /
			PENELEC (1.89%) / PEPCO
			(3.99%) / PPL (4.84%) / PSEG
			(6.26%) / RE (0.26%)
			AEC (1.66%) / AEP (14.16%) /
			APS (5.73%) / ATSI (7.88%) /
			BGE (4.22%) / ComEd (13.31%)
			/ Dayton (2.11%) / DEOK
			(3.29%) / DL (1.75%) / DPL
b0347.26			(2.50%) / Dominion (12.86%) /
00347.20			EKPC (1.87%) / JCPL (3.74%) /
	'MD-22#1 CAP'		ME (1.90%) / NEPTUNE*
			(0.44%) / PECO (5.34%) /
			PENELEC (1.89%) / PEPCO
			(3.99%) / PPL (4.84%) / PSEG
			(6.26%) / RE (0.26%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required Tra	ansmission Enhancements	Annual Revenue Requirement Responsible Customer(s)
		AEC (1.66%) / AEP (14.16%) /
		APS (5.73%) / ATSI (7.88%) /
		BGE (4.22%) / ComEd (13.31%) /
		Dayton (2.11%) / DEOK (3.29%) /
	Replace Meadow	DL (1.75%) / DPL (2.50%) /
b0347.27	Brook 138 kV breaker	Dominion (12.86%) / EKPC
00347.27	'MD-4'	(1.87%) / JCPL (3.74%) / ME
		(1.90%) / NEPTUNE* (0.44%) /
		PECO (5.34%) / PENELEC
		(1.89%) / PEPCO (3.99%) / PPL
		(4.84%) / PSEG (6.26%) / RE
		(0.26%)
		AEC (1.66%) / AEP (14.16%) /
		APS (5.73%) / ATSI (7.88%) /
	Replace Meadow Brook 138 kV breaker 'MD-5'	BGE (4.22%) / ComEd (13.31%) /
		Dayton (2.11%) / DEOK (3.29%) /
		DL (1.75%) / DPL (2.50%) /
b0347.28		Dominion (12.86%) / EKPC
00517.20		(1.87%) / JCPL (3.74%) / ME
		(1.90%) / NEPTUNE* (0.44%) /
		PECO (5.34%) / PENELEC
		(1.89%) / PEPCO (3.99%) / PPL
		(4.84%) / PSEG (6.26%) / RE
		(0.26%)
		AEC (1.66%) / AEP (14.16%) /
		APS (5.73%) / ATSI (7.88%) /
		BGE (4.22%) / ComEd (13.31%) /
		Dayton (2.11%) / DEOK (3.29%) /
		DL (1.75%) / DPL (2.50%) /
1.00.17.00	Replace Meadowbrook	Dominion (12.86%) / EKPC
b0347.29	138 kV breaker 'MD-6'	(1.87%) / JCPL (3.74%) / ME
		(1.90%) / NEPTUNE* (0.44%) /
		PECO (5.34%) / PENELEC
		(1.89%) / PEPCO (3.99%) / PPL
		(4.84%) / PSEG (6.26%) / RE
	· 177 · · · 0	(0.26%)

Required Tra	ansmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
			AEC (1.66%) / AEP (14.16%) /
			APS (5.73%) / ATSI (7.88%) /
			BGE (4.22%) / ComEd (13.31%)
			/ Dayton (2.11%) / DEOK
			(3.29%) / DL (1.75%) / DPL
b0347.30	Replace Meadowbrook		(2.50%) / Dominion (12.86%) /
00347.30	138 kV breaker 'MD-7'		EKPC (1.87%) / JCPL (3.74%) /
			ME (1.90%) / NEPTUNE*
			(0.44%) / PECO (5.34%) /
			PENELEC (1.89%) / PEPCO
			(3.99%) / PPL (4.84%) / PSEG
			(6.26%) / RE (0.26%)
			AEC (1.66%) / AEP (14.16%) /
			APS (5.73%) / ATSI (7.88%) /
			BGE (4.22%) / ComEd (13.31%)
			/ Dayton (2.11%) / DEOK
			(3.29%) / DL (1.75%) / DPL
b0347.31	Replace Meadowbrook		(2.50%) / Dominion (12.86%) /
00347.31	138 kV breaker 'MD-8'		EKPC (1.87%) / JCPL (3.74%) /
			ME (1.90%) / NEPTUNE*
			(0.44%) / PECO (5.34%) /
			PENELEC (1.89%) / PEPCO
			(3.99%) / PPL (4.84%) / PSEG
			(6.26%) / RE (0.26%)

ansmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
		AEC (1.66%) / AEP (14.16%) /
		APS (5.73%) / ATSI (7.88%) /
		BGE (4.22%) / ComEd (13.31%)
		/ Dayton (2.11%) / DEOK
		(3.29%) / DL (1.75%) / DPL
1		(2.50%) / Dominion (12.86%) /
138 kV breaker 'MD-9'		EKPC (1.87%) / JCPL (3.74%) /
		ME (1.90%) / NEPTUNE*
		(0.44%) / PECO (5.34%) /
		PENELEC (1.89%) / PEPCO
		(3.99%) / PPL (4.84%) / PSEG
		(6.26%) / RE (0.26%)
Replace Meadow Brook		
138kV breaker 'MD-1'		
		APS (100%)
Replace Meadow Brook		
1		
		APS (100%)
Upgrade Stonewall –		
10		
954 ACSR conductor		APS (100%)
Convert Doubs -		AEC (1.82%) / APS (76.84%) /
		DPL (2.64%) / JCPL (4.53%) /
5		ME (9.15%) / Neptune* (0.42%)
		/ PPL (4.60%)
operation		AEC (1.66%) / AEP (14.16%) /
		APS (5.73%) / ATSI (7.88%) /
		BGE (4.22%) / ComEd (13.31%)
		/ Dayton (2.11%) / DEOK
Replace terminal		(3.29%) / DL (1.75%) / DPL
-		(2.50%) / Dominion (12.86%) /
500 kV and Belmont		EKPC (1.87%) / JCPL (3.74%) /
500 kV		ME (1.90%) / NEPTUNE*
		(0.44%) / PECO (5.34%) /
		PENELEC (1.89%) / PEPCO
		(3.99%) / PPL (4.84%) / PSEG
		(6.26%) / RE (0.26%)
	Replace Meadowbrook 138 kV breaker 'MD-9' Replace Meadow Brook 138kV breaker 'MD-1' Replace Meadow Brook 138kV breaker 'MD-2' Upgrade Stonewall – Inwood 138 kV with 954 ACSR conductor Convert Doubs – Monocacy 138 kV facilities to 230 kV operation Replace terminal equipment at Harrison 500 kV and Belmont	Replace Meadowbrook 138 kV breaker 'MD-9' Replace Meadow Brook 138kV breaker 'MD-1' Replace Meadow Brook 138kV breaker 'MD-1' Replace Meadow Brook 138kV breaker 'MD-2' Upgrade Stonewall – Inwood 138 kV with 954 ACSR conductor Convert Doubs – Monocacy 138 kV facilities to 230 kV operation Replace terminal equipment at Harrison 500 kV and Belmont

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

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

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

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required	Transmission Enhancements	Annual Revenue Requirement	t Responsible Customer(s)
b0418	Install a breaker failure auto-restoration scheme at Cabot 500 kV for the failure of the #6 breaker		AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%)
b0419	Install a breaker failure auto-restoration scheme at Bedington 500 kV for the failure of the #1 and #2 breakers		AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%)
b0420	Operating Procedure to open the Black Oak 500/138 kV transformer #3 for the loss of Hatfield – Ronco 500 kV and the Hatfield #3 Generation		APS (100%)
b0445	Upgrade substation equipment and reconductor the Tidd – Mahans Lane – Weirton 138kV circuit with 954 ACSR		APS (100%)

Required T	ransmission Enhancements	Annual Revenue Requiremer	nt Responsible Customer(s)
b0460	RaiselimitingstructuresonAlbright-Bethelboro138 kV toraisethe rating to175MVAnormal214MVA emergency		APS (100%)
b0491	Construct an Amos to Welton Spring to WV state line 765 kV circuit (APS equipment)	As specified under the procedures detailed in Attachment H-19B	AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%)
b0492	Construct a Welton Spring to Kemptown 765 kV line (APS equipment)	As specified under the procedures detailed in Attachment H-19B	AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%)
b0492.3	Replace Eastalco 230 kV breaker D-26		APS (100%)
b0492.4	Replace Eastalco 230 kV breaker D-28		APS (100%)

Required Tr	ansmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b0492.5	Replace Eastalco 230 kV breaker D-31		APS (100%)
b0495	Replace existing Kammer 765/500 kV transformer with a new larger transformer		AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%)
b0533	Reconductor the Powell Mountain – Sutton 138 kV line		APS (100%)
b0534	Install a 28.61 MVAR capacitor on Sutton 138 kV		APS (100%)
b0535	Install a 44 MVAR capacitor on Dutch Fork 138 kV		APS (100%)
b0536	Replace Doubs circuit breaker DJ1		APS (100%)
b0537	Replace Doubs circuit breaker DJ7		APS (100%)
b0538	Replace Doubs circuit breaker DJ10		APS (100%)
b0572.1	Reconductor Albright – Mettiki – Williams – Parsons – Loughs Lane 138 kV with 954 ACSR		APS (100%)

Required Transmission Enhancements Annu	al Revenue Requirement	Responsible Customer(s)
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ansinission Ennancements A	Alliuai Kevenue Keyunemeni	Kesponsible Customer(s)
Reconductor Albright –		
-		
		APS (100%)
e		
Butler – Cabot 138 kV		
area		APS (100%)
		AEC (1.66%) / AEP (14.16%) /
		APS (5.73%) / ATSI (7.88%) /
		BGE (4.22%) / ComEd (13.31%)
		/ Dayton (2.11%) / DEOK
		(3.29%) / DL (1.75%) / DPL
Replace Fort Martin 500		(2.50%) / Dominion (12.86%) /
1		EKPC (1.87%) / JCPL (3.74%) /
		ME (1.90%) / NEPTUNE*
		(0.44%) / PECO (5.34%) /
		PENELEC (1.89%) / PEPCO
		(3.99%) / PPL (4.84%) / PSEG
		(6.26%) / RE $(0.26%)$
Install 33 MVAR 138		(0.2070) / RE (0.2070)
1		APS (100%)
		AI 5 (10070)
1		
· •		
		APS (100%)
5		
kV capacitor size to 44		
MVAR		
	Reconductor Albright – Mettiki – Williams – Parsons – Loughs Lane 138 kV with 954 ACSR Reconfigure circuits in Butler – Cabot 138 kV area Replace Fort Martin 500 kV breaker FL-1 Install 33 MVAR 138 kV capacitor at Necessity 138 kV Increase Cecil 138 kV capacitor size to 44 MVAR, replace five 138 kV breakers at Cecil due to increased short circuit fault duty as a result of the addition of the Prexy substation Increase Whiteley 138	Reconductor Albright – Mettiki – Williams – Parsons – Loughs Lane 138 kV with 954 ACSR Reconfigure circuits in Butler – Cabot 138 kV area Replace Fort Martin 500 kV breaker FL-1 Install 33 MVAR 138 kV capacitor at Necessity 138 kV Increase Cecil 138 kV capacitor size to 44 MVAR, replace five 138 kV breakers at Cecil due to increased short circuit fault duty as a result of the addition of the Prexy substation Increase Whiteley 138

*Neptune Regional Transmission System, LLC

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

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)

Required II		Annual Revenue Requirement	Responsible Customer(s)
b0587	Reconductor AP portion of Tidd – Carnegie 138 kV and Carnegie – Weirton 138 kV with		
	954 ACSR		APS (100%)
b0588	Install a 40.8 MVAR 138 kV capacitor at Grassy Falls		APS (100%)
b0589	Replace five 138 kV breakers at Cecil		APS (100%)
b0590	Replace #1 and #2 breakers at Charleroi 138 kV		APS (100%)
b0591	Install a 25.2 MVAR capacitor at Seneca Caverns 138 kV		APS (100%)
b0673	Rebuild Elko – Carbon Center Junction using 230 kV construction		APS (100%)
b0674	Construct new Osage – Whiteley 138 kV circuit		APS (97.68 97.69%) / DL (0.96%) / PENELEC (1.09%) / <u>ECP** (0.01%) /</u> PSEG (0.25%) / RE (0.01%)
b0674.1	Replace the Osage 138 kV breaker 'CollinsF126'		APS (100%)
b0675.1	Convert Monocacy - Walkersville 138 kV to 230 kV		AEC (1.02%) / APS (81.9682.01%) / DPL (0.85%) / JCPL (1.75%) / ME (6.376.38%) / NEPTUNE* (0.15%) / PECO (3.09%) / PPL (2.24%) / PSEG (2.42%) / RE (0.09%) / ECP** (0.06%)
b0675.2	Convert Walkersville - Catoctin 138 kV to 230 kV		AEC (1.02%) / APS (81.9682.01%) / DPL (0.85%) / JCPL (1.75%) / ME (6.376.38%) / NEPTUNE* (0.15%) / PECO (3.09%) / PPL (2.24%) / PSEG (2.42%) / RE (0.09%) -/ ECP** (0.06%)

*Neptune Regional	Transmission System	n, LLC		
<u>**</u>	East	-Coast	-Power,	-L.L.C.

Required Tr	ansmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
			AEC (1.02%) / APS
	Convert Dinggold		(81.96<u>82.01</u>%) / DPL (0.85%) /
	Convert Ringgold - Catoctin 138 kV to 230		JCPL (1.75%) / ME
b0675.3			AEC (1.02%) / APS (81.9682.01%) / DPL (0.85%) / JCPL (1.75%) / ME (6.376.38%) / NEPTUNE* (0.15%) / PECO (3.09%) / PPL (2.24%) / PSEG (2.42%) / RE (0.09%) / ECP** (0.06%) AEC (1.02%) / APS (81.9682.01%) / DPL (0.85%) / JCPL (1.75%) / ME (6.376.38%) / NEPTUNE* (0.15%) / PECO (3.09%) / PPL (2.24%) / PSEG (2.42%) / RE (0.09%) / ECP** (0.06%) AEC (1.02%) / APS (81.9682.01%) / DPL (0.85%) / JCPL (1.75%) / ME (6.376.38%) / NEPTUNE* (0.15%) / PECO (3.09%) / PPL (2.24%) / PSEG (2.42%) / RE (0.09%) / ECP** (0.06%) AEC (1.02%) / APS (81.9682.01%) / DPL (0.85%) / JCPL (1.75%) / ME (0.09%) / ECP** (0.06%) AEC (1.02%) / APS (81.9682.01%) / DPL (0.85%) / JCPL (1.75%) / ME (6.376.38%) / NEPTUNE* (0.15%) / PECO (3.09%) / PPL
	kV		(0.15%) / PECO (3.09%) / PPL
			(2.24%) / PSEG (2.42%) / RE
	Convert Catoctin -		
b0675.4	Carroll 138 kV to 230		
	kV		· · · · · · · · · · · · · · · · · · ·
1			
	Convert portion of		AEC $(1.02\%) / APS$ $(\$1.96\$2.01\%) / DPL (0.85\%) / JCPL (1.75\%) / ME$ $(6.376.38\%) / NEPTUNE*$ $(0.15\%) / PECO (3.09\%) / PPL$ $(2.24\%) / PSEG (2.42\%) / RE$ $(0.09\%) / ECP** (0.06\%)$ AEC $(1.02\%) / APS$ $(\$1.96\$2.01\%) / DPL (0.85\%) / JCPL (1.75\%) / ME$ $(6.376.38\%) / NEPTUNE*$ $(0.15\%) / PECO (3.09\%) / PPL$ $(2.24\%) / PSEG (2.42\%) / RE$ $(0.09\%) / ECP** (0.06\%)$ AEC $(1.02\%) / APS$ $(\$1.96\$2.01\%) / DPL (0.85\%) / JCPL (1.75\%) / ME$ $(6.376.38\%) / NEPTUNE*$ $(0.19\%) / ECP** (0.06\%)$ AEC $(1.02\%) / APS$ $(\$1.96\$2.01\%) / DPL (0.85\%) / JCPL (1.75\%) / ME$ $(0.09\%) / ECP** (0.06\%)$ AEC $(1.02\%) / APS$ $(\$1.96\$2.01\%) / DPL (0.85\%) / JCPL (1.75\%) / ME$ $(0.09\%) / ECP** (0.06\%)$ AEC $(1.02\%) / APS$ $(\$1.96\$2.01\%) / DPL (0.85\%) / JCPL (1.75\%) / ME$ $(0.15\%) / PECO (3.09\%) / PPL$ $(2.24\%) / PSEG (2.42\%) / RE$ $(0.09\%) / ECP** (0.06\%)$ AEC $(1.02\%) / APS$ $(\$1.96\$2.01\%) / DPL (0.85\%) / JCPL (1.75\%) / ME$ $(6.376.38\%) / NEPTUNE*$ $(0.15\%) / PECO (3.09\%) / PPL$ $(2.24\%) / PSEG (2.42\%) / RE$ $(0.09\%) / ECP** (0.06\%)$ AEC $(1.02\%) / APS$ $(\$1.96\$2.01\%) / DPL (0.85\%) / JCPL (1.75\%) / ME$ $(6.376.38\%) / NEPTUNE*$ $(0.15\%) / PECO (3.09\%) / PPL$ $(2.24\%) / PSEG (2.42\%) / RE$ $(0.09\%) / ECP** (0.06\%)$ AEC $(1.02\%) / APS$ $(\$1.96\$2.01\%) / DPL (0.85\%) / JCPL (1.75\%) / ME$ $(6.376.38\%) / NEPTUNE*$ $(0.15\%) / PECO (3.09\%$
b0675.5	Ringgold Substation		
00075.5	from 138 kV to 230 kV		
	Convert Catoctin		
b0675.6	Substation from 138 kV		
00075.0	to 230 kV		· · · · · · · · · · · · · · · · · · ·
	Convert portion of		, ,
10675 7	Carroll Substation from		
b0675.7	138 kV to 230 kV		× /
	Convert Monocacy		/ , /
106750	Substation from 138 kV		
b0675.8	to 230 kV		· · · · · · · · · · · · · · · · · · ·
	·		
			(0.09%) / ECP** (0.06%)

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

Required Tr	ansmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b0675.9	Convert Walkersville Substation from 138 kV to 230 kV		AEC (1.02%) / APS (81.9682.01%) / DPL (0.85%) / JCPL (1.75%) / ME (6.376.38%) / NEPTUNE* (0.15%) / PECO (3.09%) / PPL (2.24%) / PSEG (2.42%) / RE
b0676.1	Reconductor Doubs - Lime Kiln (#207) 230kV		(0.09%) / ECP** (0.06%) AEC (0.64%) / APS (86.7086.77%) / DPL (0.53%) / JCPL (1.93%) / ME (4.044.05%) / NEPTUNE* (0.18%) / PECO (1.93%) / PENELEC (0.93%) / PSEG (2.92%) / RE (0.12%) / ECP** (0.08%)
b0676.2	Reconductor Doubs - Lime Kiln (#231) 230kV		AEC (0.64%) / APS (86.7086.77%) / DPL (0.53%) / JCPL (1.93%) / ME (4.044.05%) / NEPTUNE* (0.18%) / PECO (1.93%) / PENELEC (0.93%) / PSEG (2.92%) / RE (0.12%) / ECP** (0.08%)
b0677	Reconductor Double Toll Gate – Riverton with 954 ACSR		APS (100%)
b0678	Reconductor Glen Falls - Oak Mound 138kV with 954 ACSR		APS (100%)
b0679	Reconductor Grand Point – Letterkenny with 954 ACSR		APS (100%)
b0680	Reconductor Greene – Letterkenny with 954 ACSR		APS (100%)
b0681	Replace 600/5 CT's at Franklin 138 kV		APS (100%)
b0682	Replace 600/5 CT's at Whiteley 138 kV		APS (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

*Neptune Regional Transmission System, LLC

**Fact	Coast	Dowor	
Last	Coast	rowei,	L.L.C.

b0684	Reconductor Guilford – South Chambersburg	
	with 954 ACSR	APS (100%)
b0685	Replace Ringgold 230/138 kV #3 with larger transformer	APS (71.93<u>72.06</u>%) / JCPL (4.17<u>4.18</u>%) / ME (6.796.80%) / NEPTUNE* (0.38%) / PECO (4.05<u>4.06</u>%) / PENELEC (<u>5.885.89</u>%) / ECP** (0.18%) / PSEG (6.37<u>6.38</u>%) / RE (0.25%)
b0704	Install a third Cabot 500/138 kV transformer	APS (74.36%) / DL (2.73%) PENELEC (22.91%)
b0797	Advance n0321 (Replace Doubs Circuit Breaker DJ2)	APS(100%)
b0798	Advance n0322 (Replace Doubs Circuit Breaker DJ3)	APS(100%)
b0799	Advance n0323 (Replace Doubs Circuit Breaker DJ6)	APS(100%)
ь0800	Advance n0327 (Replace Doubs Circuit Breaker DJ16)	APS(100%)
b0941	Replace Opequon 138 kV breaker 'BUSTIE'	APS(100%)
b0942	Replace Butler 138 kV breaker '#1 BANK'	APS(100%)
b0943	Replace Butler 138 kV breaker '#2 BANK'	APS(100%)
b0944	Replace Yukon 138 kV breaker 'Y-8'	APS(100%)
b0945	Replace Yukon 138 kV breaker 'Y-3'	APS(100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

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

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

*Neptune Regional Transmission System, LLC

**East Coast Power, L.L.C

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

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

*Neptune Regional Transmission System, LLC

**East Coast Power, L.L.C

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

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

b0986	Replace Armstrong 138 kV breaker 'RESERVE BUS'	APS(100%)
b0987	Replace Yukon 138 kV breaker 'Y-16'	APS(100%)
b0988	Replace Springdale 138 kV breaker '138T'	APS(100%)
b0989	Replace Edgelawn 138 kV breaker 'GOFF RUN #632'	APS(100%)
b 0990	Change reclosing on Cabot 138 kV breaker 'C-9'	APS(100%)
b0991	Change reclosing on Belmont 138 kV breaker 'B-7'	APS(100%)
b0992	Change reclosing on Belmont 138 kV breaker 'B-12'	APS(100%)
b0993	Change reclosing on Belmont 138 kV breaker 'B-9'	APS(100%)
b0994	Change reclosing on Belmont 138 kV breaker 'B-19'	APS(100%)
b0995	Change reclosing on Belmont 138 kV breaker 'B-21'	APS(100%)
b0996	Change reclosing on Willow Island 138 kV breaker 'FAIRVIEW #84'	APS(100%)
b0997	Change reclosing on Cabot 138 kV breaker 'C-4'	APS(100%)
b0998	Change reclosing on Cabot 138 kV breaker 'C-1'	APS(100%)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)

b0999	Replace Redbud 138 kV breaker 'BUS TIE'	A DS (1009/)
b1022.1	Reconfigure the Peters to Bethel Park 138 kV line and Elrama to Woodville 138 kV line to create a 138 kV path from Woodville to Peters and a 138 kV path from Elrama to Bethel Park	APS(100%) APS (96.98%) / DL (3.02%)
b1022.3	Add static capacitors at Smith 138 kV	APS (96.98%) / DL (3.02%)
b1022.4	Add static capacitors at North Fayette 138 kV	APS (96.98%) / DL (3.02%)
b1022.5	Add static capacitors at South Fayette 138 kV	APS (96.98%) / DL (3.02%)
b1022.6	Add static capacitors at Manifold 138 kV	APS (96.98%) / DL (3.02%)
b1022.7	Add static capacitors at Houston 138 kV	APS (96.98%) / DL (3.02%)
b1023.1	Install a 500/138 kV transformer at 502 Junction	APS (100%)
b1023.2	Construct a new Franklin - 502 Junction 138 kV line including a rebuild of the Whiteley - Franklin 138 kV line to double circuit	APS (100%)
b1023.3	Construct a new 502 Junction - Osage 138 kV line	APS (100%)

Construct Braddock 138 kV breaker station that connects the Charleroi - Gordon 138 kV line,b1023.4Washington - Franklin 138 kV line and the Washington - Vanceville 138 kV line including a 66 MVAR capacitorb1027Increase the size of the shunt capacitors at Enon 138 kVb1027Raise three structures on
b1023.4connects the Charleroi - Gordon 138 kV line, Washington - Franklin 138 kV line and the Washington - Vanceville 138 kV line including a 66 MVAR capacitorAPS (100%)b1027Increase the size of the shunt capacitors at Enon 138 kVAPS (100%)
Gordon 138 kV line, Washington - Franklin 138 kV line and the Washington - Vanceville 138 kV line including a 66 MVAR capacitorAPS (100%)Increase the size of the shunt capacitors at Enon 138 kVAPS (100%)
b1023.4 Washington - Franklin 138 kV line and the Washington - Vanceville 138 kV line including a 66 MVAR capacitor APS (100%) Increase the size of the shunt capacitors at Enon 138 kV APS (100%)
138 kV line and the Washington - Vanceville 138 kV line including a 66 MVAR capacitor APS (100%) Increase the size of the shunt capacitors at Enon 138 kV APS (100%)
Washington - Vanceville 138 kV line including a 66 MVAR capacitorAPS (100%)Increase the size of the shunt capacitors at Enon 138 kVAPS (100%)
138 kV line including a 66 MVAR capacitorAPS (100%)Increase the size of the shunt capacitors at Enon 138 kVAPS (100%)
66 MVAR capacitorAPS (100%)Increase the size of the shunt capacitors at Enon 138 kVAPS (100%)
b1027 Increase the size of the shunt capacitors at Enon 138 kV APS (100%)
b1027shunt capacitors at Enon 138 kVAPS (100%)
138 kV APS (100%)
138 kV APS (100%)
the Osage - Collins Ferry
b1028 138 kV line to increase
the line rating APS (100%)
Reconductor the
Edgewater – Vasco Tap;
b1128 Edgewater – Loyalhanna
138 kV lines with 954
ACSR APS (100%)
Reconductor the East
b1129 Waynesboro – Ringgold
138 kV line with 954
ACSR APS (100%)
Upgrade Double Tollgate
b1131 – Meadowbrook MDT
Terminal Equipment APS (100%)
Upgrade Double
b1132 Tollgate-Meadowbrook
MBG terminal
equipment APS (100%)
b1133 Upgrade terminal
equipment at Springdale APS (100%)
Reconductor the
Bartonville –
b1135 Meadowbrook 138 kV
line with high
temperature conductor APS (100%)

Requireu I	ransmission Ennancements	Annual Revenue Requirement	Responsible Customer(s)
	Reconductor the Eastgate		APS (78.59<u>78.77</u>%) /
b1137	– Luxor 138 kV;		PENELEC (<u>14.0814.11</u> %) /
01157	Eastgate – Sony 138 kV		ECP ** (0.23%) / PSEG
	line with 954 ACSR		(6.83<u>6.85</u>%) / RE (0.27%)
	Reconductor the King		
b1138	Farm – Sony 138 kV line		
	with 954 ACSR		APS (100%)
	Reconductor the Yukon		
b1139	– Waltz Mills 138 kV		
01139	line with high		
	temperature conductor		APS (100%)
	Reconductor the Bracken		
b1140	Junction – Luxor 138 kV		
	line with 954 ACSR		APS (100%)
	Reconductor the		
	Sewickley – Waltz Mills		
b1141	Tap 138 kV line with		
	high temperature		
	conductor		APS (100%)
	Reconductor the		
	Bartonsville –		
b1142	Stephenson 138 kV;		
01142	Stonewall – Stephenson		
	138 kV line with 954		
	ACSR		APS (100%)
b1143	Reconductor the		
	Youngwood – Yukon		
01145	138 kV line with high		APS (89.92%) / PENELEC
	temperature conductor		(10.08%)
	Reconductor the Bull		
b1144	Creek Junction – Cabot		
01177	138 kV line with high		
	temperature conductor		APS (100%)
** East C	oast Dower IIC		

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

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

required i		I milia i Revenae Requirement	
1.1145	Reconductor the Lawson Junction – Cabot 138 kV		
b1145	line with high		
	temperature conductor		APS (100%)
	Replace Layton -		
h1116	Smithton #61 138 kV		
b1146	line structures to increase		
	line rating		APS (100%)
	Replace Smith – Yukon		
b1147	138 kV line structures to		
	increase line rating		APS (100%)
	Reconductor the		
b1148	Loyalhanna – Luxor 138		
	kV line with 954 ACSR		APS (100%)
	Reconductor the Luxor –		
b1149	Stony Springs Junction		
01149	138 kV line with 954		
	ACSR		APS (100%)
b1150	Upgrade terminal		
01150	equipment at Social Hall		APS (100%)
	Reconductor the		
b1151	Greenwood – Redbud		
01151	138 kV line with 954		
	ACSR		APS (100%)
b1152	Reconductor Grand Point		
01132	– South Chambersburg		APS (100%)
b1159	Replace Peters 138 kV		
01137	breaker 'Bethel P OCB'		APS (100%)
b1160	Replace Peters 138 kV		
01100	breaker 'Cecil OCB'		APS (100%)
b1161	Replace Peters 138 kV		
01101	breaker 'Union JctOCB'		APS (100%)
	Replace Double Toll		
b1162	Gate 138 kV breaker		
	'DRB-2'		APS (100%)
	Replace Double Toll		
b1163	Gate 138 kV breaker		
	'DT 138 kV OCB'		APS (100%)

		1	
b1164	Replace Cecil 138 kV breaker 'Enlow OCB'		APS (100%)
b1165	Replace Cecil 138 kV breaker 'South Fayette'		APS (100%)
b1166	Replace Wylie Ridge 138 kV breaker 'W-9'		APS (100%)
b1167	Replace Reid 138 kV breaker 'RI-2'		APS (100%)
b1171.1	Install the second Black Oak 500/138 kV transformer, two 138 kV breaker, and related substation work		BGE (20.76%) / DPL (3.14%) / Dominion (39.55%) / ME (2.71%) / PECO (3.36%) / PEPCO (30.48%)
b1171.3	Install six 500 kV breakers and remove BOL1 500 kV breaker at Black Oak		AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%)
b1200	Reconductor Double Toll Gate – Greenwood 138 kV with 954 ACSR conductor		APS (100%)
b1221.1	Convert Carbon Center from 138 kV to a 230 kV ring bus		APS (100%)
b1221.2	Construct Bear Run 230 kV substation with 230/138 kV transformer		APS (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

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

*****Hudson Transmission Partners, LLC**

	Loop Carbon Center	
1 1001 0	1	
b1221.3	Junction – Williamette	
	line into Bear Run	 APS (100%)
	Carbon Center – Carbon	
	Center Junction &	
b1221.4	Carbon Center Junction	
	– Bear Run conversion	
	from 138 kV to 230 kV	APS (100%)
	Reconductor Willow-	
b1230	Eureka & Eurkea-St	
01200	Mary 138 kV lines	APS (100%)
		AEC (1.40%) / APS (75.74%) /
	Reconductor Nipetown –	DPL (1.92%) / JCPL (2.92%) /
b1232	Reid 138 kV with 1033	ME(6.10%) / Neptune(0.27%)
01232	ACCR	/ PECO (4.40%) / PENELEC
	ACCK	× /
		(3.26%) / PPL (3.99%)
b1233.1	Upgrade terminal	
	equipment at	
	Washington	APS (100%)
	Replace structures	
b1234	between Ridgeway and	
	Paper city	 APS (100%)
	Reconductor the Albright	
b1235	– Black Oak AFA 138	APS (30.25%) / BGE (16.10%)
01233	kV line with 795	/ Dominion (30.51%) / PEPCO
	ACSS/TW	(23.14%)
	Upgrade terminal	
	equipment at Albright,	
	replace bus and line side	
b1237	breaker disconnects and	
	leads, replace breaker	
	risers, upgrade RTU and	
	line	APS (100%)
	Install a 138 kV 44	
b1238	MVAR capacitor at	
	Edgelawn substation	APS (100%)
		1110(10070)

		()
	Install a 138 kV 44	
b1239	MVAR capacitor at	
	Ridgeway substation	APS (100%)
	Install a 138 kV 44	
b1240	MVAR capacitor at Elko	
	Substation	APS (100%)
	Upgrade terminal	
	equipment at	
b1241	Washington substation	
	on the GE	
	Plastics/DuPont terminal	 APS (100%)
	Replace structures	
b1242	between Collins Ferry	
	and West Run	APS (100%)
	Install a 138 kV	
b1243	capacitor at Potter	
	Substation	APS (100%)
b1261	Replace Butler 138 kV	
01201	breaker '1-2 BUS 138'	APS (100%)
	Install 2nd 500/138 kV	
b1383	transformer at 502	APS (93.27%) / DL (5.39%) /
	Junction	PENELEC (1.34%)
	Reconductor	
	approximately 2.17 miles	
b1384	of Bedington –	
	Shepherdstown 138 kV	
	with 954 ACSR	APS (100%)
	Reconductor Halfway -	
b1385	Paramount 138 kV with	
	1033 ACCR	APS (100%)
	Reconductor Double	
b1386	Tollgate – Meadow	
01500	Brook 138 kV ckt 2 with	APS (93.33%) / BGE (3.39%) /
	1033 ACCR	PEPCO (3.28%)
	Reconductor Double	
b1387	Tollgate – Meadow	APS (93.33%) / BGE (3.39%) /
	Brook 138 kV	PEPCO (3.28%)
	Reconductor Feagans	
b1388	Mill – Millville 138 kV	
	with 954 ACSR	APS (100%)

Required 7	Fransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1389	Reconductor Bens Run – St. Mary's 138 kV with 954 ACSR		AEP (12.40%) / APS (17.80%) / DL (69.80%)
b1390	Replace Bus Tie Breaker at Opequon		APS (100%)
b1391	Replace Line Trap at Gore		APS (100%)
b1392	Replace structure on Belmont – Trissler 138 kV line		APS (100%)
b1393	ReplacestructuresKingwood –Pruntytown138 kV line		APS (100%)
b1395	UpgradeTerminalEquipment at Kittanning		APS (100%)
b1401	Change reclosing on Pruntytown 138 kV breaker 'P-16' to 1 shot at 15 seconds		APS (100%)
b1402	Change reclosing on Rivesville 138 kV breaker 'Pruntytown #34' to 1 shot at 15 seconds		APS (100%)
b1403	Change reclosing on Yukon 138 kV breaker 'Y21 Shepler' to 1 shot at 15 seconds		APS (100%)
b1404	Replace the Kiski Valley 138 kV breaker 'Vandergrift' with a 40 kA breaker		APS (100%)
b1405	Change reclosing on Armstrong 138 kV breaker 'GARETTRJCT' at 1 shot at 15 seconds		APS (100%)

Required Tr	ransmission Enhancement	5	Annual Revenue Requirement	Responsible Customer(s)

	-	
b1406	Change reclosing on Armstrong 138 kV breaker 'KITTANNING' to 1 shot at 15 seconds	APS (100%)
b1407	Change reclosing on Armstrong 138 kV breaker 'BURMA' to 1 shot at 15 seconds	APS (100%)
b1408	Replace the Weirton 138 kV breaker 'Tidd 224' with a 40 kA breaker	APS (100%)
b1409	Replace the Cabot 138 kV breaker 'C9 Kiski Valley' with a 40 kA breaker	APS (100%)
b1507.2	Terminal Equipment upgrade at Doubs substation	AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%)

Required Transmission Enhancements Annu	l Revenue Requirement Re	sponsible Customer(s)
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Required 11		Annual Revenue Requirement	Responsible Customer(s)
b1507.3	Mt. Storm – Doubs transmission line rebuild in Maryland – Total line mileage for APS is 2.71 miles		AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%)
b1510	Install 59.4 MVAR capacitor at Waverly		APS (100%)
b1672	Install a 230 kV breaker at Carbon Center		APS (100%)
b0539	Replace Doubs circuit breaker DJ11		APS (100%)
b0540	Replace Doubs circuit breaker DJ12		APS (100%)

Required T	ransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b0541	Replace Doubs circuit breaker DJ13		APS (100%)
b0542	Replace Doubs circuit breaker DJ20		APS (100%)
b0543	Replace Doubs circuit breaker DJ21		APS (100%)
b0544	Remove instantaneous reclose from Eastalco circuit breaker D-26		APS (100%)
b0545	Remove instantaneous reclose from Eastalco circuit breaker D-28		APS (100%)
b0559	Install 200 MVAR capacitor at Meadow Brook 500 kV substation		AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / DD (1.75%) / DPL (2.50%) / DOminion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%)
b0560	Install 250 MVAR capacitor at Kemptown 500 kV substation		AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / DD (1.75%) / DPL (2.50%) / DD (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%)

Required Tr	ansmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
			AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd
	Build a 300 MVAR		(13.31%) / Dayton (2.11%) /
	Switched Shunt at		DEOK (3.29%) / DL (1.75%) /
1 1002	Doubs 500 kV and		DPL (2.50%) / Dominion
b1803	increase (~50 MVAR) in		(12.86%) / EKPC (1.87%) /
	size the existing		JCPL (3.74%) / ME (1.90%) /
	Switched Shunt at Doubs 500 kV		NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) /
	Doubs 300 KV		(3.34%)/ PENELEC (1.39%)/ PEPCO (3.99%)/ PPL
			(4.84%) / PSEG (6.26%) / RE
			(4.84%)/TSEC(0.26%)/KE (0.26%)
			AEC (1.66%) / AEP (14.16%)
			/ APS (5.73%) / ATSI (7.88%)
			/ BGE (4.22%) / ComEd
			(13.31%) / Dayton (2.11%) /
			DEOK (3.29%) / DL (1.75%) /
	Install a new 600 MVAR		DPL (2.50%) / Dominion
b1804	SVC at Meadowbrook		(12.86%) / EKPC (1.87%) /
	500kV		JCPL (3.74%) / ME (1.90%) /
			NEPTUNE* (0.44%) / PECO
			(5.34%) / PENELEC (1.89%) /
			PEPCO (3.99%) / PPL
			(4.84%) / PSEG (6.26%) / RE
			(0.26%)
b1816.1	Replace relaying at the		
	Mt. Airy substation on		
	the Carroll - Mt. Airy		
	230 kV line		APS (100%)

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

Required Tr	ransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
	Replace the 1200 A		
	wave trap, line risers,		
b1822	breaker risers with 1600		
01022	A capacity terminal		
	equipment at Reid 138		
	kV SS		APS (100%)
	Replace the 800 A wave		
b1823	trap with a 1200 A wave		
01023	trap at Millville 138 kV		
	substation		APS (100%)
	Reconductor Grant Point		
	- Guilford 138kV line	•	
b1824	approximately 8 miles of		
	556 ACSR with 795		
	ACSR		APS (100%)
	Replace the 800 Amp		
b1825	line trap at Butler 138		
01023	kV Sub on the Cabot		
	East 138 kV line		APS (100%)
	Change the CT ratio at		
b1826	Double Toll Gate 138		
	kV SS on MDT line		APS (100%)
	Change the CT ratio at		
b1827	Double Toll Gate 138		
	kV SS on MBG line		APS (100%)
	Reconductor the		
	Bartonville – Stephenson		
b1828.1	3.03 mile 138 kV line of		
	556 ACSR with 795		
	ACSR		APS (100%)

Required Tr	ansmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
	Reconductor the		
	Stonewall – Stephenson		
b1828.2	2.08 mile 138 kV line of		
	556 ACSR with 795		
	ACSR		APS (100%)
	Replace the existing 138		
	kV 556.5 ACSR		
	substation conductor		
b1829	risers with 954 ACSR at		
01029	the Redbud 138 kV		
	substation, including but		
	not limited to the line		
	side disconnect leads		APS (100%)
	Replace 1200 A wave		
	trap and 1024 ACAR		
	breaker risers at Halfway		
b1830	138 kV substation, and		
01850	replace 1024 ACAR		
	breaker risers at		
	Paramount 138 kV		
	substation		APS (100%)
	Replace the 1200 A line		
	side and bus side		
	disconnect switches with		
	1600 A switches, replace		
b1832	bus side, line side, and		
	disconnect leads at Lime		
	Kiln SS on the Doubs -		
	Lime Kiln 1 (207) 230		
	kV line terminal		APS (100%)
	Replace the 1200 A line		
	side and bus side		
	disconnect switches with		
	1600 A switches, replace		
b1833	bus side, line side, and		
	disconnect leads at Lime		
	Kiln SS on the Doubs -		
	Lime Kiln 2 (231) 230		
	kV line terminal		APS (100%)

Required Tr	ransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
	Reconductor 14.3 miles		
	of 556 ACSR with 795		
	ACSR from Old Chapel		
	to Millville 138 kV and		
b1835	upgrade line risers at Old		APS (37.68%) / Dominion
	Chapel 138 kV and		(34.46%) / PEPCO (13.69%) /
	Millville 138 kV and		BGE (11.45%) / ME (2.01%) /
	replace 1200 A wave		PENELEC (0.53%) / DL
	trap at Millville 138 kV		(0.18%)
	Replace 1200 A wave		
b1836	trap with 1600 A wave		
	trap at Reid 138 kV SS		APS (100%)
	Replace 750 CU breaker		
	risers with 795 ACSR at		
1.100-	Marlowe 138 kV and		
b1837	replace 1200 A wave		
	traps with 1600 A wave		
	traps at Marlowe 138 kV		
	and Bedington 138 kV		APS (100%)
	Replace the 1200 A		
	Bedington 138 kV line		
1 1 0 2 0	air switch and the 1200		
b1838	A 138 kV bus tie air		
	switch at Nipetown 138		
	kV with 1600 A		ADS (1000/)
	switches Install additional 33		APS (100%)
b1839	MVAR capacitors at Grand Point 138 kV SS		
01037	and Guildford 138 kV		
	SS		APS (100%)
	Decional Transmission Sy		ALS (10070)

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

Required T	ransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
	Raise structures between		
	Lake Lynn and West		
b1988	Run to eliminate the		
01900	clearance de-rates on the		
	West Run – Lake Lynn		
	138 kV line		APS (100%)
	Raise structures between		
	Collins Ferry and West		
b1989	Run to eliminate the		
01909	clearance de-rates on the		
	Collins Ferry - West Run		
	138 kV line		APS (100%)
	Replace Weirt 138 kV		
b2095	breaker 'S-		
02075	TORONTO226' with		
	63kA rated breaker		APS (100%)
	Revise the reclosing of		
b2096	Weirt 138 kV breaker		
	'2&5 XFMR'		APS (100%)
	Replace Ridgeley 138		
b2097	kV breaker '#2 XFMR		
	OCB'		APS (100%)
	Revise the reclosing of		
b2098	Ridgeley 138 kV breaker		
02070	'AR3' with 40kA rated		
	breaker		APS (100%)
	Revise the reclosing of		
b2099	Ridgeley 138 kV breaker		
	'RC1'		APS (100%)
	Replace Ridgeley 138		
b2100	kV breaker 'WC4' with		
	40kA rated breaker		APS (100%)
	Replace Ridgeley 138		
b2101	kV breaker '1 XFMR		
02101	OCB' with 40kA rated		
	breaker		APS (100%)
	Replace Armstrong 138		
b2102	kV breaker		
02102	'GARETTRJCT' with		
	40kA rated breaker		APS (100%)

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Required 7	Fransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2103	Replace Armstrong 138 kV breaker 'BURMA'		
	with 40kA rated breaker		APS (100%)
	Replace Armstrong 138		
b2104	kV breaker		
	'KITTANNING' with		
	40kA rated breaker		APS (100%)
	Replace Armstrong 138 kV breaker		
b2105	'KISSINGERJCT' with		
	40kA rated breaker		APS (100%)
	Replace Wylie Ridge		1115 (10070)
b2106	345 kV breaker 'WK-1'		
	with 63kA rated breaker		APS (100%)
	Replace Wylie Ridge		· · · · ·
b2107	345 kV breaker 'WK-2'		
	with 63kA rated breaker		APS (100%)
	Replace Wylie Ridge		
b2108	345 kV breaker 'WK-3'		
	with 63kA rated breaker		APS (100%)
1	Replace Wylie Ridge		
b2109	345 kV breaker 'WK-4'		
	with 63kA rated breaker		APS (100%)
b2110	Replace Wylie Ridge 345 kV breaker 'WK-6'		
02110	with 63kA rated breaker		APS (100%)
	Replace Wylie Ridge		AI 5 (10070)
b2111	138 kV breaker 'WK-7'		
02111	with 63kA rated breaker		APS (100%)
10110	Replace Wylie Ridge		
b2112	345 kV breaker 'WK-5'		APS (100%)
	Replace Weirton 138 kV		· · · · · · · · · · · · · · · · · · ·
b2113	breaker 'NO 6 XFMR'		
	with 63kA rated breaker		APS (100%)
	Replace Armstrong 138		
b2114	kV breaker 'Bus-Tie'		
	(Status On-Hold pending		
	retirement)		APS (100%)

Required T	ransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2124.1	Add a new 138 kV line	e	
	exit	_	APS (100%)
1	Construct a 138 kV ring		
b2124.2	bus and install a 138/69		
	kV autotransformer		APS (100%)
	Add new 138 kV line exi		
b2124.3	and install a 138/25 kV		
	transformer		APS (100%)
b2124.4	Construct approximately	7	
0212	5.5 miles of 138 kV line		APS (100%)
	Convert approximately	7	
b2124.5	7.5 miles of 69 kV to 138	3	
	kV		APS (100%)
	Install a 75 MVAR 230)	
b2156	kV capacitor a	t	
	Shingletown Substation		APS (100%)
	Replace 800A wave trap		
b2165	at Stonewall with a 1200)	
	A wave trap		APS (100%)
	Reconductor the Millville		
	– Sleepy Hollow 138kV		
	4.25 miles of 556 ACSF		
b2166	with 795 ACSR, upgrade		
02100	line risers at Sleepy		
	Hollow, and change 1200		
	A CT tap at Millville to)	
	800	-	APS (100%)
	For Grassy Falls 138kV		
	Capacitor bank adjus		
	turn-on voltage to 1.0pt		
	with a high limit of		
b2168	1.04pu, For Crupperneck		
	and Powell Mountain		
	138kV Capacitor Banks		
	adjust turn-on voltage to		
	1.01pu with a high limi	t	
	of 1.035pu		APS (100%)

Required T	ransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2169	Replace/Raise structures on the Yukon-Smithton 138 kV line section to eliminate clearance de-		A. D.S. (1000/.)
b2170	rate Replace/Raise structures on the Smithton-Shepler Hill Jct 138 kV line section to eliminate clearance de-rate		APS (100%) APS (100%)
b2171	Replace/Raise structures on the Parsons-William 138 kV line section to eliminate clearance de- rate		APS (100%)
b2172	Replace/Raise structures on the Parsons - Loughs Lane 138 kV line section to eliminate clearance de-rate		APS (100%)

SCHEDULE 12 – APPENDIX (15) Commonwealth Edison Company and Commonwealth Edison Company of Indiana, Inc.

Required	Transmission Enhancements	Annual Revenue Requiremen	nt Responsible Customer(s)
	Reconductor Wolfs -		
	Oswego 138kV with 636		
b0164	ACSS		ComEd (100%)
	Build new West Loop 138		
b0236.1	kV substation		ComEd (100%)
	Install two new 345 kV		
	circuits from Crawford and		
	Taylor to West Loop and		
	two new 345/138 kV auto-		
b0236.2	transformers at West Loop.		ComEd (100%)
	Upgrade line 0108 – LaSalle		
	County – Mazon 138 kV		
	with 3.4 miles of 664.8		
b0299	ACSS		ComEd (100%)
	Increase capacity of Wolfs –		
b0301	Oswego 138 kV line 14304		ComEd (100%)
	Dixon – McGirr 138kV –		
	Replace small piece of		
	conductor on line 10714 and		
	install 138 kV CB at		
b0302	Sandwich		ComEd (100%)
	Install 345 kV CB and		
	change Elwood 345 kV BT		
b0303	to normally closed		ComEd (100%)
	Reconductor line 11106		
	Electric Junction – North		
b0304	Aurora tap 4 miles		ComEd (100%)
	Normally open East		
	Frankfort 138 kV red-blue		
b0305	bus tie		ComEd (100%)
	Reconductor line Electric		
	Junction – North Aurora		
b0306	(11104 0.3 miles)		ComEd (100%)
			AEC (0.60%) / BGE (1.32%) /
			ComEd (85.95<u>86.01</u>%) / Dayton
			(0.73%) / DL (1.01%) / DPL
			0.87%) / Dominion (2.45<u>2.46</u>%) /
			PL (1.41%) / Neptune* (0.14%) /
		PI	ECO (1.79%) / PEPCO (1.20%) /
	Install a second Byron –		PSEG (2.37%) / RE (0.09%)+
b0377	Wempletown 345 kV circuit		ECP** (0.07%)

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Required 7	Fransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b0379	Reconductor 10301 & 10302 Lisle – Lombard 138 kV circuits		ComEd (100%)
b0380	Reconductor 17713 from Burnham – Wildwood and 7611 from Wildwood to the Beverly tap		ComEd (100%)
b0394	Reconductor 2.8 miles of Wolfs – Frontenac 138 kV line 14310		ComEd (100%)
b0461	Install a 115.2 MVAR capacitor at Will County 138 kV		ComEd (100%)
b0462	Install a 57.6 MVAR capacitor at Joliet 138 kV		ComEd (100%)
b0463	Install a 115.2 MVAR capacitor at East Frankfort 138 kV		ComEd (100%)
b0464	Increase capacity of 138 kV line 14304 between Oswego TDC 592 to Montgomery TSS 106		ComEd (100%)
b0465	Install a 115.2 MVAR capacitor at Libertyville 138 kV		ComEd (100%)
b0466	Install a 115.2 MVAR capacitor at Prospect Heights 138 kV		ComEd (100%)
b0510	Install two 115.3 MVAR capacitors at Elmhurst 138 kV		ComEd (100%)
b0511	Reconductor the Pleasant Valley – Woodstock 138 kV line		ComEd (100%)
b0546	Install a 20 MVAR capacitor at Shorewood substation		ComEd (100%)
b0547	Install a 15 MVAR capacitor at Wilmington substation		ComEd (100%)

Required T	ransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
	Install a second East		
b0569.1	Frankfort 345/138 kV		
	autotransformer		ComEd (100%)
	Reconductor County Club		
b0569.2	Hills – Matteson 138 kV		
	circuit		ComEd (100%)
	Replace existing baseline		
	upgrade to install a 2 nd		
b0661	Wolfs 345/138 kV		
00001	transformer by installing		
	345/138 kV transformer at		
	Plano 'Red'		ComEd (100%)
	Add a breaker to Aptakisic		
b0662	138 kV to split the line in		
00002	two for the 11708		
	contingency		ComEd (100%)
	Reconductor East Frankfort		
b0663	- Goodings Grove 345 kV		
	'Red' line 11602		ComEd (100%)
	Install a 115.2 MVAR		
b0686	switched capacitor at East		
	Frankfort 138 kV 'Red'		ComEd (100%)
1.0.40	Install a 115.2 MVAR		
b0687	switched capacitor at Plano		
	138 kV 'Red'		ComEd (100%)
1.0.000	Install a 115.2 MVAR		
b0688	switched capacitor at Plano		C F1(1000)
	138 kV 'Blue'		ComEd (100%)
1.0.00	Install a 115.2 MVAR		
b0689	switched capacitor at McCook 138 kV 'Red'		$C_{2} = E_{1}^{2} (1000)$
			ComEd (100%)
b0690			
00090	switched capacitor at McCook 138 kV 'Blue'		$C_{om}Ed(100\%)$
	Install a 115.2 MVAR		ComEd (100%)
b0691			
00091	switched capacitor at Wayne 138 kV 'Blue'		ComEd (100%)
	Install a 115.2 MVAR		ComEd (100%)
b0692	switched capacitor at Wayne		
00092	138 kV 'Red'		ComEd (100%)
	Install a 115.2 MVAR		ComEd (10070)
b0693	switched capacitor at		
00075	Crawford 138 kV 'Blue'		ComEd (100%)
	Crawford 150 Ky Diuc		ComiLa (10070)

Required T	ransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b0694	Install a 115.2 MVAR switched capacitor at Crawford 138 kV 'Red'		ComEd (100%)
b0695	Add a 300 MVAR SVC at Elmhurst 138 kV 'Red'		ComEd (100%)
b0696	Add a 300 MVAR SVC at Elmhurst 138 kV 'Blue'		ComEd (100%)
b0697	Reconductor 0902 Frankfort – New Lenox 138 kV circuit		ComEd (100%)
b0698	Increase capacity of 0902 East Frankfort TSS 66 – Davis Creek TSS 86 Tap 138 kV ~ 1.5 miles		ComEd (100%)
b0699	Install a second 345/138 kV transformer at Plano 'Red'		ComEd (100%)
b0700	Install a third 345/138 kV transformer at Goodings Grove 'Red'		ComEd (100%)
b0738	Install a 115.2 MVAR switched capacitor at Bedford Park 138 kV 'Red'		ComEd (100%)
b0739	Install a 115.2 MVAR switched capacitor at Bedford Park 138 kV 'Blue'		ComEd (100%)
b0740	Install a 57.6 MVAR switched capacitor at Wolfs 138 kV		ComEd (100%)
b0740.2	Increase the size of the Wolfs 138 kV Blue cap from 57.6 to 115.2 MVAR		ComEd (100%)
b0741	Reconductor Waukegan – Gurnee 138 kV line 1607		ComEd (100%)
b0742	Reconductor Waukegan – Gurnee 138 kV line 1603		ComEd (100%)
b1054	Change relay settings on Byron - Wempletown 345 kV to bring relay trip setting up to 115% of Rate C		ComEd (100%)
b1097	Add a 138 kV bus tie CB and two other 138 kV CB's at Round Lake		ComEd (100%)
b1157	Replace the 345 kV bus tie CB 2-3 at Lisle		ComEd (100%)
b1158	Add a 57.6 MVAR capacitor at Prospect Heights 138 kV Blue		ComEd (100%)

Required T	ransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1256	Replace the State Line Station 7 138 kV breaker 'Bustie 742'		ComEd (100%)
b1257	Eliminate the J322 138 kV breaker 'L0906' and move customer to distribution system		ComEd (100%)
b1258	Revise the reclosing on the Elmhurst 138 kV bus B breaker '135 12008'		ComEd (100%)
b1259	Revise the reclosing on the Elmhurst 138 kV bus R breaker '135 13510'		ComEd (100%)
b1263	Move line 16703 termination from bus 4 to bus 3 at Electric Junction		ComEd (100%)
b1264	Replace 345 kV bus ties 1-2 and 1-9 at Plano to increase rating on line 16703		ComEd (100%)
b1265	Reconductor approximately 2 miles of Will County – Romeoville 138 kV portion of L1809 with ACSS conductor		ComEd (100%)
b1266	Normally close 345 kV BT 2-3 at TSS 103 Lisle, replace one 345 kV circuit breaker on BT 1-2 at TSS 103 Lisle		ComEd (100%)
b1266.1	Revise reclosing on Des Plaines 138 kV breaker '46 4610		ComEd (100%)
b1300	Reconductor the East Frankfort – Goodings Grove 345 kV 11601 line		ComEd (100%)
b1301	Upgrade both Garfield – Taylor 345 kV lines (17723 and 17724)		ComEd (100%)
b1511	Reconductor a section of L1811 & replace station conductor		ComEd (100%)
b1512	Reconductor 1.493 mi of L0902 with 477 ACSR cond.		ComEd (100%)
b1513	Reconductor a section of L0901		ComEd (100%)
b1514	Replace line trap on L1210 at Station 12 Dresden		ComEd (100%)
b1515	Reconductor a section of L0902		ComEd (100%)

Required T	ransmission Enhancements	Annual Revenue Requirement	t Responsible Customer(s)
b1516	Reconductor a section of L11102		ComEd (100%)
b1517	Replace circuit switcher 0303		ComEd (100%)
b1518	Install a 4th Lisle auto transformer		ComEd (100%)
b1519.1	New 345 kV transmission from Crawford to Fisk to Taylor		ComEd (100%)
b1519.2	Two 345/138 kV autotransformers at Fisk		ComEd (100%)
b1519.3	Two 138 kV 115.2 MVAR cap banks at Fisk		ComEd (100%)
b1579	Revise reclosing and upgrade relays at State Line 138 kV breaker '7 L0707'		ComEd (100%)
b1580	Revise reclosing and upgrade relays at State Line 138 kV breaker '7 L0761'		ComEd (100%)
b1581	Revise reclosing and upgrade relays at Cherry Valley 138 kV breaker '156 15622'		ComEd (100%)
b1582	Replace Lombard 138 kV breaker '120 12008'		ComEd (100%)
b1658	Replace Lombard 138kV breaker '120 10301' with 63kA breaker		ComEd (100%)
b1772	Reconductor approximately 16 miles from Nelson to Electric Junction 345 kV and replace associated terminal equipment. Same as n2092		ATSI (3.81%) / ComEd (94.60%) / Dayton (1.03%) / DL (0.56%)
b1773	Reconductor approximately 12.51 miles of East Frankfort - Crete 345 kV line 6607. Same as n2089		AEC (1.971.98%) / AEP (23.3823.50%) / ATSI (37.1037.29%) / Dayton (7.067.10%) / DL (6.656.68%) / DPL (2.802.81%) / JCPL (4.964.99%) / Neptune* (0.50%) / HTP (0.25%) / PECO (6.266.29%) / ECP** (0.25%) / PSEG (8.488.52%) / RE (0.34%)

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

Required T	ransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1774	Reconductor approximately 11.75 miles of Crete - St. John 345 kV. Same as n2088		AEC (<u>1.961.97</u> %) / AEP (<u>21.5621.67</u> %) / ATSI (<u>36.5236.70</u> %) / BGE (<u>2.942.96</u> %) / Dayton (<u>6.856.88</u> %) / DL (<u>6.606.63</u> %) / DPL (<u>2.802.81</u> %) / JCPL (<u>4.914.94</u> %) / Neptune* (0.49%) / <u>HTP (0.24%) /</u> PECO (<u>6.226.25</u> %) / <u>ECP** (0.25%) /</u> PSEG (<u>8.338.37</u> %) / RE (0.33%)
b1774.1	Reconductor approximately 1 mile of Crete - St. John 345 kV in NIPS/MISO. Same as n2088		AEC (<u>1.961.97</u> %) / AEP (<u>21.5621.67</u> %) / ATSI (<u>36.5236.70</u> %) / BGE (<u>2.942.96</u> %) / Dayton (<u>6.856.88</u> %) / DL (<u>6.606.63</u> %) / DPL (<u>2.802.81</u> %) / JCPL (<u>4.914.94</u> %) / Neptune* (0.49%) / <u>HTP (0.24%) /</u> PECO (<u>6.226.25</u> %) / <u>ECP** (0.25%)</u> / PSEG (<u>8.338.37</u> %) / RE (0.33%)
b1775	Reconductor 10.7 miles of Marengo - Pleasant Valley 138 kV and replace associated terminal and protective equipment. Same as n2090		ComEd (100%)
b1776	Reconductor 0.157 miles of McGirr Road - H440; RT 138 kV line of 477 ACSR		ComEd (100%)
b1777	Reconductor approximately 11.5 miles and replace associated terminal equipment of Marengo; TB - Woodstock; B 138 kV line. Same as n2093		ComEd (100%)
b1778	Reconductor 7.181 miles of 477 ACSR and upgrade station conductor at TSS 186 Steward1		ComEd (100%)
b1779	Reconductor 5.242 miles of Kickapoo Creek - Marseilles Tap 138 kV line of 477 ACSR		ComEd (100%)
b1841	Install the 3rd 345/138 kV transformer at TSS 86 Davis Creek		ComEd (100%)
b1842	Reconductor 0.6 miles of 138 kV line 5104 from TSS 115		ComEd (100%)

Bedford Park to Clearing T	ap	

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Required T	ransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
	Replace 1200A line trap on 138		
b1843	kV line 7611 at TSS 76 Blue		
	Island 138 kV		ComEd (100%)
	Reconductor 2.1 miles of 138		
b1844	kV line 10301 from TSS 102		
	Lisle to York Tap with ACSS		ComEd (100%)
	Reconductor 2.4 miles of 138		
b1845	kV line 10302 from TSS 103		
	Lisle to York Tap with ACSS		ComEd (100%)
	Upgrade 900 kcmil ACSR		
1-101C	station conductor on 138 kV		
b1846	line 1803 at STA 18 Will		
	County		ComEd (100%)
1 10 45	Add 230 MVAR of capacitors		
b1847	at TSS 141 Pleasant Valley		ComEd (100%)
	Upgrade relays and wavetrap		
b1848	on 138 kV line 4605 at TSS 46		
01010	Des Plaines		ComEd (100%)
	Install 138 kV bus and 7 CBs at		
b1849	TSS 109 Aptakisic 138 kV		$C_{a} = E_{d} (1000)$
	*		ComEd (100%)
b1850	Upgrade 1113 ACSR station conductor on 138 kV line 7910		
01830			$C_{om}Ed(1000)$
	at TSS 144 Wayne 138 kV Reconductor station conductor		ComEd (100%)
b1851			
01831	on 138 kV line 7915 at TSS		$C_{om}Ed(100\%)$
	144 Wayne 138 kV Upgrade five 345 kV circuit		ComEd (100%)
	breakers (L1223, L11124,		
b1852.1	L14321, BT2-3 and BT3-4) at		
	Electric Junction		ComEd (100%)
	Modify reclosing on 138 kV		Conied (100%)
b1852.2	line (L11103) at TSS 111		
01652.2	Electric Junction		ComEd(100%)
	Reconductor/rebuild the 138		ComEd (100%)
b1885	kV line 16914 for 1.3 miles		
01003			ComEd(100%)
	from Stewart to the H440 tap		ComEd (100%)
b1886	Install a 345 kV normally closed bus tie CB at Kendall		
01000			ComEd(100%)
	County		ComEd (100%)
b1903	Replace 7 138 kV breakers at		~ ~ ~ ~ ~ ~ ~ ~ ~
	Natoma 138 kV substation Regional Transmission System LI		ComEd (100%)

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

Required T	ransmission Enhancements	Annual Revenue Requirement	nt Responsible Customer(s)
	Reconductor 25 miles of 138		
b2119	kV line 10714 from Dixon to		
02117	McGirr Road and replace line		
	traps on each end		ComEd (100%)
	Install two 300 MVAR SVC's		
b2127	on the 138 kV red and blue		
02127	buses at Prospect Heights		
	substation		ComEd (100%)
	Reconductor 8.9 miles of 138		
	kV line 11323 from Waterman		
b2128	to Glidden, replace two spans		
02128	of conductor between		
	Haumesser Road, and		
	Waterman also on line 11323		ComEd (100%)
			AEP (4.13%) / APS (2.23%)
b2141	Construct a new Byron to		/ ATSI (0.08%) / ComEd
	Wayne 345 kV circuit		(92.99%) / Dayton (0.41%) /
	_		Dominion (0.16%)

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SCHEDULE 12 – APPENDIX

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

Required	Transmission Enhancements	Annual Revenue Requirement	t Responsible Customer(s)
	Install a 765/138 kV		AEP (99.00%) / PEPCO
b0318	transformer at Amos		(1.00%)
	Replace entrance		
	conductors, wave traps, and		
	risers at the Tidd 345 kV		
	station on the Tidd – Canton		
b0324	Central 345 kV circuit		AEP (100%)
b0447	Replace Cook 345 kV		
00447	breaker M2		AEP (100%)
b0448	Replace Cook 345 kV		
00448	breaker N2		AEP (100%)
			AEC (1.66%) / AEP (14.16%) /
			APS (5.73%) / ATSI (7.88%) /
			BGE (4.22%) / ComEd
			(13.31%) / Dayton (2.11%) /
	Construct an Amos –	As specified under the	DEOK (3.29%) / DL (1.75%) /
h0400		As specified under the procedures detailed in	DPL (2.50%) / Dominion
b0490	Bedington 765 kV circuit	Attachment H-19B	(12.86%) / EKPC (1.87%) /
	(AEP equipment)	Attachment H-19B	JCPL (3.74%) / ME (1.90%) /
			NEPTUNE* (0.44%) / PECO
			(5.34%) / PENELEC (1.89%) /
			PEPCO (3.99%) / PPL (4.84%)
			/ PSEG (6.26%) / RE (0.26%)

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Required T	ransmission Enhancements	Annual Revenue Requirement	t Responsible Customer(s)
			AEC (1.66%) / AEP (14.16%) /
			APS (5.73%) / ATSI (7.88%) /
			BGE (4.22%) / ComEd
			(13.31%) / Dayton (2.11%) /
			DEOK (3.29%) / DL (1.75%) /
b0490.2	Replace Amos 138 kV		DPL (2.50%) / Dominion
00470.2	breaker 'B'		(12.86%) / EKPC (1.87%) /
			JCPL (3.74%) / ME (1.90%) /
			NEPTUNE* (0.44%) / PECO
			(5.34%) / PENELEC (1.89%) /
			PEPCO (3.99%) / PPL (4.84%)
			/ PSEG (6.26%) / RE (0.26%)
			AEC (1.66%) / AEP (14.16%) /
			APS (5.73%) / ATSI (7.88%) /
			BGE (4.22%) / ComEd
			(13.31%) / Dayton (2.11%) /
			DEOK (3.29%) / DL (1.75%) /
b0490.3	Replace Amos 138 kV		DPL (2.50%) / Dominion
00490.3	breaker 'B1'		(12.86%) / EKPC (1.87%) /
			JCPL (3.74%) / ME (1.90%) /
			NEPTUNE* (0.44%) / PECO
			(5.34%) / PENELEC (1.89%) /
			PEPCO (3.99%) / PPL (4.84%)
			/ PSEG (6.26%) / RE (0.26%)

Required T	ransmission Enhancements	Annual Revenue Requireme	nt Responsible Customer(s)
			AEC (1.66%) / AEP (14.16%) /
			APS (5.73%) / ATSI (7.88%) /
			BGE (4.22%) / ComEd (13.31%)
			/ Dayton (2.11%) / DEOK
			(3.29%) / DL (1.75%) / DPL
b0490.4	Replace Amos 138 kV		(2.50%) / Dominion (12.86%) /
00490.4	breaker 'C'		EKPC (1.87%) / JCPL (3.74%) /
			ME (1.90%) / NEPTUNE*
			(0.44%) / PECO (5.34%) /
			PENELEC (1.89%) / PEPCO
			(3.99%) / PPL (4.84%) / PSEG
			(6.26%) / RE (0.26%)
			AEC (1.66%) / AEP (14.16%) /
			APS (5.73%) / ATSI (7.88%) /
			BGE (4.22%) / ComEd (13.31%)
			/ Dayton (2.11%) / DEOK
			(3.29%) / DL (1.75%) / DPL
b0490.5	Replace Amos 138 kV		(2.50%) / Dominion (12.86%) /
00490.5	breaker 'C1'		EKPC (1.87%) / JCPL (3.74%) /
			ME (1.90%) / NEPTUNE*
			(0.44%) / PECO (5.34%) /
			PENELEC (1.89%) / PEPCO
			(3.99%) / PPL (4.84%) / PSEG
			(6.26%) / RE (0.26%)

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Required T	ransmission Enhancements	Annual Revenue Requirement	t Responsible Customer(s)
			AEC (1.66%) / AEP (14.16%) /
			APS (5.73%) / ATSI (7.88%) /
			BGE (4.22%) / ComEd (13.31%)
			/ Dayton (2.11%) / DEOK
			(3.29%) / DL (1.75%) / DPL
b0490.6	Replace Amos 138 kV		(2.50%) / Dominion (12.86%) /
00470.0	breaker 'D'		EKPC (1.87%) / JCPL (3.74%) /
			ME (1.90%) / NEPTUNE*
			(0.44%) / PECO (5.34%) /
			PENELEC (1.89%) / PEPCO
			(3.99%) / PPL (4.84%) / PSEG
			(6.26%) / RE (0.26%)
			AEC (1.66%) / AEP (14.16%) /
			APS (5.73%) / ATSI (7.88%) /
			BGE (4.22%) / ComEd (13.31%)
			/ Dayton (2.11%) / DEOK
			(3.29%) / DL (1.75%) / DPL
b0490.7	Replace Amos 138 kV		(2.50%) / Dominion (12.86%) /
00490.7	breaker 'D2'		EKPC (1.87%) / JCPL (3.74%) /
			ME (1.90%) / NEPTUNE*
			(0.44%) / PECO (5.34%) /
			PENELEC (1.89%) / PEPCO
			(3.99%) / PPL (4.84%) / PSEG
			(6.26%) / RE (0.26%)

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Required T	Transmission Enhancements	Annual Revenue Requireme	ent Responsible Customer(s)
			AEC (1.66%) / AEP (14.16%) /
			APS (5.73%) / ATSI (7.88%) /
			BGE (4.22%) / ComEd (13.31%)
			/ Dayton (2.11%) / DEOK
			(3.29%) / DL (1.75%) / DPL
b0490.8	Replace Amos 138 kV		(2.50%) / Dominion (12.86%) /
00490.0	breaker 'E'		EKPC (1.87%) / JCPL (3.74%) /
			ME (1.90%) / NEPTUNE*
			(0.44%) / PECO (5.34%) /
			PENELEC (1.89%) / PEPCO
			(3.99%) / PPL (4.84%) / PSEG
			(6.26%) / RE (0.26%)
			AEC (1.66%) / AEP (14.16%) /
			APS (5.73%) / ATSI (7.88%) /
			BGE (4.22%) / ComEd (13.31%)
			/ Dayton (2.11%) / DEOK
			(3.29%) / DL (1.75%) / DPL
b0490.9	Replace Amos 138 kV		(2.50%) / Dominion (12.86%) /
00490.9	breaker 'E2'		EKPC (1.87%) / JCPL (3.74%) /
			ME (1.90%) / NEPTUNE*
			(0.44%) / PECO (5.34%) /
			PENELEC (1.89%) / PEPCO
			(3.99%) / PPL (4.84%) / PSEG
			(6.26%) / RE (0.26%)

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Required	Transmission Enhancements	Annual Revenue Requireme	ent Responsible Customer(s)
b0504	Add two advanced technology circuit breakers at Hanging Rock 765 kV to improve operational performance		AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%)
b0570	Reconductor East Side Lima – Sterling 138 kV		AEP (41.99%) / ComEd (58.01%)
b0571	ReconductorWestMillersport–138 kV		AEP (73.83%) / ComEd (19.26%) / Dayton (6.91%)
b0748	Establish a new 69 kV circuit between the Canal Road and East Wooster stations, establish a new 69 kV circuit between the West Millersburg and Moreland Switch stations (via Shreve), add reactive support via cap banks		AEP (100%)
b0838	Hazard Area 138 kV and 69 kV Improvement Projects		AEP (100%)
b0839	Replace existing 450 MVA transformer at Twin Branch 345 / 138 kV with a 675 MVA transformer		AEP (99.73%) / Dayton (0.27%)

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Required T	ransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b0840	String a second 138 kV circuit on the open tower position between Twin Branch and East Elkhart		AEP (100%)
b0840.1	Establish a new 138/69- 34.5kV Station to interconnect the existing 34.5kV network		AEP (100%)
b0917	Replace Baileysville 138 kV breaker 'P'		AEP (100%)
b0918	Replace Riverview 138 kV breaker '634'		AEP (100%)
b0919	Replace Torrey 138 kV breaker 'W'		AEP (100%)
b1032.1	Construct a new 345/138kV station on the Marquis-Bixby 345kV line near the intersection with Ross - Highland 69kV		AEP (89.97%) / Dayton (10.03%)
b1032.2	Constructtwo138kVoutlets toDelano138kVstationandtoCampSherman station		AEP (89.97%) / Dayton (10.03%)
b1032.3	Convert Ross - Circleville 69kV to 138kV		AEP (89.97%) / Dayton (10.03%)
b1032.4	Install 138/69kV transformer at new station and connect in the Ross - Highland 69kV line		AEP (89.97%) / Dayton (10.03%)
b1033	Add a third delivery point from AEP's East Danville Station to the City of Danville.		AEP (100%)

Required T	ransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1034.1	Establish new South Canton - West Canton 138kV line (replacing Torrey - West Canton) and Wagenhals – Wayview 138kV		AEP (96.01%) / APS (0.62%) / ComEd (0.19%) / Dayton (0.44%) / DL (0.13%) / PENELEC (2.61%)
b1034.2	Loop the existing South Canton - Wayview 138kV circuit in-and-out of West Canton		AEP (96.01%) / APS (0.62%) / ComEd (0.19%) / Dayton (0.44%) / DL (0.13%) / PENELEC (2.61%)
b1034.3	Install a 345/138kV 450 MVA transformer at Canton Central		AEP (96.01%) / APS (0.62%) / ComEd (0.19%) / Dayton (0.44%) / DL (0.13%) / PENELEC (2.61%)
b1034.4	Rebuild/reconductor the Sunnyside - Torrey 138kV line		AEP (96.01%) / APS (0.62%) / ComEd (0.19%) / Dayton (0.44%) / DL (0.13%) / PENELEC (2.61%)
b1034.5	Disconnect/eliminate the West Canton 138kV terminal at Torrey Station		AEP (96.01%) / APS (0.62%) / ComEd (0.19%) / Dayton (0.44%) / DL (0.13%) / PENELEC (2.61%)
b1034.6	Replace all 138kV circuit breakers at South Canton Station and operate the station in a breaker and a half configuration		AEP (96.01%) / APS (0.62%) / ComEd (0.19%) / Dayton (0.44%) / DL (0.13%) / PENELEC (2.61%)
b1034.7	Replace all obsolete 138kV circuit breakers at the Torrey and Wagenhals stations		AEP (96.01%) / APS (0.62%) / ComEd (0.19%) / Dayton (0.44%) / DL (0.13%) / PENELEC (2.61%)

Required T	ransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
	Install additional 138kV		
	circuit breakers at the West		
	Canton, South Canton,		AEP (96.01%) / APS
b1034.8	Canton Central, and		(0.62%) / ComEd (0.19%) /
	Wagenhals stations to		Dayton (0.44%) / DL
	accommodate the new		(0.13%) / PENELEC
	circuits		(2.61%)
	Establish a third 345kV		
	breaker string in the West		
	Millersport Station.		
	Construct a new West		
b1035	Millersport – Gahanna		
	138kV circuit.		
	Miscellaneous		
	improvements to 138kV		
	transmission system.		AEP (100%)
	Upgrade terminal		
b1036	equipment at Poston		
01050	Station and update remote		
	end relays		AEP (100%)
	Sag check Bonsack-		
	Cloverdale 138 kV,		
	Cloverdale–Centerville		
	138kV, Centerville–Ivy		
b1037	Hill 138kV, Ivy Hill–		
	Reusens 138kV, Bonsack-		
	Reusens 138kV and		
	Reusens-Monel-		
	Gomingo–Joshua Falls 138		
	kV.		AEP (100%)
	Check the Crooksville -		
1 1020	Muskingum 138 kV sag		
b1038	and perform the required		
	work to improve the		
* NI - in form of	emergency rating		AEP (100%)

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Required 7		Annual Revenue Requirement	Responsible Customer(s)
	Perform a sag study for the		
	Madison – Cross Street 138		
b1039	kV line and perform the		
	required work to improve		
	the emergency rating		AEP (100%)
	Rebuild an 0.065 mile		
	section of the New Carlisle		
b1040	– Olive 138 kV line and		
	change the 138 kV line		
	switches at New Carlisle		AEP (100%)
	Perform a sag study for the		
b1041	Moseley - Roanoke 138 kV		
01041	to increase the emergency		
	rating		AEP (100%)
	Perform sag studies to raise		
b1042	the emergency rating of		
	Amos – Poca 138kV		AEP (100%)
	Perform sag studies to raise		
b1043	the emergency rating of		
	Turner - Ruth 138kV		AEP (100%)
	Perform sag studies to raise		
b1044	the emergency rating of		
01044	Kenova – South Point		
	138kV		AEP (100%)
b1045	Perform sag studies of Tri		
01045	State - Darrah 138 kV		AEP (100%)
	Perform sag study of		
b1046	Scottsville – Bremo 138kV		
01040	to raise the emergency		
	rating		AEP (100%)
	Perform sag study of Otter		
b1047	Switch - Altavista 138kV		
01047	to raise the emergency		
	rating		AEP (100%)
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Required 7	Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1048	Reconductor the Bixby - Three C - Groves and		
01040	Bixby - Groves 138 kV tower line		AEP (100%)
b1049	Upgrade the risers at the Riverside station to increase the rating of Benton Harbor – Riverside 138kV		AEP (100%)
b1050	Rebuilding and reconductor the Bixby – Pickerington Road - West Lancaster 138 kV line		AEP (100%)
b1051	Perform a sag study for the Kenzie Creek – Pokagon 138 kV line and perform the required work to improve the emergency rating		AEP (100%)
b1052	Unsix-wire the existing Hyatt - Sawmill 138 kV line to form two Hyatt - Sawmill 138 kV circuits		AEP (100%)
b1053	Perform a sag study and remediation of 32 miles between Claytor and Matt Funk.		AEP (100%)
b1091	Add 28.8 MVAR 138 kV capacitor bank at Huffman and 43.2 MVAR 138 kV Bank at Jubal Early and 52.8 MVAR 138 kV Bank at Progress Park Stations		AEP (100%)

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

Required T	Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
	Add 28.8 MVAR 138 kV		
	capacitor bank at Sullivan		
b1092	Gardens and 52.8 MVAR		
	138 kV Bank at Reedy		
	Creek Stations		AEP (100%)
	Add a 43.2 MVAR		
b1093	capacitor bank at the		
01075	Morgan Fork 138 kV		
	Station		AEP (100%)
	Add a 64.8 MVAR		
b1094	capacitor bank at the West		
	Huntington 138 kV Station		AEP (100%)
b1108	Replace Ohio Central 138		
01100	kV breaker 'C2'		AEP (100%)
b1109	Replace Ohio Central 138		
01107	kV breaker 'D1'		AEP (100%)
b1110	Replace Sporn A 138 kV		
01110	breaker 'J'		AEP (100%)
b1111	Replace Sporn A 138 kV		
01111	breaker 'J2'		AEP (100%)
b1112	Replace Sporn A 138 kV		
01112	breaker 'L'		AEP (100%)
11112	Replace Sporn A 138 kV		
b1113	breaker 'L1'		AEP (100%)
1 1 1 1 4	Replace Sporn A 138 kV		
b1114	breaker 'L2'		AEP (100%)
1 1 1 1 7	Replace Sporn A 138 kV		
b1115	breaker 'N'		AEP (100%)
11110	Replace Sporn A 138 kV		
b1116	breaker 'N2'		AEP (100%)
	Perform a sag study on		
b1227	Altavista – Leesville 138		
	kV circuit		AEP (100%)
* NT 4	Regional Transmission Syst		

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Required 7	Fransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
	Replace the existing 138/69-		
	12 kV transformer at West		
b1231	Moulton Station with a		
	138/69 kV transformer and a	L L	AEP (96.69%) / Dayton
	69/12 kV transformer		(3.31%)
b1375	Replace Roanoke 138 kV		
01375	breaker 'T'		AEP (100%)
b1376	Replace Roanoke 138 kV		
01370	breaker 'E'		AEP (100%)
b1377	Replace Roanoke 138 kV		
01377	breaker 'F'		AEP (100%)
1.1270	Replace Roanoke 138 kV		
b1378	breaker 'G'		AEP (100%)
1.1270	Replace Roanoke 138 kV		
b1379	breaker 'B'		AEP (100%)
1 1 2 0 0	Replace Roanoke 138 kV		· · · · · · · · · · · · · · · · · · ·
b1380	breaker 'A'		AEP (100%)
1.1201	Replace Olive 345 kV		
b1381	breaker 'E'		AEP (100%)
b1382	Replace Olive 345 kV		
01382	breaker 'R2'		AEP (100%)
	Perform a sag study on the		
b1416	Desoto – Deer Creek 138 kV		
01410	line to increase the		
	emergency rating		AEP (100%)
	Perform a sag study on the		
b1417	Delaware – Madison 138 kV		
01417	line to increase the		
	emergency rating		AEP (100%)
	Perform a sag study on the		
b1418	Rockhill – East Lima 138 kV		
01710	line to increase the		
	emergency rating		AEP (100%)

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Required 7	Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
	Perform a sag study on the		
b1419	Findlay Center – Fostoria Ct		
01417	138 kV line to increase the		
	emergency rating		AEP (100%)
	A sag study will be required		
	to increase the emergency		
	rating for this line.		
b1420	Depending on the outcome o	f	
	this study, more action may		
	be required in order to		
	increase the rating		AEP (100%)
	Perform a sag study on the		
b1421	Sorenson – McKinley 138 kV	/	
01421	line to increase the		
	emergency rating		AEP (100%)
	Perform a sag study on John		
	Amos – St. Albans 138 kV		
b1422	line to allow for operation up		
	to its conductor emergency		
	rating		AEP (100%)
	A sag study will be performe	d	
	on the Chemical – Capitol		
b1423	Hill 138 kV line to determine		
	if the emergency rating can b	e	
	utilized		AEP (100%)
	Perform a sag study for		
b1424	Benton Harbor – West Street		
01727	– Hartford 138 kV line to		
	improve the emergency ratin	g	AEP (100%)
	Perform a sag study for the		
	East Monument – East		
b1425	Danville 138 kV line to allow	V	
01743	for operation up to the		
	conductor's maximum		
	operating temperature		AEP (100%)

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Required 7	Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
	Perform a sag study for the		
	Reusens – Graves 138 kV lin	e	
b1426	to allow for operation up to		
	the conductor's maximum		
	operating temperature		AEP (100%)
	Perform a sag study on Smith	1	
	Mountain – Leesville –		
b1427	Altavista – Otter 138 kV and		
	on Boones – Forest – New		
	London – JohnsMT – Otter		AEP (100%)
	Perform a sag study on Smith	1	
	Mountain – Candlers		
b1428	Mountain 138 kV and Joshua		
	Falls – Cloverdale 765 kV to		
	allow for operation up to		AEP (100%)
	Perform a sag study on		
	Fremont – Clinch River 138		
b1429	kV to allow for operation up		
	to its conductor emergency		
	ratings		AEP (100%)
	Install a new 138 kV circuit		
	breaker at Benton Harbor		
b1430	station and move the load		
	from Watervliet 34.5 kV		
	station to West street 138 kV		AEP (100%)
	Perform a sag study on the		
	Kenova – Tri State 138 kV		
b1432	line to allow for operation up		
	to their conductor emergency	7	
	rating		AEP (100%)
	Replace risers in the West		
	Huntington Station to		
b1433	increase the line ratings		
	which would eliminate the		
	overloads for the		
	contingencies listed		AEP (100%)

Required 7	Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
	Perform a sag study on the		
	line from Desoto to Madison		
b1434	Replace bus and risers at		
	Daleville station and replace		
	bus and risers at Madison		AEP (100%)
	Replace the 2870 MCM		
b1435	ACSR riser at the Sporn		
	station		AEP (100%)
	Perform a sag study on the		
	Sorenson – Illinois Road 138		
b1436	kV line to increase the		
01450	emergency MOT for this line		
	Replace bus and risers at		
	Illinois Road		AEP (100%)
	Perform sag study on Rock		
	Cr. – Hummel Cr. 138 kV to		
	increase the emergency MOT		
b1437	for the line, replace bus and		
01157	risers at Huntington J., and		
	replace relays for Hummel		
	Cr. – Hunt – Soren. Line at		
	Soren		AEP (100%)
	Replacement of risers at		
	McKinley and Industrial Parl		
	stations and performance of a		
b1438	sag study for the 4.53 miles of	of	
01-30	795 ACSR section is		
	expected to improve the		
	Summer Emergency rating to		
	335 MVA		AEP (100%)
	By replacing the risers at		
	Lincoln both the Summar		
b1439	Normal and Summer		
	Emergency ratings will		
de D.T c	improve to 268 MVA		AEP (100%)

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Required 7	Fransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
	By replacing the breakers at		
b1440	Lincoln the Summer		
01440	Emergency rating will		
	improve to 251 MVA		AEP (100%)
	Replacement of risers at		
	South Side and performance		
	of a sag study for the 1.91		
b1441	miles of 795 ACSR section i	S	
	expected to improve the		
	Summer Emergency rating to)	
	335 MVA		AEP (100%)
	Replacement of 954 ACSR		
	conductor with 1033 ACSR		
b1442	and performance of a sag		
01442	study for the 4.54 miles of 2-		
	636 ACSR section is		
	expected		AEP (100%)
	Station work at Thelma and		
b1443	Busseyville Stations will be		
01115	performed to replace bus and		
	risers		AEP (100%)
	Perform electrical clearance		
	studies on Clinch River –		
b1444	Clinchfield 139 kV line		
01111	(a.k.a. sag studies) to		
	determine if the emergency		
	ratings can be utilized		AEP (100%)
	Perform a sag study on the		
	Addison (Buckeye CO-OP) -	-	
b1445	Thinever and North Crown		
	City – Thivener 138 kV sag		
	study and switch		AEP (100%)

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Required '	Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
	Perform a sag study on the		
b1446	Parkersburg (Allegheny		
01440	Power) – Belpre (AEP) 138		
	kV		AEP (100%)
b1447	Dexter – Elliot tap 138 kV		
01447	sag check		AEP (100%)
b1448	Dexter – Meigs 138 kV		
01440	Electrical Clearance Study		AEP (100%)
b1449	Meigs tap – Rutland 138 kV		
01449	sag check		AEP (100%)
	Muskingum – North		
b1450	Muskingum 138 kV sag		
	check		AEP (100%)
b1451	North Newark – Sharp Road		
01431	138 kV sag check		AEP (100%)
b1452	North Zanesville – Zanesville	e	
01432	138 kV sag check		AEP (100%)
	North Zanesville – Powelson		
b1453	and Ohio Central – Powelson	1	
	138 kV sag check		AEP (100%)
	Perform an electrical		
	clearance study on the Ross -		
b1454	Delano – Scioto Trail 138 kV	7	
01434	line to determine if the		
	emergency rating can be		
	utilized		AEP (100%)
	Perform a sag check on the		
	Sunny – Canton Central –		
b1455	Wagenhals 138 kV line to		
01700	determine if all circuits can b	e	
	operated at their summer		
	emergency rating		AEP (100%)

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Required '	Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1456	The Tidd – West Bellaire 343 kV circuit has been de-rated to its normal rating and woul need an electrical clearance study to determine if the emergency rating can be utilized The Tiltonsville – Windsor 138 kV circuit has been derated to its normal rating and would need an electrical	d	AEP (100%)
	clearance study to determine if the emergency rating could be utilized		AEP (100%)
b1458	Install three new 345 kV breakers at Bixby to separate the Marquis 345 kV line and transformer #2. Operate Circleville – Harrison 138 kV and Harrison – Zuber 138 kV up to conductor emergency ratings	1	AEP (100%)
b1459	Several circuits have been de rated to their normal conductor ratings and could benefit from electrical clearance studies to determin if the emergency rating could be utilized	e	AEP (100%)
b1460	Replace 2156 & 2874 risers		AEP (100%)
b1461	Replace meter, metering CTs and associated equipment at the Paden City feeder		AEP (100%)
b1462	Replace relays at both South Cadiz 138 kV and Tidd 138 kV		AEP (100%)

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Required T	Transmission Enhancements A	nnual Revenue Requirement Responsible Customer(s)
b1463	Reconductor the Bexley – Groves 138 kV circuit	AEP (100%)
b1464	Corner 138 kV upgrades	AEP (100%)
b1465.1	Add a 3rd 2250 MVA 765/345 kV transformer at Sullivan station	AEC (0.71%) / AEP (75.0675.17%) / APS (1.25%) / BGE (1.81%) / ComEd (5.915.92%) / Dayton (0.86%) / DL (1.23%) / DPL (0.95%) / Dominion (3.893.90%) / JCPL (1.58%) / NEPTUNE (0.15%) / HTP (0.07%) / PECO (2.08%) / PEPCO (1.66%) / ECP (0.07%)** / PSEG (2.622.63%) / RE (0.10%)
b1465.2	Replace the 100 MVAR 765 kV shunt reactor bank on Rockport – Jefferson 765 kV line with a 300 MVAR bank at Rockport Station	AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%)

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Required I	quired Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)			
		AEC (1.66%) / AEP (14.16%) /		
		APS (5.73%) / ATSI (7.88%) /		
		BGE (4.22%) / ComEd (13.31%)		
		/ Dayton (2.11%) / DEOK		
	Transpose the Rockport –	(3.29%) / DL (1.75%) / DPL		
b1465.3	Sullivan 765 kV line and the	(2.50%) / Dominion (12.86%) /		
01405.5	Rockport – Jefferson 765	EKPC (1.87%) / JCPL (3.74%) /		
	kV line	ME (1.90%) / NEPTUNE*		
		(0.44%) / PECO (5.34%) /		
		PENELEC (1.89%) / PEPCO		
		(3.99%) / PPL (4.84%) / PSEG		
		(6.26%) / RE (0.26%)		
		AEC (1.66%) / AEP (14.16%) /		
		APS (5.73%) / ATSI (7.88%) /		
		BGE (4.22%) / ComEd (13.31%)		
		/ Dayton (2.11%) / DEOK		
	Make switching	(3.29%) / DL (1.75%) / DPL		
b1465.4	improvements at Sullivan	(2.50%) / Dominion (12.86%) /		
01-03	and Jefferson 765 kV	EKPC (1.87%) / JCPL (3.74%) /		
	stations	ME (1.90%) / NEPTUNE*		
		(0.44%) / PECO (5.34%) /		
		PENELEC (1.89%) / PEPCO		
		(3.99%) / PPL (4.84%) / PSEG		
		(6.26%) / RE (0.26%)		
	Create an in and out loop at			
	Adams Station by removing			
b1466.1	the hard tap that currently			
	exists	AEP (100%)		
b1466.2	Upgrade the Adams			
01700.2	transformer to 90 MVA	AEP (100%)		

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

b1466.3 ne ne C	At Seaman Station install a new 138 kV bus and two new 138 kV circuit breakers	
ne C	ew 138 kV circuit breakers	
C		
		AEP (100%)
	Convert South Central Co-	
b1466.4 oj	p's New Market 69 kV	
St	station to 138 kV	AEP (100%)
T	The Seaman – Highland	
ci	ircuit is already built to	
b1466.5 ¹³	38 kV, but is currently	
01400.5	perating at 69 kV, which	
w	vould now increase to 138	
k	V	AEP (100%)
A	At Highland Station, install	
а	new 138 kV bus, three	
b1466.6 ne	ew 138 kV circuit breakers	
ar	nd a new 138/69 kV 90	
Μ	/IVA transformer	AEP (100%)
U	Jsing one of the bays at	
Н	Highland, build a 138 kV	
b1466.7 ci	ircuit from Hillsboro –	
H	Highland 138 kV, which is	
ar	pproximately 3 miles	AEP (100%)
In	nstall a 14.4 MVAr	
b1467.1 C	Capacitor Bank at New	
В	Buffalo station	AEP (100%)
R	Reconfigure the 138 kV bus	
at	t LaPorte Junction station	
b1467.2 to	o eliminate a contingency	
re	esulting in loss of two 138	
k	V sources serving the	
L	LaPorte area	AEP (100%)

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Required T	ransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1468.1	Expand Selma Parker Statio and install a 138/69/34.5 kV transformer		AEP (100%)
b1468.2	Rebuild and convert 34.5 kV line to Winchester to 69 kV, including Farmland Station		AEP (100%)
b1468.3	Retire the 34.5 kV line from Haymond to Selma Wire	L	AEP (100%)
b1469.1	Conversion of the Newcomerstown – Cambridge 34.5 kV system to 69 kV operation		AEP (100%)
b1469.2	Expansion of the Derwent 6 kV Station (including reconfiguration of the 69 kV system)		AEP (100%)
b1469.3	Rebuild 11.8 miles of 69 kV line, and convert additional 34.5 kV stations to 69 kV operation	,	AEP (100%)
b1470.1	Build a new 138 kV double circuit off the Kanawha – Bailysville #2 138 kV circui to Skin Fork Station	t	AEP (100%)
b1470.2	Install a new 138/46 kV transformer at Skin Fork		AEP (100%)
b1470.3	Replace 5 Moab's on the Kanawha – Baileysville line with breakers at the Sundial 138 kV station		AEP (100%)
b1471	Perform a sag study on the East Lima – For Lima – Rockhill 138 kV line to increase the emergency rating		AEP (100%)

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Required	Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1472	Perform a sag study on the East Lima – Haviland 138 kV line to increase the emergency rating	J	AEP (100%)
b1473	Perform a sag study on the East New Concord – Muskingum River section of the Muskingum River – Wes Cambridge 138 kV circuit		AEP (100%)
b1474	Perform a sag study on the Ohio Central – Prep Plant tap 138 kV circuit		AEP (100%)
b1475	Perform a sag study on the S73 – North Delphos 138 kV line to increase the emergency rating		AEP (100%)
b1476	Perform a sag study on the S73 – T131 138 kV line to increase the emergency rating	g	AEP (100%)
b1477	The Natrium – North Martin 138 kV circuit would need ar electrical clearance study among other equipment upgrades	1	AEP (100%)
b1478	Upgrade Strouds Run – Strounds Tap 138 kV relay and riser		AEP (100%)
b1479	West Hebron station upgrade	s	AEP (100%)
b1480	Perform upgrades and a sag study on the Corner – Layman 138 kV section of th Corner – Muskingum River 138 kV circuit		AEP (100%)

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Required 7	Fransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
	Perform a sag study on the		
	West Lima – Eastown Road		
b1481	– Rockhill 138 kV line and		
01401	replace the 138 kV risers at		
	Rockhill station to increase		
	the emergency rating		AEP (100%)
	Perform a sag study for the		
b1482	Albion – Robison Park 138		
01402	kV line to increase its		
	emergency rating		AEP (100%)
	Sag study 1 mile of the		
	Clinch River – Saltville 138		
b1483	kV line and replace the riser	s	
01403	and bus at Clinch River,		
	Lebanon and Elk Garden		
	Stations		AEP (100%)
	Perform a sag study on the		
b1484	Hacienda – Harper 138 kV		
01404	line to increase the		
	emergency rating		AEP (100%)
	Perform a sag study on the		
b1485	Jackson Road – Concord		
01405	183 kV line to increase the		
	emergency rating		AEP (100%)
	The Matt Funk – Poages Mi	11	
b1486	– Starkey 138 kV line		
	requires		AEP (100%)
	Perform a sag study on the		
b1487	New Carlisle – Trail Creek		
01407	138 kV line to increase the		
	emergency rating		AEP (100%)
	Perform a sag study on the		
b1488	Olive – LaPorte Junction 13	8	
01400	kV line to increase the		
	emergency rating		AEP (100%)

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Required T	ransmission Enhancements Ar	nual Revenue Requirement	Responsible Customer(s)
	A sag study must be performed		
	for the 5.40 mile Tristate –		
b1489	Chadwick 138 kV line to		
	determine if a higher		
	emergency rating can be used		AEP (100%)
b1490.1	Establish a new 138/69 kV		
01490.1	Butler Center station		AEP (100%)
	Build a new 14 mile 138 kV		
b1490.2	line from Auburn station to		
01490.2	Woods Road station VIA		
	Butler Center station		AEP (100%)
	Replace the existing 40 MVA		
b1490.3	138/69 kV transformer at		
01490.5	Auburn station with a 90 MVA		
	138/96 kV transformer		AEP (100%)
	Improve the switching		
b1490.4	arrangement at Kendallville		
	station		AEP (100%)
	Replace bus and risers at		
	Thelma and Busseyville		
b1491	stations and perform a sag		
	study for the Big Sandy –		
	Busseyville 138 kV line		AEP (100%)
	Reconductor 0.65 miles of the		
b1492	Glen Lyn – Wythe 138 kV line		
	with 3 – 1590 ACSR		AEP (100%)
	Perform a sag study for the		
b1493	Bellfonte – Grantston 138 kV		
51175	line to increase its emergency		
	rating		AEP (100%)
	Perform a sag study for the		
b1494	North Proctorville – Solida –		
	Bellefonte 138 kV line to		
	increase its emergency rating		AEP (100%)

Required 7	Transmission Enhancements Ani	nual Revenue Requirement	Responsible Customer(s)
b1495	Add an additional 765/345 kV transformer at Baker Station		AEC (0.41%) / AEP (87.2287.29 %) / BGE (1.03%) / ComEd (3.383.39 %) / Dayton (1.23%) / DL (1.46%) / DPL (0.54%) / JCPL (0.90%) / NEPTUNE (0.09%) / HTP (0.04%) / PECO (1.18%) / PEPCO (0.94%) / ECP** (0.04%) / PSEG (1.48%) / RE (0.06%)
b1496	Replace 138 kV bus and risers at Johnson Mountain Station		AEP (100%)
b1497	Replace 138 kV bus and risers at Leesville Station		AEP (100%)
b1498	Replace 138 kV risers at Wurno Station		AEP (100%)
b1499	Perform a sag study on Sporn A – Gavin 138 kV to determine if the emergency rating can be improved		AEP (100%)
b1500	The North East Canton – Wagenhals 138 kV circuit would need an electrical clearance study to determine if the emergency rating can be utilized		AEP (100%)
b1501	The Moseley – Reusens 138 kV circuit requires a sag study to determine if the emergency rating can be utilized to address a thermal loading issue for a category C3		AEP (100%)

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Required Tra	ansmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1502	Reconductor the Conesville East – Conesville Prep Plant Tap 138 kV section of the Conesville – Ohio Central to fix Reliability N- 1-1 thermal overloads		AEP (100%)
b1659	Establish Sorenson 345/138 kV station as a 765/345 kV station		AEP (93.61<u>93.67</u>%) / ATSI (2.99%) / ComEd (2.07%) / HTP (0.03%) / PENELEC (0.31%) / ECP** (0.03%) / PSEG (0.92%) / RE (0.04%)
b1659.1	Replace Sorenson 138 kV breaker 'L1'		AEP (100%)
b1659.2	Replace Sorenson 138 kV breaker 'L2' breaker		AEP (100%)
b1659.3	Replace Sorenson 138 kV breaker 'M1'		AEP (100%)
b1659.4	Replace Sorenson 138 kV breaker 'M2'		AEP (100%)
b1659.5	Replace Sorenson 138 kV breaker 'N1'		AEP (100%)
b1659.6	Replace Sorenson 138 kV breaker 'N2'		AEP (100%)
b1659.7	Replace Sorenson 138 kV breaker 'O1'		AEP (100%)
b1659.8	Replace Sorenson 138 kV breaker 'O2'		AEP (100%)
b1659.9	Replace Sorenson 138 kV breaker 'M'		AEP (100%)
b1659.10	Replace Sorenson 138 kV breaker 'N'		AEP (100%)

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AEP (100%)
AEP (100%)
AEC (1.66%) / AEP (14.16%) /
APS (5.73%) / ATSI (7.88%) /
BGE (4.22%) / ComEd (13.31%)
/ Dayton (2.11%) / DEOK
(3.29%) / DL (1.75%) / DPL
(2.50%) / Dominion (12.86%) /
EKPC (1.87%) / JCPL (3.74%) /
ME (1.90%) / NEPTUNE*
(0.44%) / PECO (5.34%) /
PENELEC (1.89%) / PEPCO
(3.99%) / PPL (4.84%) / PSEG
(6.26%) / RE (0.26%)
AEC (1.66%) / AEP (14.16%) /
APS (5.73%) / ATSI (7.88%) /
BGE (4.22%) / ComEd (13.31%)
/ Dayton (2.11%) / DEOK
(3.29%) / DL (1.75%) / DPL
(2.50%) / Dominion (12.86%) /
EKPC (1.87%) / JCPL (3.74%) /
ME (1.90%) / NEPTUNE*
(0.44%) / PECO (5.34%) /
PENELEC (1.89%) / PEPCO
(3.99%) / PPL (4.84%) / PSEG
(6.26%) / RE (0.26%)
-

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Required T	ransmission Enhancements	Annual Revenue Requirem	nent Responsible Customer(s)
b1660	Install a 765/500 kV transformer at Cloverdale		AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%)
b1661	Install a 765 kV circuit breaker at Wyoming station		AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%)

Required Tr	ransmission Enhancements	Annual Revenue Requirer	nent Responsible Customer(s)
	Rebuild 4 miles of 46 kV		
b1662	line to 138 kV from		
01002	Pemberton to Cherry		
	Creek		AEP (100%)
	Circuit Breakers are		
	installed at Cherry Creek		
b1662.1	(facing Pemberton) and at		
	Pemberton (facing Tams		
	Mtn. and Cherry Creek)		AEP (100%)

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

Required T	Transmission Enhancements	Annual Revenue Requirement Responsible Customer(s)
b1662.2	Install three 138 kV breakers at Grandview Station (facing Cherry Creek, Hinton, and Bradley Stations)	AEP (100%)
b1662.3	Remove Sullivan Switching Station (46 kV)	AEP (100%)
b1663	Install a new 765/138 kV transformer at Jackson Ferry substation	AEP (100%)
b1663.1	Establish a new 10 mile double circuit 138 kV line between Jackson Ferry and Wythe	AEP (100%)
b1663.2	Install 2 765 kV circuit breakers, breaker disconnect switches and associated bus work for the new 765 kV breakers, and new relays for the 765 kV breakers at Jackson's Ferry	AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%)
b1664	Install switched capacitor banks at Kenwood 138 kV stations	AEP (100%)
b1665	Install a second 138/69 kV transformer at Thelma station	AEP (100%)
b1665.1	Construct a single circuit 69 kV line from West Paintsville to the new Paintsville station	AEP (100%)

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

Required T	Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1665.2	Install new 7.2 MVAR, 46		
01005.2	kV bank at Kenwood Statio	n	AEP (100%)
	Build an 8 breaker 138 kV		
b1666	station tapping both circuits		
01000	of the Fostoria - East Lima		AEP (90.65%) / Dayton
	138 kV line		(9.35%)
	Establish Melmore as a		
	switching station with both		
h1667	138 kV circuits terminating at Melmore. Extend the		
b1667	double circuit 138 kV line		
	from Melmore to Fremont		
	Center		AEP (100%)
	Revise the capacitor setting		AEI (10070)
b1668	at Riverside 138 kV station		AEP (100%)
	Capacitor setting changes at	· · · · · · · · · · · · · · · · · · ·	
b1669	Ross 138 kV stations		AEP (100%)
	Capacitor setting changes at		
b1670	Wooster 138 kV station		AEP (100%)
11071	Install four 138 kV breakers		X/
b1671	in Danville area		AEP (100%)
1.1676	Replace Natrium 138 kV		
b1676	breaker 'G (rehab)'		AEP (100%)
b1677	Replace Huntley 138 kV		
01077	breaker '106'		AEP (100%)
b1678	Replace Kammer 138 kV		
01078	breaker 'G'		AEP (100%)
b1679	Replace Kammer 138 kV		
01079	breaker 'H'		AEP (100%)
b1680	Replace Kammer 138 kV		
01000	breaker 'J'		AEP (100%)
b1681	Replace Kammer 138 kV		
01001	breaker 'K'		AEP (100%)
b1682	Replace Kammer 138 kV		
01002	breaker 'M'		AEP (100%)

*Neptune Regional Transmission System, LLC

Required T	ransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1683	Replace Kammer 138 kV breaker 'N'		AEP (100%)
b1684	Replace Clinch River 138 kV breaker 'E1'	I	AEP (100%)
b1685	Replace Lincoln 138 kV breaker 'D'		AEP (100%)
b1687	Advance s0251.7 (Replace Corrid 138 kV breaker '104S')		AEP (100%)
b1688	Advance s0251.8 (Replace Corrid 138 kV breaker '104C')		AEP (100%)
b1712.1	Perform sag study on Altavista - Leesville 138 kV line		Dominion (75.30%) / PEPCO (24.70%)
b1712.2	Rebuild the Altavista - Leesville 138 kV line		Dominion (75.30%) / PEPCO (24.70%)
b1733	Perform a sag study of the Bluff Point - Jauy 138 kV line. Upgrade breaker, wavetrap, and risers at the terminal ends		AEP (100%)
b1734	Perform a sag study of Randoph - Hodgins 138 kV line. Upgrade terminal equipment		AEP (100%)
b1735	Perform a sag study of R03 - Magely 138 kV line. Upgrade terminal equipment		AEP (100%)
b1736	Perform a sag study of the Industrial Park - Summit 138 kV line	3	AEP (100%)
b1737	Sag study of Newcomerstown - Hillview 138 kV line. Upgrade - terminal equipment		AEP (100%)

*Neptune Regional Transmission System, LLC

Required	Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
	Perform a sag study of the		
	Wolf Creek - Layman 138 kV	/	
b1738	lineUpgrade terminal		
	equipment including a 138		
	kV breaker and wavetrap		AEP (100%)
	Perform a sag study of the		
b1739	Ohio Central - West Trinway		
	138 kV line		AEP (100%)
b1741	Replace Beatty 138 kV		
01/41	breaker '2C(IPP)'		AEP (100%)
b1742	Replace Beatty 138 kV		
01/42	breaker '1E'		AEP (100%)
1.1742	Replace Beatty 138 kV		
b1743	breaker '2E'		AEP (100%)
1 1 7 4 4	Replace Beatty 138 kV		
b1744	breaker '3C'		AEP (100%)
1 4 7 4 7	Replace Beatty 138 kV		
b1745	breaker '2W'		AEP (100%)
	Replace St. Claire 138 kV		
b1746	breaker '8'		AEP (100%)
	Replace Cloverdale 138 kV		
b1747	breaker 'C'		AEP (100%)
	Replace Cloverdale 138 kV		
b1748	breaker 'D1'		AEP (100%)
	Install two 138kV breakers		
	and two 138kV circuit		
	switchers at South Princeton		
b1780	Station and one 138kV		
01700	breaker and one 138kV		
	circuit switcher at Switchbac	k	
	Station		AEP (100%)
	Install three 138 kV breakers		
	and a 138kV circuit switcher		
b1781	at Trail Fork Station in		
	Pineville, WV		AEP (100%)
₩\T 4	Principal Transmission System		

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h1782	Install a 46kV Moab at		
$n_1/x/$			
D1/0/	Montgomery Station facing		
	Carbondale (on the London -		
C	Carbondale 46 kV circuit)		AEP (100%)
A	Add two 138 kV Circuit		
E	Breakers and two 138 kV		
b1783 c	circuit switchers on the		
I	Lonesome Pine - South		
E	Bluefield 138 kV line		AEP (100%)
I	Install a 52.8 MVAR		
b1784 c	capacitor bank at the Clifford		
1	138 kV station		AEP (100%)
P	Perform a sag study of 4		
b1811.1 n	miles of the Waterford -		
Ν	Muskingum line		AEP (100%)
F	Rebuild 0.1 miles of		
b1811.2 V	Waterford - Muskingum 345		
k	kV with 1590 ACSR		AEP (100%)
F	Reconductor the AEP portion	1	
0	of the South Canton -		
F	Harmon 345 kV with 954		
b1812	ACSR and upgrade terminal		
01812 e	equipment at South Canton.		
E	Expected rating is 1800		
Ν	MVA S/N and 1800 MVA		
S	S/E		AEP (100%)
I	Install (3) 345 kV circuit		
h1017 b	breakers at East Elkhart		
b1817 s	station in ring bus designed		
а	as a breaker and half scheme		AEP (100%)

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Required 7	Transmission Enhancements A	Annual Revenue Requirement	Responsible Customer(s)
	Expand the Allen station by		
1	installing a second 345/138 kV	V	
	transformer and adding four 1	38	
b1818	kV exits by cutting in the		
	Lincoln - Sterling and Milan -		
	Timber Switch 138 kV double		AEP (88.30%) / ATSI
	circuit tower line		(8.86%) / Dayton (2.84%)
	Rebuild the Robinson Park -		
	Sorenson 138 kV line corridor	r as	
b1819	a 345 kV double circuit line w	vith	
	one side operated at 345 kV at	nd	AEP (87.18%) / ATSI
	one side at 138 kV		(10.06%) / Dayton (2.76%)
	Perform a sag study for Hance	ock	
	- Cave Spring - Roanoke 138	kV	
	circuit to reach new SE rating	s	
b1859	of 272MVA (Cave Spring-		
	Hancock), 205MVA (Cave		
	Spring-Sunscape), 245MVA		
	(ROANO2-Sunscape)		AEP (100%)
	Perform a sag study on the		
	Crooksville - Spencer Ridge		
	section (14.3 miles) of the		
b1860	Crooksville-Poston-Strouds R	un	
	138 kV circuit to see if any		
	remedial action needed to read	ch	
	the SE rating (175MVA)		AEP (100%)
	Reconductor 0.83 miles of the		
b1861	Dale - West Canton 138 kV T	ie-	
01001	line and upgrade risers at Wes	st	
	Canton 138 kV		AEP (100%)
	Perform a sag study on the Gr	ant	
	- Greentown 138 kV circuit ar	nd	
b1862	replace the relay CT at Grant		
01002	138 kV station to see if any		
	remedial action needed to read	ch	
	the new ratings of 251/286MV	VA	AEP (100%)

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Required T	Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1863	Perform a sag study of the Kammer - Wayman SW 138 kV line to see if any remedia action needed to reach the new SE rating of 284MVA		AEP (100%)
b1864.1	Add two additional 345/138 kV transformers at Kammer		AEP (87.22%) / APS (8.22%) / ATSI (3.52%) / DL (1.04%)
b1864.2	Add second West Bellaire - Brues 138 kV circuit		AEP (87.22%) / APS (8.22%) / ATSI (3.52%) / DL (1.04%)
b1864.3	Replace Kammer 138 kV breaker 'E'		AEP (100%)
b1865	Perform a sag study on the Kanawha - Carbondale 138 kV line to see if any remedia action needed to reach the new ratings of 251/335MVA		AEP (100%)
b1866	Perform a sag study on the Clinch River-Lock Hart- Dorton 138kV line,increase the Relay Compliance Trip Limit at Clinch River on the C.RDorton 138kV line to 310 and upgrade the risers with 1590ACSR		AEP (100%)
b1867	Perform a sag study on the Newcomerstown - South Coshocton 138 kV line to se if any remedial action is needed to reach the new SE rating of 179MVA	e	AEP (100%)
b1868	Perform sag study on the East Lima - new Liberty 138 kV line to see if any remedia action is needed to reach the new SE rating of 219MVA	ıl	AEP (100%)

Required T	ransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
	Perform a sag study of the		
	Ohio Central - South		
b1869	Coshocton 138 kV circuit to		
01009	see if any remedial action		
	needed to reach the new SE		
	ratings of 250MVA		AEP (100%)
	Replace the Ohio Central		
	transformer #1 345/138/12		AEP (68.16%) / ATSI
b1870	kV 450 MVA for a		(25.27%) / Dayton (3.88%) /
	345/138/34.5 kV 675 MVA		PENELEC (1.59%) / DEOK
	transformer		(1.10%)
	Perform a sag study on the		
	Central - West Coshocton		
b1871	138 kV line (improving the		
	emergency rating of this line		
	to 254 MVA)		AEP (100%)
	Add a 57.6 MVAr capacitor		
b1872	bank at East Elkhart 138 kv		
	station in Indiana		AEP (100%)
	Install two 138 kV circuit		
	breakers at Cedar Creek		
b1873	Station and primary side		
	circuit switcher on the		
	138/69/46 kV transformer		AEP (100%)

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Required 7	Fransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
	Install two 138 kV circuit		
b1874	breakers and one 138 kV		
010/4	circuit switcher at Magely		
	138 kV station in Indiana		AEP (100%)
	Build 25 miles of new 138 k	V	
	line from Bradley Station		
	through Tower 117 Station		
b1875	and terminating at McClung		
01875	138 kV station. Existing 69		
	kV distribution transformers		
	will be replaced with 138 kV		
	transformers		AEP (100%)
	Install a 14.4 MVAr capacito	r	
b1876	bank at Capital Avenue		
01870	(AKA Currant Road) 34.5 kV	/	
	bus		AEP (100%)
	Relocate 138 kV Breaker G t	0	
b1877	the West Kingsport - Industry	У	
010//	Drive 138 kV line and		
	Remove 138 kV MOAB		AEP (100%)
	Perform a sag study on the		
	Lincoln - Robinson Park 138		
b1878	kV line (Improve the		
	emergency rating to 244		
	MVA)		AEP (100%)
	Perform a sag study on the		
	Hansonville - Meadowview		
b1879	138 kV line (Improve the		
	emergency rating to 245		
	MVA)		AEP (100%)
	Rebuild the 15 miles of the		
	Moseley - Roanoke 138 kV		
b1880	line. This project would		
01000	consist of rebuilding both		
	circuits on the double circuit		
*Nontuna	line		AEP (100%)

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Required '	Transmission Enhancements A	nnual Revenue Requirement	Responsible Customer(s)
	Replace existing 600 Amp		
	switches, station risers and		
	increase the CT ratios associate	d	
b1881	with breaker 'G' at Sterling 138		
	kV Station. It will increase the		
	rating to 296 MVA S/N and 384	1	
	MVĂ S/E		AEP (100%)
	Perform a sag study on the Bluf	f	
	Point - Randolf 138 kV line to		
b1882	see if any remedial action neede	d	
	to reach the new SE rating of 25	55	
	MVA		AEP (100%)
	Switch the breaker position of		
b1883	transformer #1 and SW Lima at		
	East Lima 345 kV bus		AEP (100%)
	Perform a sag study on Strawto	n	
	station - Fisher Body - Deer		
b1884	Creek 138 kV line to see if any		
	remedial action needed to reach		
	the new SE rating of 250 MVA		AEP (100%)
	Establish a new 138/69 kV sour	rce	
	at Carrollton and construct two		
b1887	new 69 kV lines from Carrollto	n	
01007	to tie into the Dennison - Miller		
	SW 69 kV line and to East Dov	er	
	69 kV station respectively		AEP (100%)
	Install a 69 kV line breaker at		
L1000	Blue Pennant 69 kV Station		
b1888	facing Bim Station and 14.4		
	MVAr capacitor bank		AEP (100%)

*Neptune Regional Transmission System, LLC <u>**East Coast Power, L.L.C.</u>

	l Revenue Requirement	Responsible Customer(s)
Install a 43.2 MVAR capacitor		
bank at Hinton 138 kV station		
(APCO WV)		AEP (100%)
Rebuild the Ohio Central - West		
Trinway (4.84 miles) section of		
the Academia - Ohio Central 138		
kV circuit. Upgrade the Ohio		
Central riser, Ohio Central switch		
and the West Trinway riser		AEP (100%)
Construct new 138/69 Michiana		
Station near Bridgman by tapping		
the new Carlisle - Main Street		
138 kV and the Bridgman -		
•		AEP (100%)
Establish a new 138/12 kV New		× /
Galien station by tapping the		
line		AEP (100%)
Retire the existing Galien station		
and move its distribution load to		
New Galien station. Retire the		
Buchanan Hydro - New Carlisile		
34.5 kV line		AEP (100%)
Implement an in and out scheme		
at Cook 69 kV by eliminating the		
Cook 69 kV tap point and by		
installing two new 69 kV circuit		
breakers		AEP (100%)
Rebuild the Bridgman - Cook 69		· · · · ·
kV and the Derby - Cook 69 kV		
lines		AEP (100%)
– West Bellaire 138 kV line		AEP (100%)
A sag study of the Dequine -		· · · · ·
Meadowlake 345 kV line #1 line		
may improve the emergency		
rating to 1400 MVA		AEP (100%)
	Install a 43.2 MVAR capacitor bank at Hinton 138 kV station (APCO WV) Rebuild the Ohio Central - West Trinway (4.84 miles) section of the Academia - Ohio Central 138 kV circuit. Upgrade the Ohio Central riser, Ohio Central switch and the West Trinway riser Construct new 138/69 Michiana Station near Bridgman by tapping the new Carlisle - Main Street 138 kV and the Bridgman - Buchanan Hydro 69 kV line Establish a new 138/12 kV New Galien station by tapping the Olive - Hickory Creek 138 kV line Retire the existing Galien station and move its distribution load to New Galien station. Retire the Buchanan Hydro - New Carlisile 34.5 kV line Implement an in and out scheme at Cook 69 kV by eliminating the Cook 69 kV tap point and by installing two new 69 kV circuit breakers Rebuild the Bridgman - Cook 69 kV and the Derby - Cook 69 kV lines Perform a sag study on the Brues – West Bellaire 138 kV line A sag study of the Dequine - Meadowlake 345 kV line #1 line may improve the emergency	Install a 43.2 MVAR capacitorbank at Hinton 138 kV station(APCO WV)Rebuild the Ohio Central - WestTrinway (4.84 miles) section ofthe Academia - Ohio Central 138kV circuit. Upgrade the OhioCentral riser, Ohio Central switchand the West Trinway riserConstruct new 138/69 MichianaStation near Bridgman by tappingthe new Carlisle - Main Street138 kV and the Bridgman -Buchanan Hydro 69 kV lineEstablish a new 138/12 kV NewGalien station by tapping theOlive - Hickory Creek 138 kVlineRetire the existing Galien stationand move its distribution load toNew Galien station. Retire theBuchanan Hydro - New Carlisile34.5 kV lineImplement an in and out schemeat Cook 69 kV by eliminating theCook 69 kV tap point and byinstalling two new 69 kV circuitbreakersRebuild the Bridgman - Cook 69kV and the Derby - Cook 69 kVlinesPerform a sag study on the Brues- West Bellaire 138 kV lineA sag study of the Dequine -Meadowlake 345 kV line #1 linemay improve the emergency

*Neptune Regional Transmission System, LLC

Required 7	Fransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
	Establish a new 765/345		
	interconnection at Sporn.		
b1948	Install a 765/345 kV		
01940	transformer at Mountaineer		ATSI (61.08%) / DL (21.87%)
	and build ³ / ₄ mile of 345 kV to		/ Dominion (13.97%) /
	Sporn		PENELEC (3.08%)
	Perform a sag study on the		
b1949	Grant Tap – Deer Creek 138		
01747	kV line and replace bus and		
	risers at Deer Creek station		AEP (100%)
	Perform a sag study on the		
b1950	Kammer – Ormet 138 kV line	•	
	of the conductor section		AEP (100%)
	Perform a sag study of the		
b1951	Maddox- Convoy 345 kV line		
01751	to improve the emergency		
	rating to 1400 MVA		AEP (100%)
	Perform a sag study of the		
b1952	Maddox – T130 345 kV line		
01752	to improve the emergency		
	rating to 1400 MVA		AEP (100%)
	Perform a sag study of the		
	Meadowlake - Olive 345 kV		
b1953	line to improve the		
	emergency rating to 1400		
	MVA		AEP (100%)
	Perform a sag study on the		
b1954	Milan - Harper 138 kV line		
01751	and replace bus and switches		
	at Milan Switch station		AEP (100%)
	Perform a sag study of the R-		
b1955	049 - Tillman 138 kV line		
01700	may improve the emergency		
	rating to 245 MVA		AEP (100%)

Required '	Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1956	Perform a sag study of the Tillman - Dawkins 138 kV line may improve the emergency rating to 245 MVA		AEP (100%)
b1957	Terminate Transformer #2 at SW Lima in a new bay position		AEP (69.41<u>69.66</u>%) / ATSI (<u>23.1123.19</u>%) / ECP** (<u>0.17%) / HTP (0.19%) /</u> PENELEC (<u>2.422.43</u>%) / PSEG (<u>4.524.54</u>%) / RE (0.18%)
b1958	Perform a sag study on the Brookside - Howard 138 kV line and replace bus and riser at AEP Howard station	s	AEP (100%)
b1960	Sag Study on 7.2 miles SE Canton-Canton Central 138kV ckt		AEP (100%)
b1961	Sag study on the Southeast Canton – Sunnyside 138kV line		AEP (100%)

*Neptune Regional Transmission System, LLC <u>**East Coast Power, L.L.C.</u>

Required 7	Transmission Enhancements A	nnual Revenue Requirement	Responsible Customer(s)
b1962	Add four 765 kV breakers at Kammer		AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%)
b1963	Build approximately 1 mile of circuit comprising of 2-954 ACSR to get the rating of Waterford-Muskinum 345 kV higher		AEP (100%)
b1970	Reconductor 13 miles of the Kammer – West Bellaire 345kV circuit		APS (33.5133.58%) / ATSI (32.2132.28%) / DL (18.6418.68%) / Dominion (6.016.02%) / ECP** (0.10%) / HTP (0.11%) / JCPL (1.68%) / Neptune* (0.18%) / PENELEC (4.584.59%) / PSEG (2.872.88%) / RE (0.11%)
b1971	Perform a sag study to improve the emergency rating on the Bridgville – Chandlersville 138 kV line		AEP (100%)
b1972	Replace disconnect switch on the South Canton 765/345 kV transformer		AEP (100%)
*Neptune **East	Regional Transmission System Coast	, LLC Power,	L.L.C.
Last	Coast	rowel,	L.L.C.

Required 7	Transmission Enhancements A	Annual Revenue Requirement	Responsible Customer(s)
b1973	Perform a sag study to improve the emergency rating on the Carrollton – Sunnyside 138 kV line		AEP (100%)
b1974	Perform a sag study to improve the emergency rating on the Bethel Church – West Dover 138 kV line		AEP (100%)
b1975	Replace a switch at South Millersburg switch station		AEP (100%)
b2017	Reconductor or rebuild Sporn - Waterford - Muskingum River 345 kV line		ATSI (37.0437.10 %) / AEP (34.3534.41 %) / DL (10.4110.43 %) / Dominion (6.196.20 %) / APS (3.943.95 %) / PENELEC (3.093.10 %) / JCPL (1.39%) / Dayton (1.20%) / Neptune* (0.14%) / HTP (0.09%) / <u>ECP** (0.08%)</u> / PSEG (2.00%) / RE (0.08%)
b2018	Loop Conesville - Bixby 345 kV circuit into Ohio Central		ATSI (58.58%) / AEP (14.16%) / APS (12.88%) / DL (7.93%) / PENELEC (5.73%) / Dayton (0.72%)
b2019	Establish Burger 345/138 kV station		AEP (93.74%) / APS (4.40%) / DL (1.11%) / ATSI (0.74%) / PENELEC (0.01%)
b2020	Rebuild Amos - Kanawah River 138 kV corridor		AEP (88.39%) / APS (7.12%) / ATSI (2.89%) / DEOK (1.58%) / PEPCO (0.02%)
b2021	Add 345/138 transformer at Sporn, Kanawah River & Muskingum River stations		AEP (91.92%) / DEOK (3.60%) / APS (2.19%) / ATSI (1.14%) / DL (1.08%) / PEPCO (0.04%) / BGE (0.03%)
b2021.1	Replace Kanawah 138 kV breaker 'L'		AEP (100%)

b2021.2	Replace Muskingum 138 kV	
02021.2	breaker 'HG'	AEP (100%)

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Required Tra	ansmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2021.3	Replace Muskingum 138 kV breaker 'HJ'		AEP (100%)
b2021.4	Replace Muskingum 138 kV breaker 'HE'		AEP (100%)
b2021.5	Replace Muskingum 138 kV breaker 'HD'		AEP (100%)
b2021.6	Replace Muskingum 138 kV breaker 'HF'		AEP (100%)
b2021.7	Replace Muskingum 138 kV breaker 'HC'		AEP (100%)
b2021.8	Replace Sporn 138 kV breaker 'D1'		AEP (100%)
b2021.9	Replace Sporn 138 kV breaker 'D2'		AEP (100%)
b2021.10	Replace Sporn 138 kV breaker 'F1'		AEP (100%)
b2021.11	Replace Sporn 138 kV breaker 'F2'		AEP (100%)
b2021.12	Replace Sporn 138 kV breaker 'G'		AEP (100%)
b2021.13	Replace Sporn 138 kV breaker 'G2'		AEP (100%)
b2021.14	Replace Sporn 138 kV breaker 'N1'		AEP (100%)
b2021.15	Replace Kanawah 138 kV breaker 'M'		AEP (100%)
b2022	Terminate Tristate - Kyger Creek 345 kV line at Spor		AEP (97.99%) / DEOK (2.01%)
b2027	Perform a sag study of the Tidd - Collier 345 kV line		AEP (100%)

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

Required	Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2028	Perform a sag study on East Lima - North Woodcock 138		
b2029	kV line to improve the rating Perform a sag study on Bluebell - Canton Central 13		AEP (100%)
1 2020	kV line to improve the rating Install 345 kV circuit		AEP (100%)
b2030	breakers at West Bellaire Sag study on Tilton - W.		AEP (100%)
b2031	Bellaire section 1 (795 ACSR), about 12 miles		AEP (100%)
b2032	Rebuild 138 kV Elliot tap - Poston line		ATSI (73.02%) / Dayton (19.39%) / DL (7.59%)
b2033	Perform a sag study of the Brues - W. Bellaire 138 kV line		AEP (100%)
b2046	Adjust tap settings for Muskingum River transformers		AEP (100%)
b2047	Replace relay at Greenlawn		AEP (100%)
b2048	Replace both 345/138 kV transformers with one bigger transformer		AEP (92.49%) / Dayton (7.51%)
b2049	Replace relay		AEP (100%)
b2050	Perform sag study		AEP (100%)
b2051	Install 3 138 kV breakers and a circuit switcher at Dorton station		AEP (100%)
b2052	Replace transformer		AEP (67.17%) / ATSI (27.37%) / Dayton (3.73%) / PENELEC (1.73%)
b2054	Perform a sag study of Sporn - Rutland 138 kV line		AEP (100%)

*Neptune Regional Transmission System, LLC

Required		Annual Revenue Requirement	Responsible Customer(s)
b2069	Replace George Washington 138 kV breaker 'A' with 63kA		
	rated breaker		AEP (100%)
	Replace Harrison 138 kV		
b2070	breaker '6C' with 63kA rated		
	breaker		AEP (100%)
	Replace Lincoln 138 kV		
b2071	breaker 'L' with 63kA rated		
	breaker		AEP (100%)
	Replace Natrum 138 kV		
b2072	breaker 'I' with 63kA rated		
	breaker		AEP (100%)
	Replace Darrah 138 kV		
b2073	breaker 'B' with 63kA rated		
	breaker		AEP (100%)
	Replace Wyoming 138 kV		
b2074	breaker 'G' with 80kA rated		
	breaker		AEP (100%)
	Replace Wyoming 138 kV		
b2075	breaker 'G1' with 80kA rated		
	breaker		AEP (100%)
1.00-	Replace Wyoming 138 kV		
b2076	breaker 'G2' with 80kA rated		
	breaker		AEP (100%)
1 2077	Replace Wyoming 138 kV		
b2077	breaker 'H' with 80kA rated		
	breaker		AEP (100%)
1 2070	Replace Wyoming 138 kV		
b2078	breaker 'H1' with 80kA rated		
	breaker		AEP (100%)
1.2070	Replace Wyoming 138 kV		
b2079	breaker 'H2' with 80kA rated		
	breaker		AEP (100%)
1-2000	Replace Wyoming 138 kV		
b2080	breaker 'J' with 80kA rated		
	breaker		AEP (100%)

*Neptune Regional Transmission System, LLC

Required	Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
	Replace Wyoming 138 kV		
b2081	breaker 'J1' with 80kA rated		
	breaker		AEP (100%)
	Replace Wyoming 138 kV		
b2082	breaker 'J2' with 80kA rated		
	breaker		AEP (100%)
	Replace Natrum 138 kV		
b2083	breaker 'K' with 63kA rated		
	breaker		AEP (100%)
	Replace Tanner Creek 345		
b2084	kV breaker 'P' with 63kA		
	rated breaker		AEP (100%)
	Replace Tanner Creek 345		
b2085	kV breaker 'P2' with 63kA		
	rated breaker		AEP (100%)
	Replace Tanner Creek 345		
b2086	kV breaker 'Q1' with 63kA		
	rated breaker		AEP (100%)
	Replace South Bend 138 kV		
b2087	breaker 'T' with 63kA rated		
	breaker		AEP (100%)
1.2000	Replace Tidd 138 kV breake	er	
b2088	'L' with 63kA rated breaker		AEP (100%)
1 2000	Replace Tidd 138 kV breake	er	
b2089	'M2' with 63kA rated breake		AEP (100%)
	Replace McKinley 138 kV		
b2090	breaker 'A' with 40kA rated		
	breaker		AEP (100%)
	Replace West Lima 138 kV		
b2091	breaker 'M' with 63kA rated		
	breaker		AEP (100%)
	Replace George Washington	1	
b2092	138 kV breaker 'B' with 63k		
3 2072	rated breaker		AEP (100%)

*Neptune Regional Transmission System, LLC

Required 7	Fransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
	Replace Turner 138 kV		
b2093	breaker 'W' with 63kA rated		
	breaker		AEP (100%)
	Build a new 138 kV line from	1	
	Falling Branch to Merrimac		
b2135	and add a 138/69 kV		
	transformer at Merrimac		
	Station		AEP (100%)
	Add a fourth circuit breaker		
	to the station being built for		
b2160	the U4-038 project		
02100	(Conelley), rebuild U4-038 -		
	Grant Tap line as double		
	circuit tower line		AEP (100%)
	Rebuild approximately 20		
	miles of the Allen - S073		
	double circuit 138 kV line		
b2161	(with one circuit from Allen -	-	
02101	Tillman - Timber Switch -		
	S073 and the other circuit		
	from Allen - T-131 - S073)		
	utilizing 1033 ACSR		AEP (100%)
	Perform a sag study to		
b2162	improve the emergency rating	5	
	of the Belpre - Degussa 138		
	kV line		AEP (100%)
b2163	Replace breaker and wavetrage	p	
02103	at Jay 138 kV station		AEP (100%)

*Neptune Regional Transmission System, LLC <u>**East Coast Power, L.L.C.</u>

SCHEDULE 12 – APPENDIX

(23) American Transmission Systems, Inc.

Required T	ransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1190	Reconductor Lemonyne – Maclean 138 kV circuit with 954 ACSS conductor		ATSI (100%)
b1191	Replace the Shenango – Crossland 138 kV circuit #2 meter with a higher rated meter		ATSI (100%)
b1192	Reconductor the Bayshore -Chevy 138 kV circuit with 636 ACSS conductor		ATSI (100%)
b1193	Replace the Hanna –East Akron 138 kV 800 Amp wavetrap with a 1200 Amp wavetrap		ATSI (100%)
b1194	Replace substation conductor on GM powertrain 138 kV line exit (replace 636 ACSR with 1590 AAC or ACSR)		ATSI (100%)
b1229	Replace the circuit terminal and sections of substation bus conductor at Shenango 138 kV substation		ATSI (100%)
b1281	Build new Hayes 345/138 kV substation with new 138 kV lines to: Greenfield #1, Greenfield #2, and Avery		ATSI (100%)
b1281.1	Replace Greenfield 138 kV breaker '501-B-1'		ATSI (100%)
b1281.2	Replace Greenfield 138 kV breaker '501-B-21'		ATSI (100%)
b1281.3	Replace Greenfield 138 kV breaker '501-B-227'		ATSI (100%)
b1281.4	Replace Greenfield 138 kV breaker '501-B-23'		ATSI (100%)

b1281.5	Replace Greenfield 138 kV breaker '501-B-242'		ATSI (100%)
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Required T	ransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1281.6	Replace Greenfield 138 kV breaker '501-B-36'		ATSI (100%)
b1281.7	Replace Greenfield 138 kV breaker '501-B-38'		ATSI (100%)
b1281.8	Replace Greenfield 138 kV breaker '501-B-40'		ATSI (100%)
b1282	Build Beaver - Hayes - Davis - Besse #2 345 kV line		ATSI (100%)
b1283	Loop the Chamberlin - Mansfield 345 kV line into the Hanna 345 kV substation		ATSI (100%)
b1284	Install 50.0 MVAR capacitor bank at the Lime City 138 kV Substation		ATSI (100%)
b1285	Replace Barberton Star 138 kV #1 wavetrap, CFZ relay, and line exit conductor at Barberton		ATSI (100%)

Required T	ransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1286	Reconductor Hanna - W. Ravenna 138 kV #1		ATSI (100%)
b1287	Reconductor Hanna - W. Ravenna 138 kV #2		ATSI (100%)
b1288	Replace Masury - Crossland 138 kV terminal equipment at Masury		ATSI (100%)
b1289	Reconductor Evergreen - Niles 138 kV (3 miles) and replace terminal equipment at Evergreen on Evergreen - Niles 138 kV		ATSI (100%)
b1290	Build new Niles - Salt Springs #2 138 kV with 795 ACSR		ATSI (100%)
b1291	Replace substation equipment at Eastlake on the Q-12 138 kV line ext		ATSI (100%)
b1292	Replace substation equipment at Eastlake on the Q-13 138 kV line exit		ATSI (100%)
b1293	Replace substation equipment at the Tangy sub on the E. Springfield - Tangy line		ATSI (100%)
b1294	Modify the Brookside - Longview #2 138 kV CT ratio and correct the design temperature		ATSI (100%)
b1295.1	Modify the Brookside - Longview #1 138 kV CT ratio + correct the design temperature (Longview - Madison)		ATSI (100%)
b1295.2	Modify the Brookside - Longview #1 138 kV CT ratio + correct the design temperature (Brookside - Madison)		ATSI (100%)

Required T	ransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1296.1	Reconductor BG line exit conductor at Lemoyne Sub		ATSI (100%)
b1296.2	Change the CT ratio at Lemoyne B13213 towards Brim Tap to increase line loadability		ATSI (100%)
b1297	Install a new Fulton 345/138 kV substation		ATSI (100%)
b1299	Add SCADA control and motor operators to switches 13153 and 13154 near Silica		ATSI (100%)
b1341	Install a 25 MVAR cap bank at Airpark 138 kV substation		ATSI (100%)
b1342	Install a 50 MVAR cap bank at Sharon 138 kV substation		ATSI (100%)
b1547	Reconductor the Lakeview Greenfield 138 kV line Replace 4/0 Cu with 336.4 ACSR, maintain 6-wire arrangement		ATSI (100%)
b1548	Reconductor the Ottawa Lakeview 138 kV line Replace 4/0 Cu with 336.4 ACSR, maintain 6-wire arrangement		ATSI (100%)
b1585	Galion-GM Mansfield-Longview 138 kV line: Bypass GM Mansfield substation		ATSI (100%)
b1586	Change the relay setting limit		ATSI (100%)
b1587	Build a new Mansfield 69 kV Switching Station networking Leaside, Longview, and Galion Subs @ existing Alta 69 kV Sub Site		APS (0.56%) / ATSI (97.56%) / PENELEC (1.13%) / DL (0.75%)

Required T	ransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1611	Replace Avon Lake 138 kV breaker '10-B-9'		ATSI (100%)
b1612	Replace Pleasant Valley 138 kV breaker '194-B-7'		ATSI (100%)
b1613	Replace Brady 138 kV breaker '1003-B-6'		ATSI (100%)
b1614	Replace Brady 138 kV breaker '36-B-56'		ATSI (100%)
b1615	Replace East Akron 138 kV breaker '36-B-40'		ATSI (100%)
b1616	Replace East Akron 138 kV breaker '36-B-45'		ATSI (100%)
b1617	Replace Greenfield 138 kV breaker '501-B-68'		ATSI (100%)
b1618	Replace Masury 138 kV breaker '103-B-118'		ATSI (100%)
b1619	Replace Roberts 138 kV breaker '601-B-26'		ATSI (100%)
b1620	Replace Roberts 138 kV breaker '601-B-113'		ATSI (100%)
b1621	Replace Roberts 138 kV breaker '601-B-13'		ATSI (100%)
b1622	Replace Sammis 138 kV breaker '780-B-44'		ATSI (100%)
b1623	Replace Sammis 138 kV breaker '780-B-45'		ATSI (100%)

Required T	ransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1624	Replace Sammis 138 kV breaker '780-B-9'		ATSI (100%)
b1625	Replace Sammis 138 kV breaker '780-B-75'		ATSI (100%)
b1626	Revise the reclosing of Eastlake 138 kV breaker '46- B-36'		ATSI (100%)
b1627	Revise the reclosing of Eastlake 138 kV breaker '46- B-35'		ATSI (100%)
b1628	Revise the reclosing of Eastlake 138 kV breaker '46- B-31'		ATSI (100%)
b1629	Revise the reclosing of Eastlake 138 kV breaker '46- B-34'		ATSI (100%)
b1630	Revise the reclosing of Eastlake 138 kV breaker '46- B-21'		ATSI (100%)
b1631	Revise the reclosing of Eastlake 138 kV breaker '46- B-27'		ATSI (100%)
b1632	Revise the reclosing of Eastlake 138 kV breaker '46- B-18'		ATSI (100%)
b1633	Revise the reclosing of Eastlake 138 kV breaker '46- B-24'		ATSI (100%)
b1634	Revise the reclosing of Eastlake 138 kV breaker '46- B-33'		ATSI (100%)
b1635	Revise the reclosing of Eastlake 138 kV breaker '46- B-32'		ATSI (100%)
b1636	Revise the reclosing of Fowles 138 kV breaker '64- B-9'		ATSI (100%)

Required T	ransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1637	Revise reclosing of Pleasant Valley 138 kV breaker '194- B-5'		ATSI (100%)
b1638	Revise the reclosing of Bluebell 138 kV breaker '301-B-9'		ATSI (100%)
b1639	Revise the reclosing of Bluebell 138 kV breaker '301-B-8'		ATSI (100%)
b1640	Revise the reclosing of East Akron 138 kV breaker '36- B-22'		ATSI (100%)
b1691	Install a new Bluebell - S. Akron 138 kV circuit		ATSI (100%)
b1691.1	Un-six wire sections of E. Akron - Knox 138 kV		ATSI (100%)
b1691.2	Un-six wire sections of Bluebell - C. Central 138 kV		ATSI (100%)
b1691.3	Reconductor approximately 5.5 miles of ACSR with ACSS conductor from Bluebell to start of 6-wire sections		ATSI (100%)
b1691.4	Create Bluebell - South Akron 138 kV line with new connections		ATSI (100%)
b1691.5	Replace 250 Cu and 336.4 ACSR with 954 ACSR SSCIR at Bluebell		ATSI (100%)
b1691.6	Replace Relays at Bluebell and add line breaker at tap to Alliance Castings		ATSI (100%)
b1692	Loop in E. Akron - Sammis 138 kV line and expand Knox to 6 breaker ring bus		ATSI (100%)

ancements	Annual Revenue Requir

Required T	Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1693	Replace the Star 345/138 kV #3 with a larger unit		ATSI (100%)
b1732	Create Brookside - Reedsburg - Longview 138 kV line and open Burger - Cloverdale #2 and #3 138 kV lines		ATSI (100%)
b1771	Perform reconfiguration at Richland 138kV that will permit the removal of the existing Richland SPS		ATSI (100%)
b1814	Replace Pleasant Valley 138 kV breaker 194-B-3		ATSI (100%)
b1815	Replace West Ravena 138 kV breaker 59-B-15		ATSI (100%)
b1820	Replace the Ironville 138 kV breaker '33-B-13208'		ATSI (100%)
b1913	Convert Eastlake units 1, 2, 3, 4 and 5 to synchronous condensers		ATSI (100%)
b1914	Convert Lakeshore 18 to a synchronous condenser		ATSI (100%)
b1915	Install a 50 MVAR capacitor bank at the Maclean 138 kV station		ATSI (100%)
b1916	Install a 345/138 kV transformer at the Inland Q- 11 station		ATSI (100%)
b1917	Install a 138 kV circuit breaker at the Inland Q-11 station		ATSI (100%)

Required T	ransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1918	Upgrade terminal equipment on the Avon – Crestwood 138 kV line and reconductor 2 spans		ATSI (100%)
b1919	Re-conductor the Galion – Leaside 138 kV line with 336 ACSS		ATSI (100%)
b1920	Re-conductor the Galion – GM Mansfield – Ontario - Cairns 138 kV line with 477 ACSS		ATSI (94.47%) / DL (2.90%) / PENELEC (2.63%)
b1921	Install a 2nd 345/138 kV transformer at the Allen Junction station		ATSI (100%)
b1921.1	Replace Allen Junction 345 kV breaker 'MECS/TR1:3' with 40kA breaker		ATSI (100%)
b1921.2	Replace Allen Junction 345 kV breaker 'MIDWAY/MECS' with 40kA breaker		ATSI (100%)
b1921.3	Replace Allen Junction 345 kV breaker 'MIDWAY/TR1' with 40kA breaker		ATSI (100%)
b1922	Install a 2nd 345/138 kV transformer at the Bayshore station		ATSI (100%)
b1923	Create a new Northfield Area 345 kV switching station by looping in the Eastlake – Juniper 345 kV line and the Perry - Inland 345 kV line		ATSI (100%)

Required T	ransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1924	Build a new Mansfield - Northfield Area 345 kV line		ATSI (100%)
b1925	Create a new Harmon 345/138/69 kV substation by looping in the Star – South Canton 345 kV line		ATSI (100%)
b1925.1	Replace Bluebell 138 kV breaker '301-B-15' with 40kA breaker		ATSI (100%)
b1926	Build a new Harmon – Brookside + Harmon - Longview 138 kV line		ATSI (100%)
b1926.1	Replace Longview 138 kV breaker '651-B-219' with 40kA breaker		ATSI (100%)
b1926.2	Replace Longview 138 kV breaker '651-B-32' with 40kA breaker		ATSI (100%)
b1927	Create a new Five Points Area 345/138 kV substation by looping in the Lemoyne – Midway 345 kV line		ATSI (100%)
b1928	Install a 50 MVAR capacitor at Hayes 138 kV		ATSI (100%)
b1929	Install a 138/69 kV transformer at the Avery station		ATSI (100%)
b1930	Increase design temperature limitation on the Avery – Hayes 138 kV line by raising the existing structures		ATSI (100%)
b1931	Reconductor Cloverdale - Harmon #2 and #3 138 kV lines with 795 ACSS or greater conductor 6 miles total + Terminal upgrades		ATSI (100%)
b1932	Change the transformer tap settings on the Maclean 138/69 kV transformers		ATSI (100%)

Required T	ransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1933	Replace 336.4 ACSR SCCIR at Richland to upgrade the Richland – Naomi 138 kV line		ATSI (100%)
b1934	Build a new 345/138 kV Substation at Niles		ATSI (100%)
b1934.1	Loop 1.2 miles of 345 kV into substation of the Highland – Shenango 345 kV line		ATSI (100%)
b1934.2	New 345/138 kV transformer at Niles		ATSI (100%)
b1934.3	Replace Niles 138 kV breaker '170-B-11' with 63kA breaker		ATSI (100%)
b1934.4	Replace Niles 138 kV breaker '170-B-19' with 63kA breaker		ATSI (100%)
b1934.5	Replace Niles 138 kV breaker '170-B-20' with 63kA breaker		ATSI (100%)
b1934.6	Replace Niles 138 kV breaker '170-B-9' with 63kA breaker		ATSI (100%)
b1934.7	Replace Niles 138 kV breaker '170-B-97' with 63kA breaker		ATSI (100%)
b1934.8	Replace Niles 138 kV breaker '170-B-16' with 63kA breaker		ATSI (100%)
b1934.9	Replace Niles 138 kV breaker '170-B-18' with 63kA breaker		ATSI (100%)
b1934.10	Replace Niles 138 kV breaker '170-B-10' with 63kA breaker		ATSI (100%)
b1934.11	Replace Salt Springs 138 kV breaker '105-B-2' with 63kA breaker		ATSI (100%)

Required T	ransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1934.12	Replace Salt Springs 138 kV breaker 'Bay' with 63kA breaker		ATSI (100%)
b1934.13	Replace Salt Springs 138 kV breaker '105-B-40' with 63kA breaker		ATSI (100%)
b1934.14	Replace Salt Springs 138 kV breaker '105-B-42' with 63kA breaker		ATSI (100%)
b1934.15	Replace Salt Springs 138 kV breaker '105-B-45' with 63kA breaker		ATSI (100%)
b1934.16	Replace Salt Springs 138 kV breaker '105-B-56' with 63kA breaker		ATSI (100%)
b1934.17	Replace Salt Springs 138 kV breaker '105-B-58' with 63kA breaker		ATSI (100%)
b1934.18	Replace Salt Springs 138 kV breaker '105-B-170' with 63kA breaker		ATSI (100%)
b1934.19	Replace Salt Springs 138 kV breaker '105-B-192' with 63kA breaker		ATSI (100%)
b1934.20	Replace Wickliffe 138 kV breaker '144-B-103' with 40kA breaker		ATSI (100%)
b1934.21	Revise the reclosing of Evergreen 138 kV breaker '802-B-93'		ATSI (100%)
b1934.22	Revise the reclosing of Evergreen 138 kV breaker '2801-B-16'		ATSI (100%)
b1934.23	Revise the reclosing of Evergreen 138 kV breaker '2801-B-20'		ATSI (100%)
b1934.24	Revise the reclosing of Evergreen 138 kV breaker '2801-B-21'		ATSI (100%)

Required Tr	ansmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1934.25	Revise the reclosing of Evergreen 138 kV breaker '2801-B-65'		ATSI (100%)
b1934.26	Revise the reclosing of Evergreen 138 kV breaker '2801-B-6'		ATSI (100%)
b1935	ATSI-AEP 138 kV Substation (Brubaker) on near territory border + 138 kV from new substation to Longview approx. 8 miles		ATSI (94.90%) / DL (2.97) / PENELEC (2.13%)
b1935.1	Revise the reclosing of Brookside 138 kV breaker '701-B-128'		ATSI (100%)
b1935.2	Revise the reclosing of Brookside 138 kV breaker '701-B-135'		ATSI (100%)
b1935.3	Revise the reclosing of Brookside 138 kV breaker '701-B-206'		ATSI (100%)
b1935.4	Revise the reclosing of Brookside 138 kV breaker '701-B-28'		ATSI (100%)
b1935.5	Revise the reclosing of Brookside 138 kV breaker '701-B-3'		ATSI (100%)
b1935.6	Revise the reclosing of Brookside 138 kV breaker '701-B-30'		ATSI (100%)
b1935.7	Revise the reclosing of Brookside 138 kV breaker '701-B-31'		ATSI (100%)
b1935.8	Revise the reclosing of Brookside 138 kV breaker '701-B-36'		ATSI (100%)
b1935.9	Revise the reclosing of Brookside 138 kV breaker '701-B-40'		ATSI (100%)
b1935.10	Revise the reclosing of Brookside 138 kV breaker '701-B-7'		ATSI (100%)

Required T	ransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1936	Build new Allen Jct - Midway - Lemonye 345 kV line (48 miles of open tower position)		ATSI (100%)
b1937	Build a new Leroy Center 345/138 kV substation by looping in the Perry – Harding 345 kV line		ATSI (100%)
b1938	Place a portion of the 138 kV Leroy Center 345/138 kV project into service by summer 2015		ATSI (100%)
b1939	Reconductor the Barberton – West Akron 138 kV line with 477 ACSS or greater (7.3 miles) + Terminal upgrades at Barberton		ATSI (100%)
b1959	Build a new West Fremont- Groton-Hayes 138kV line		APS (4.24%) / ATSI (87.76%) / DL (4.27%) / PENELEC (3.73%)
b1976	Reconductor ATSI portion of South Canton – Harmon 345 kV line		ATSI (88.7789.00 %) / <u>ECP** (0.12%) / HTP</u> (0.14%) / JCPL (1.24%) / Neptune* (0.13%) / PENELEC (6.546.56%) / PSEG (2.942.95%) / RE (0.12%)
b1977	Build new Toronto 345/138 kV substation by looping in the Sammis – Wylie Ridge 345 kV line and tie in four 138 kV lines		APS (7.03%) / ATSI (88.08%) / DL (0.81%) / PENELEC (4.08%)
b1977.1	Build a new Toronto- Harmon 345kV line		APS (7.03%) / ATSI (88.08%) / DL (0.81%) / PENELEC (4.08%)
b1978	Reconductor Inland – Clinic Health Q-11 138 kV line		ATSI (100%)

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

Required T	ransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1981	Replace relay on the Highland – G689 138 kV line		ATSI (100%)
b1982	Reconductor the Hoytdale – Newcastle 138 kV lines #1 and #2 with 795 ACSS		ATSI (100%)
b1983	Add 150 MVAR SVC and a 100 MVAR capacitor at New Castle		ATSI (100%)
b1984	Install a 50 MVAR capacitor at the Boardman 138 kV bus		ATSI (100%)
b2042	Add (6) 138 kV breakers + relaying at Leroy Center		ATSI (100%)
b2059	Replace Bluebell 138 kV breaker '301-B-11' with 40kA breaker		ATSI (100%)
b2060	Replace Bluebell 138 kV breaker '301-B-9' with 40kA breaker		ATSI (100%)
b2061	Replace Bluebell 138 kV breaker '301-B-187' with 40kA breaker		ATSI (100%)
b2062	Replace Bluebell 138 kV breaker '301-B-206' with 40kA breaker		ATSI (100%)
b2063	Replace Bluebell 138 kV breaker '301-B-10' with 40kA breaker		ATSI (100%)
b2064	Replace Knox 138 kV breaker '307-B-10' with 40kA breaker		ATSI (100%)

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

SCHEDULE 12 – APPENDIX A

(2) Baltimore Gas and Electric Company

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

Baltimore Gas and Electric Company (cont.)

Require 1		Annual Revenue Requirement	Responsible Customer(s)
	Install a tie breaker at		
b2396.1	Mays Chapel 115 kV		BGE (100%)
	substation		
	Upgrade the Riverside		
	115kV substation strain		
	bus conductors on		
	circuits 115012 and		
b2567	115011 with double		BGE (100%)
	bundled 1272 ACSR to		
	achieve ratings of		
	491/577 MVA SN/SE on		
	both transformer leads		
	Reconductor Northwest -		
	Northwest #2 115kV		
b2568	110574 substation tie		BGE (100%)
02308	circuit with 2167 ACSR		BGE (100%)
	to achieve ratings of		
	400/462 MVA SN/SE		
	Conastone 230 kV		AEP (6.46%) / APS
	substation tie-in work		(8.74%) / BGE (19.74%) /
	(install a new circuit		ComEd (2.16%) / Dayton
b2752.6	breaker at Conastone		(0.59%) / DEOK (1.02%) /
02132.0	230 kV and upgrade any		DL (0.01%) / Delok (1.02%) /
	required terminal		(39.95%) / EKPC (0.45%) /
	equipment to terminate		PEPCO (20.88%)
	the new circuit)		. ,
			AEP (6.46%) / APS
	Reconductor/Rebuild the		(8.74%) / BGE (19.74%) /
	two Conastone –		ComEd (2.16%) / Dayton
b2752.7	Northwest 230 kV lines		(0.59%) / DEOK (1.02%) /
	and upgrade terminal		DL (0.01%) / Dominion
	equipment on both ends		(39.95%) / EKPC (0.45%) /
			PEPCO (20.88%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Baltimore Gas and Electric Company (cont.)

Required T	Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
			Load-Ratio Share
			Allocation:
			AEC (1.66%) / AEP
			(14.16%) / APS (5.73%) /
			ATSI (7.88%) / BGE
			(4.22%) / ComEd (13.31%)
			/ Dayton (2.11%) / DEOK
			(3.29%) / DL (1.75%) /
			DPL (2.50%) / Dominion
			(12.86%) / EKPC (1.87%) /
			JCPL (3.74%) / ME
			(1.90%) / NEPTUNE*
			(0.44%) / PECO (5.34%) /
			PENELEC (1.89%) /
			PEPCO (3.99%) / PPL
	Upgrade substation		(4.84%) / PSEG (6.26%) /
	equipment at Conastone		RE (0.26%)
b2766.1	500 kV to increase		
	facility rating to 2826		DFAX Allocation:
	MVA normal and 3525		AEC (0.05%) / APS
	MVA emergency		(11.1611.40%) / BGE
			$(\frac{22.3422.83\%}{22.3422.83\%})$ / Dayton
			(2.18 2.23%) / -DEOK
			(4.194.28%) / DPL (0.20%)
			<u>→ ECP** (1.03%)</u> / EKPC
			(1.94 1.98%) / JCPL
			(10.82 11.06%)/
			NEPTUNE* (<u>1.141.17%</u>) /
			HTP*** (1.10%)/
			POSEIDON****
			(0.63 0.64%) / PENELEC
			(0.06%) / PEPECO
			(18.97 19.38%) / PSEG
			(23.26 23.77%) / RECO
			(0.93<u>0.95</u>%)

*Neptune Regional Transmission System, LLC <u>** East Coast Power, LLC</u> <u>***Hudson Transmission Partners, LLC</u> ****Poseidon Transmission 1, LLC

SCHEDULE 12 – APPENDIX A

(8) **PECO Energy Company**

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

Required Tr	ransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2550	Replace terminal equipment inside Nottingham substation on the 220-05 (Nottingham – Daleville- Bradford) 230 kV line		PECO (100%)
b2551	Replace terminal equipment inside Llanerch substation on the 130-45 (Eddystone to Llanerch) 138 kV line		PECO (100%)
b2572	Replace the Peach Bottom 500 kV '#225' breaker with a 63kA breaker		PECO (100%)
b2694	Increase ratings of Peach Bottom 500/230 kV transformer to 1479 MVA normal/1839 MVA emergency		AEC (3.974.04%)/AEP (5.775.87%)/APS (4.274.34%)/ATSI (6.156.25%)/BGE (1.631.66%)/ComEd (0.720.73%)/Dayton (1.061.08%)/DEOK (1.972.01%)/DL (2.252.29%) /Dominion (0.35%)/DPL (14.2914.53%)/ECP (0.69%)/ EKPC (0.390.40%)/_HTP (0.96%)/JCPL (6.846.95%)/ MetEd (3.283.34%)/Neptune (2.142.18%)/PECO (16.4216.69%)/PENELEC (3.944.01%)/PPL (8.328.46%)/PSEG (14.1314.37%)/RECO (0.440.45%)
b2752.2	Tie in new Furnace Run substation to Peach Bottom – TMI 500 kV		AEP (6.46%) / APS (8.74%) / BGE (19.74%) / ComEd (2.16%) / Dayton (0.59%) / DEOK (1.02%) / DL (0.01%) / Dominion (39.95%) / EKPC (0.45%) / PEPCO (20.88%)
b2752.3	Upgrade terminal equipment and required relay communication at		AEP (6.46%) / APS (8.74%) / BGE (19.74%) / ComEd (2.16%) / Dayton (0.59%) /

Peach Bottom 500 kV: on	DEOK (1.02%) / DL (0.01%) /
the Beach Bottom – TMI	Dominion (39.95%) / EKPC
500 kV circuit	(0.45%) / PEPCO (20.88%)

Required T	ransmission Enhancements	Annual Revenue Requirem	ent Responsible Customer(s)
			Load-Ratio Share Allocation:
			AEC (1.66%) / AEP (14.16%)
			/ APS (5.73%) / ATSI (7.88%)
			/ BGE (4.22%) / ComEd
			(13.31%) / Dayton (2.11%) /
			DEOK (3.29%) / DL (1.75%) /
			DPL (2.50%) / Dominion
			(12.86%) / EKPC (1.87%) /
			JCPL (3.74%) / ME (1.90%) /
			NEPTUNE* (0.44%) / PECO
			(5.34%) / PENELEC (1.89%) /
			PEPCO (3.99%) / PPL (4.84%)
	Upgrade substation		/ PSEG (6.26%) / RE (0.26%)
	equipment at Peach		DFAX Allocation:
b2766.2	Bottom 500 kV to		AEC (0.05%) / APS
1	increase facility rating to		
	2826 MVA normal and		$(\frac{11.1611.40}{0}) / BGE$
	3525 MVA emergency		(22.34<u>22.83</u>%) / Dayton (<u>2.18</u>2.23%) / -DEOK
			· /
			(4.194.28%) / DPL (0.20%) / ECP** (1.03%) / EKPC
			$(\frac{1.941.98}{0.000}) / \text{JCPL}$
			$(\frac{10.8211.06}{1.141.170}) / \text{NEPTUNE*}$
			(<u>1.141.17</u> %) / <u>HTP*** (1.10%)</u> / POSEIDON****
1			
I			(0.63 <u>0.64</u> %) / PENELEC
1			(0.06%) / PEPCO
			(18.97<u>19.38</u>%) / PSEG (23.2623.77%) / RECO
			· · · · · · · · · · · · · · · · · · ·
			(0.93<u>0.95</u>%)

*Neptune Regional Transmission System, LLC ** East Coast Power, LLC ***Hudson Transmission Partners, LLC ****Poseidon Transmission 1, LLC

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

Required Transmission Enhancements		Annual Revenue Requirement	Responsible Customer(s)
b2863	Replace the Grays Ferry 230 kV "985" with 63kA breaker		PECO (100%)
b2864	Replace the Grays Ferry 230 kV "775" with 63kA breaker		PECO (100%)

SCHEDULE 12 – APPENDIX A

(12) Public Service Electric and Gas Company

Required Tr	ansmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2218	Rebuild 4 miles of overhead line from Edison - Meadow Rd - Metuchen (Q 1317)		HTP (36.49%) / ECP** (63.51%)PSEG (100%)
b2239	50 MVAR reactor at Saddlebrook 230 kV		PSEG (100%)
b2240	50 MVAR reactor at Athenia 230 kV		PSEG (100%)
b2241	50 MVAR reactor at Bergen 230 kV		PSEG (100%)
b2242	50 MVAR reactor at Hudson 230 kV		PSEG (100%)
b2243	Two 50 MVAR reactors at Stanley Terrace 230 kV		PSEG (100%)
b2244	50 MVAR reactor at West Orange 230 kV		PSEG (100%)
b2245	50 MVAR reactor at Aldene 230 kV		PSEG (100%)
b2246	150 MVAR reactor at Camden 230 kV		PSEG (100%)
b2247	150 MVAR reactor at Gloucester 230 kV		PSEG (100%)
b2248	50 MVAR reactor at Clarksville 230 kV		PSEG (100%)
b2249	50 MVAR reactor at Hinchmans 230 kV		PSEG (100%)
b2250	50 MVAR reactor at Beaverbrook 230 kV		PSEG (100%)
b2251	50 MVAR reactor at Cox's Corner 230 kV		PSEG (100%)

*Neptune Regional Transmission System, LLC <u>**East Coast Power, L.L.C.</u>

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

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

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

Required Tra	Insmission Enhancements	Annual Revenue Requirer	ment Responsible Customer(s)
b2421.2	Install a second four (4) breaker 69kV ring bus at Bridgewater Switching Station		PSEG (100%)
b2436.10	Convert the Bergen – Marion 138 kV path to double circuit 345 kV and associated substation upgrades		Load-Ratio Share Allocation: AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%) DFAX Allocation:
			PSEG (100%)
b2436.21	Convert the Marion - Bayonne "L" 138 kV circuit to 345 kV and any associated substation upgrades		Load-Ratio Share Allocation: AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%) DFAX Allocation: PSEG (100%)

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

		idal ne venue requirement - responsible Eustomer(b)
b2436.22	Convert the Marion - Bayonne "C" 138 kV circuit to 345 kV and any associated substation upgrades	Load-Ratio Share Allocation: AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%) DFAX Allocation: PSEG (100%)
b2436.33	Construct a new Bayway – Bayonne 345 kV circuit and any associated substation upgrades	PSEG (100%)
b2436.34	Construct a new North Ave – Bayonne 345 kV circuit and any associated substation upgrades	PSEG (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

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

Required Tra	ansmission Enhancements	Annual Revenue Require	ement Responsible Customer(s)
b2436.50	Construct a new North Ave - Airport 345 kV circuit and any associated substation upgrades		PSEG (100%)
b2436.60	Relocate the underground portion of North Ave - Linden "T" 138 kV circuit to Bayway, convert it to 345 kV, and any associated substation upgrades		PSEG (96.13%) / RE (3.87%)
b2436.70	Construct a new Airport - Bayway 345 kV circuit and any associated substation upgrades		PSEG (100%)
b2436.81	Relocate the overhead portion of Linden - North Ave "T" 138 kV circuit to Bayway, convert it to 345 kV, and any associated substation upgrades		Load-Ratio Share Allocation: AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%) DFAX Allocation: PSEG (96.13%) / RE (3.87%)

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

***Hudson Transmission Partners, LLC

Required Tra	Insmission Enhancements	Annual Revenue Requirer	ment	Responsible Customer(s)
			Load-Ra	atio Share Allocation:
			AEC (1.6	66%) / AEP (14.16%) /
			APS (5.2	73%) / ATSI (7.88%) /
			BGE (4.2	2%) / ComEd (13.31%)
			•	on (2.11%) / DEOK
	Convert the Bayway -		· ·) / DL (1.75%) / DPL
	Linden "Z" 138 kV circuit		· · · ·	/ Dominion (12.86%) /
b2436.83	to 345 kV and any		•	.87%) / JCPL (3.74%) /
	associated substation		ME (1	.90%) / NEPTUNE*
	upgrades			%) / PECO (5.34%) /
				EC (1.89%) / PEPCO
			· · · ·	/ PPL (4.84%) / PSEG
			,	6%) / RE (0.26%)
				FAX Allocation:
				96.13%) / RE (3.87%)
				atio Share Allocation:
				66%) / AEP (14.16%) /
				73%) / ATSI (7.88%) /
				2%) / ComEd (<i>13.31</i> %)
			•	on (2.11%) / DEOK
) / DL (1.75%) / DPL
	Convert the Bayway –		· · · · ·	/ Dominion (12.86%) /
10426.04	Linden "W" 138 kV			.87%) / JCPL (3.74%) /
b2436.84	circuit to 345 kV and any		`	.90%) / NEPTUNE*
	associated substation			%) / PECO (5.34%) /
	upgrades			EC (1.89%) / PEPCO
			````	/ PPL (4.84%) / PSEG
			(6.2	6%) / RE (0.26%)
				FAX Allocation:
			PSEG (	96.13%) / RE (3.87%)

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

Required Tra	Insmission Enhancements	Annual Revenue Require	ment Responsible Customer(s)
b2436.85	Convert the Bayway – Linden "M" 138 kV circuit to 345 kV and any associated substation upgrades		Load-Ratio Share Allocation: AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%) DFAX Allocation: PSEG (96.13%) / RE (3.87%)
b2436.90	Relocate Farragut - Hudson "B" and "C" 345 kV circuits to Marion 345 kV and any associated substation upgrades		Load-Ratio Share Allocation: AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%) DFAX Allocation: PSEG (96.13%) / RE (3.87%)
b2436.91	Relocate the Hudson 2 generation to inject into the 345 kV at Marion and any associated upgrades		PSEG (100%)

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

1		<b>1</b>	
b2437.10	New Bergen 345/230 kV transformer and any associated substation upgrades		PSEG (96.13%) / RE (3.87%)
b2437.11	New Bergen 345/138 kV transformer #1 and any associated substation upgrades		PSEG (100%)
b2437.20	New Bayway 345/138 kV transformer #1 and any associated substation upgrades		PSEG (96.13%) / RE (3.87%)
b2437.21	New Bayway 345/138 kV transformer #2 and any associated substation upgrades		PSEG (96.13%) / RE (3.87%)
b2437.30	New Linden 345/230 kV transformer and any associated substation upgrades		PSEG (96.13%) / RE (3.87%)
b2437.33	New Bayonne 345/69 kV transformer and any associated substation upgrades		PSEG (100%)
b2438	Install two reactors at Tosco 230 kV		PSEG (100.00%)
b2439	Replace the Tosco 138kV breaker 'CB1/2 (CBT)' with 63kA		PSEG (100.00%)
b2474	Rebuild Athenia 138 kV to 80kA		PSEG (100%)
b2589	Install a 100 MVAR 230 kV shunt reactor at Mercer station		PSEG (100%)
b2590	Install two 75 MVAR 230 kV capacitors at Sewaren station cegional Transmission System		PSEG (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

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

***Hudson Transmission Partners, LLC

		idui Revende Requirement - Responsible Eustomer(s)
b2633.3	Install an SVC at New Freedom 500 kV substation	Load-Ratio Share Allocation: AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%) DFAX Allocation: AEC (0.01%) / DPL (99.98%) / JCPL (0.01%)
b2633.4	Add a new 500 kV bay at Hope Creek (Expansion of Hope Creek substation)	Load-Ratio Share Allocation:           AEC (1.66%) / AEP (14.16%) /           APS (5.73%) / ATSI (7.88%) /           BGE (4.22%) / ComEd (13.31%) /           Dayton (2.11%) / DEOK (3.29%) /           DL (1.75%) / DPL (2.50%) /           Dominion (12.86%) / EKPC           (1.87%) / JCPL (3.74%) / ME           (1.90%) / NEPTUNE* (0.44%) /           PECO (5.34%) / PENELEC           (1.89%) / PEPCO (3.99%) / PPL           (4.84%) / PSEG (6.26%) / RE           (0.26%)           DFAX Allocation:           AEC (0.01%) / DPL (99.98%) /           JCPL (0.01%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

b2633.5	Add a new 500/230 kV autotransformer at Hope Creek and a new Hope Creek 230 kV substation	AEC (0.01%) / DPL (99.98%) / JCPL (0.01%)
b2633.8	Implement high speed relaying utilizing OPGW on Salem – Orchard 500 kV, Hope Creek – New Freedom 500 kV, New Freedom - Salem 500 kV, Hope Creek – Salem 500 kV, and New Freedom – Orchard 500 kV lines	Load-Ratio Share Allocation: AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%) DFAX Allocation: AEC (0.01%) / DPL (99.98%) / JCPL (0.01%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

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

Required Tra	ansmission Enhancements Annu	ual Revenue Requirement   Responsible Customer(s)
b2633.91	Implement changes to the tap settings for the two Salem units' step up transformers	AEC (0.01%) / DPL (99.98%) / JCPL (0.01%)
b2633.92	Implement changes to the tap settings for the Hope Creek unit's step up transformers	AEC (0.01%) / DPL (99.98%) / JCPL (0.01%)
b2702	Install a 350 MVAR reactor at Roseland 500 kV	Load-Ratio Share Allocation: AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%) DFAX Allocation: PSEG (100%)
b2703	Install a 100 MVAR reactor at Bergen 230 kV	PSEG (100%)
b2704	Install a 150 MVAR reactor at Essex 230 kV	PSEG (100%)
b2705	Install a 200 MVAR reactor (variable) at Bergen 345 kV	PSEG (100%)
b2706	Install a 200 MVAR reactor (variable) at Bayway 345 kV	PSEG (100%)
b2707	Install a 100 MVAR reactor at Bayonne 345 kV	PSEG (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

*Neptune Regional Transmission System, LLC <u>**East Coast Power, L.L.C.</u>

***Hudson Transmission Partners, LLC

### Public Service Electric and Gas Company (cont.)

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

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

### Public Service Electric and Gas Company (cont.)

Convert the N-1340 and T- 1372/D-1330 (Brunswick –		PSEG (100%)
Trenton) 138 kV circuits to		1 SEG (100%)
230 kV circuits		
Convert the F-1358/Z1326		
and K1363/Y-1325		
(Trenton – Burlington) 138		PSEG (100%)
kV circuits to 230 kV		
circuits		
Build new 138/26 kV		
Newark GIS station in a		
building (layout #1A)		
located adjacent to the		PSEG (100%)
existing Newark Switch and		
demolish the existing		
Newark Switch		
	1372/D-1330 (Brunswick – Trenton) 138 kV circuits to 230 kV circuits Convert the F-1358/Z1326 and K1363/Y-1325 (Trenton – Burlington) 138 kV circuits to 230 kV circuits Build new 138/26 kV Newark GIS station in a building (layout #1A) located adjacent to the existing Newark Switch and demolish the existing	1372/D-1330 (Brunswick – Trenton) 138 kV circuits to 230 kV circuits Convert the F-1358/Z1326 and K1363/Y-1325 (Trenton – Burlington) 138 kV circuits to 230 kV circuits Build new 138/26 kV Newark GIS station in a building (layout #1A) located adjacent to the existing Newark Switch and demolish the existing

### **SCHEDULE 12 – APPENDIX A**

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

Require 1	ransmission Enhancements Ani	iuai Revenue Requirement	Responsible Customer(s)
	Remove Byron SPS upon		
b2141.1	completion of Byron -		ComEd (100%)
	Wayne 345 kV		
	Replace 138 kV bus tie 1-2		
	circuit breaker, station		
b2365	conductor, relays, and a		ComEd (100%)
	wave trap at TSS 55		
	Hegewisch substation		
	Reconductor 1.4 miles of		
b2366	138 kV line 0112, Kickapoo		ComEd (100%)
02300	Creek - LaSalle County		ComEd (100%)
	138kV line		
	Install a 138 kV Red Blue		
b2415	bus tie with underground		ComEd (100%)
02413	cable and a line 15913 CB		ComEd (100%)
	at Highland Park		
	Reconductor 0.125 miles of		
b2416	the East Frankfort - Mokena		ComEd (100%)
	138 kV line L6604		
	Replace Ridgeland 138 kV		
b2417	bus tie CB and underground		ComEd(1000/)
02417	cable at TSS 192 Ridgeland		ComEd (100%)
	138 kV substation		
	Reconductor 7.5 miles of		
b2418	Waukegan - Gurnee 138 kV		ComEd (100%)
	line L1607		
	Reconductor 0.33 miles of		
h2/10	138 kV underground cable		ComEd(1000)
b2419	on the Sawyer - Crawford		ComEd (100%)
	138 kV Blue line (L1324)		
	Replace the Skokie 138 kV		
b2465	breaker '88 L8809' with a		ComEd (100%)
	63 kA breaker		
	Replace the Skokie 138 kV		
b2466	breaker '88 L8810' with		ComEd (100%)
	63kA breaker		
	Replace the Skokie 138 kV		
b2467	breaker '88 L11416' with		ComEd (100%)
	63 kA breaker		
L	1	1	ι

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

Required	Transmission Enhancements	Annual Revenue Requiremen	nt Responsible Customer(s)
b2468	Replace the Skokie 138 kV breaker '88 L8803' with 63kA breaker		ComEd (100%)
b2469	Replace the Des Plaines 138 kV breaker '46 11702' with 63 kA breaker		ComEd (100%)
b2561	Install a new 345 kV circuit breaker 5-7 at Elwood substation		ComEd (100%)
b2562	Remove 2.0 miles of wood poles on 138 kV line 17105, erect new steel structures, and install new 1113 kcmil ACSR conductor from Roscoe Bert to Harlem		ComEd (100%)
b2613	Replace relays at Mazon substation		ComEd (100%)
b2692.	Replace station equipment at Nelson, ESS H-471 and Quad Cities		AEC (0.18%) / AEP (18.6818.69%) / APS (5.865.87%) / ATSI (7.857.86%) / BGE (3.32%) / ComEd (38.2138.23%) / Dayton (2.76%) / DEOK (4.13%) / DL (2.23%) / Dominion (5.15%) / DPL (1.97%) / EKPC (1.36%) / HTP (0.05%) / JCPL (0.52%) / MetED (0.04%) / Neptune (0.04%) / PECO (1.08%) / PENELEC (1.25%) / PEPCO (3.56%) / PPL (0.45%) / PSEG (1.17%) / RECO (0.14%)

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

Required T	ransmission Enhancements	Annual Revenue Requirem	nent Responsible Customer(s)
b2692.2	Upgrade conductor ratings of Cordova – Nelson, Quad Cities – ESS H-471 and ESS H-471 – Nelson 345 kV lines and mitigating sag limitations		AEC (0.18%) / AEP (18.6818.69%) / APS (5.865.87%) / ATSI (7.857.86%) / BGE (3.32%) / ComEd (38.2138.23%) / Dayton (2.76%) / DEOK (4.13%) / DL (2.23%) / Dominion (5.15%) / DPL (1.97%) / EKPC (1.36%) / HTP (0.05%) / JCPL (0.52%) / MetED (0.04%) / Neptune (0.04%) / PECO (1.08%) / PENELEC (1.25%) / PEPCO (3.56%) / PPL (0.45%) / PSEG (1.17%) / RECO (0.14%)
b2693	Replace L7815 B phase line trap at Wayne substation		ComEd (100%)
b2699.1	Replace 5 Powerton 345 kV CB's with 2 cycle IPO breakers, install one new 345 kV CB; swap line 0302 and line 0303 bus positions; reconfigure Powerton 345 kV bus as single ring configuration		ComEd (100%)
b2699.2	Remove SPS logic at Powerton that trips generators or sectionalizes bus under normal conditions; minimal SPS logic will remain		ComEd (100%)
b2721	Goodings Grove – Balance Station Load (swap bus positions for 345 kV lines 1312 & 11620 and 345 kV lines 11604 & 11622) and replace 138 kV bus tie 2-3		ComEd (100%)

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

Required Transmission Enhancements		Annual Revenue Requirem	nent Responsible Customer(s)
b2728	Mitigate sag limitations on Loretto – Wilton Center 345 kV Line and replace station conductor at Wilton Center		ATSI (3.43%) / AEP (3.34%) / ComEd (92.02%) / DLCO (1.21%)
b2732.1	Cut-in of line 93505 Tazewell – Kendall 345 kV line into Dresden		ComEd (100%)
b2732.2	Raise towers to remove the sag limitations on Pontiac – Loretto 345 kV line		ComEd (100%)

### **SCHEDULE 12 – APPENDIX A**

# (18) Duquesne Light Company

Required II	ansmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2175.1	200 MVAR shunt reactor	at	DL (100%)
02175.1	Brunot Island 345 kV		DE (100%)
	200 MVAR shunt reactor	on	
b2175.2	future Brunot Island –		DL (100%)
	Carson 345 kV circuit		
	Revise the reclosing for the	ne	
b2198	Brunot Island 138 kV		DL (100%)
	breaker 'Z-40 COLLIER		
	Revise the reclosing for the	ne	
b2199	Brunot Island 138 kV		DL (100%)
	breaker 'Z-41 COLLIER		
	Revise the reclosing for the		
b2200	Crescent 138 kV breaker "	Z-	DL (100%)
	29 Beaver'		
	Revise the reclosing for the		
b2201	Crescent 138 kV breaker "	Z-	DL (100%)
	82 VALLEY'		
	Revise the reclosing for the		
b2202	Crescent 138 kV breaker "	Z-	DL (100%)
	21 NORTH'		
	Revise the reclosing for the	ne	
b2203	Elrama 138 kV breaker		DL (100%)
	'Z18-USX CLAI'		
	Revise the reclosing for the	ne	
b2204	Elrama 138 kV breaker		DL (100%)
	'Z13-WEST MIF'		
	Revise the reclosing for the		
b2205	Elrama 138 kV breaker 'Z	15	DL (100%)
	-DRAVOSBU'		
	Revise the reclosing for the		
b2206	Woodville 138 kV breake	er	DL (100%)
	'Z-106 PINEY'		
	Revise the reclosing for the		
b2207	Woodville 138 kV breake	er	DL (100%)
	'Z-64 COLLIER'		
	Revise the reclosing for the	ne	
b2208	Beaver Valley 138 kV		DL (100%)
	breaker 'Z-28 CRESCEN	1'	

# Duquesne Light Company (cont.)

Required I	ransmission Enhancements An	nual Revenue Requirement	Responsible Customer(s)
b2209	Revise the reclosing for the Cheswick 138 kV breaker Z-51 WILMERD'		DL (100%)
b2280	Replace the USAP 138kV breaker 'XFMR'		DL (100%)
b2303	Revise the reclosing to the Dravosburg 138kV 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 63kA breaker		DL (100%)
b2640	Replace the Crescent 138 kV 'Z-143 SWCKLY' breaker with a 63kA breaker		DL (100%)
b2641	Replace the Crescent 138 kV 'Z-24 MONTOUR' breaker with a 63kA breaker		DL (100%)
b2642	Replace the Crescent 138 kV 'Z-28 BEAVER' breaker with a 63kA breaker		DL (100%)
b2689.1	Reconductor approximately 7 miles of the Woodville – Peters (Z-117) 138 kV circuit		AEC (0.991.00%)/APS (66.1466.39%)/BGE (4.604.62%)/DOM (8.818.84%)/DPL (5.835.85%)/ECP (0.34%)/HTP (0.04%)/ Neptune (0.12%)/PECO (3.393.40%)/PEPCO (6.296.32%)/PSEG (3.453.46%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

# Duquesne Light Company (cont.)

Required Transmission Enhancements Annual Re	evenue Requirement Responsible Customer(s)
Required Transmission Enhancements       Annual Re         Reconfigure West Mifflin- USS Clairton (Z-15) 138 kV circuit to establish       Value         b2689.2       Dravosburg-USS Clairton (Z-14) 138 kV circuit and West Mifflin-Wilson (Z-15) 138 kV circuit	Evenue RequirementResponsible Customer(s)AEC $(0.991.00\%)/$ APS $(66.1466.39\%)/$ BGE $(4.604.62\%)/$ DOM $(8.818.84\%)/$ DPL $(5.835.85\%)/$ ECP $(0.34\%)/$ HTP $(0.04\%)/$ Neptune $(0.12\%)/$ PECO $(3.393.40\%)/$ PEPCO $(6.296.32\%)/$ PSEG $(3.453.46\%)$

### **SCHEDULE 12 – APPENDIX A**

# (20) Virginia Electric and Power Company

Required T	ransmission Enhancements Annua	al Revenue Requirement	Responsible Customer(s)
b1698.7	Replace Loudoun 230 kV breaker '203052' with 63kA rating		Dominion (100%)
b1696.1	Replace the Idylwood 230 kV '25112' breaker with 50kA breaker		Dominion (100%)
b1696.2	Replace the Idylwood 230 kV '209712' breaker with 50kA breaker		Dominion (100%)
b1793.1	Remove the Carolina 22 SPS to include relay logic changes, minor control wiring, relay resets and SCADA programming upon completion of project		Dominion (100%)
b2281	Additional Temporary SPS at Bath County		Dominion (100%)
b2350	Reconductor 211 feet of 545.5 ACAR conductor on 59 Line Elmont - Greenwood DP 115 kV to achieve a summer emergency rating of 906 amps or greater		Dominion (100%)
b2358	Install a 230 kV 54 MVAR capacitor bank on the 2016 line at Harmony Village Substation		Dominion (100%)
b2359	Wreck and rebuild approximately 1.3 miles of existing 230 kV line between Cochran Mill - X4-039 Switching Station		Dominion (100%)
b2360	Build a new 39 mile 230 kV transmission line from Dooms - Lexington on existing right- of-way		Dominion (100%)
b2361	Construct 230 kV OH line along existing Line #2035 corridor, approx. 2.4 miles from Idylwood - Dulles Toll Road (DTR) and 2.1 miles on new right-of-way along DTR to new Scott's Run Substation		Dominion (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required 1	Talisilission Linancements Annua	a Revenue Requirement	Responsible Customer(s)
b2368	Replace the Brambleton 230 kV breaker '209502' with 63kA breaker		Dominion (100%)
b2369	Replace the Brambleton 230 kV breaker '213702' with 63kA breaker		Dominion (100%)
b2370	Replace the Brambleton 230 kV breaker 'H302' with 63kA 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		Dominion (100%)
b2397	Replace the Beaumeade 230 kV breaker '2079T2116' with 63kA		Dominion (100%)
b2398	Replace the Beaumeade 230 kV breaker '2079T2130' with 63kA		Dominion (100%)
b2399	Replace the Beaumeade 230 kV breaker '208192' with 63kA		Dominion (100%)
b2400	Replace the Beaumeade 230 kV breaker '209592' with 63kA		Dominion (100%)
b2401	Replace the Beaumeade 230 kV breaker '211692' with 63kA		Dominion (100%)
b2402	Replace the Beaumeade 230 kV breaker '227T2130' with 63kA		Dominion (100%)
b2403	Replace the Beaumeade 230 kV breaker '274T2130' with 63kA		Dominion (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

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

*Neptune Regional Transmission System, LLC <u>**East Coast Power, L.L.C.</u> <u>***Hudson Transmission Partners, LLC</u>

Required I		Annual Revenue Requirement	Responsible Customer(s)
b2404	Replace the Beaumeade 230 kV breaker '227T2095' with 63kA		Dominion (100%)
b2405	Replace the Pleasant view 230 kV breaker '203T274' with 63kA		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 50kA		Dominion (100%)
b2443.2	Replace the Ox 230 kV breaker '206342' with 63kA breaker		Dominion (100%)
b2443.3	Glebe – Station C PAR		<b>DFAX Allocation:</b> Dominion (22.57%) / PEPCO (77.43%)
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%)
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%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required T	ransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
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 stee H-frames	1	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 mile from NOVEC's Wheeler Substation a new 230 kV switching station in Vint Hill area		Dominion (100%)
b2461.2	Convert NOVEC's Gainesville – Wheeler lin (approximately 6 miles) to 230 kV		Dominion (100%)
b2461.3	Complete a Vint Hill – Wheeler – Loudoun 230 kV networked line		Dominion (100%)

Required T	ransmission Enhancements Annua	al Revenue Requirement	Responsible Customer(s)
b2471	Replace Midlothian 500 kV breaker 563T576 and motor operated switches with 3 breaker 500 kV ring bus. Terminate Lines # 563 Carson – Midlothian, #576 Midlothian –North Anna, Transformer #2 in new ring		Load-Ratio Share Allocation: AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / DDL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%) DFAX Allocation:
	Rebuild 115 kV Line #32		Def AX Anocation: Dominion (100%)
b2504	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 50kA breaker		Dominion (100%)
b2543	Replace the Loudoun 500 kV 'H2T584' breaker with a 50kA breaker		Dominion (100%)
b2565	Reconductor wave trap at Carver Substation with a 2000A wave trap		Dominion (100%)
b2566	Reconductor 1.14 miles of existing line between ACCA and Hermitage and upgrade associated terminal equipment		Dominion (100%)

Required 1	ransmission Enhancements Ani	nual Revenue Requirement	Responsible Customer(s)
b2582	Rebuild the Elmont – Cunningham 500 kV line		Dominion (100%)
b2583	Install 500 kV breaker at Ox Substation to remove Ox Tx#1 from H1T561 breaker failure outage.		Dominion (100%)
b2584	Relocate the Bremo load (transformer #5) to #2028 (Bremo-Charlottesville 230 kV) line and Cartersville distribution station to #2027 (Bremo- Midlothian 230 kV) line		Dominion (100%)
b2585	Reconductor 7.63 miles of existing line between Cranes and Stafford, upgrade associated line switches at Stafford		<b>DFAX Allocation:</b> PEPCO (100%)
b2620	Wreck and rebuild the Chesapeake – Deep Creek – Bowers Hill – Hodges Ferry 115 kV line; minimum rating 239 MVA normal/emergency, 275 MVA load dump rating		Dominion (100%)

Required T		nual Revenue Requirement	Responsible Customer(s)
b2622	Rebuild Line #47 between Kings Dominion 115 kV and Fredericksburg 115 kV to current standards with summer emergency rating of 353 MVA at 115 kV		Dominion (100%)
b2623	Rebuild Line #4 between Bremo and Structure 8474 (4.5 miles) to current standards with a summer emergency rating of 261 MVA at 115 kV		Dominion (100%)
b2624	Rebuild 115 kV Lines #18 and #145 between Possum Point Generating Station and NOVEC's Smoketown DP (approx. 8.35 miles) to current 230 kV standards with a normal continuous summer rating of 524 MVA at 115 kV		Dominion (100%)
b2625	Rebuild 115 kV Line #48 between Thole Street and Structure 48/71 to current standard. The remaining line to Sewells Point is 2007 vintage. Rebuild 115 kV Line #107 line, Sewells Point to Oakwood, between structure 107/17 and 107/56 to current standard.		Dominion (100%)
b2626	Rebuild 115 kV Line #34 between Skiffes Creek and Yorktown and the double circuit portion of 115 kV Line #61 to current standards with a summer emergency rating of 353 MVA at 115 kV		Dominion (100%)
b2627	Rebuild 115 kV Line #1 between Crewe 115 kV and Fort Pickett DP 115 kV (12.2 miles) to current standards with summer emergency rating of 261 MVA at 115 kV		Dominion (100%)

Required T		ual Revenue Requirement	Responsible Customer(s)
	Rebuild 115 kV Line #82		
b2628	Everetts – Voice of America		
	(20.8 miles) to current		5
	standards with a summer		Dominion (100%)
	emergency rating of 261		
	MVA at 115 kV		
	Rebuild the 115 kV Lines		
	#27 and #67 lines from		
	Greenwich 115 kV to Burton		
b2629	115 kV Structure 27/280 to		Dominion $(1000/)$
02029	current standard with a		Dominion (100%)
	summer emergency rating of		
	262 MVA at 115 kV		
	Install circuit switchers on		
	Gravel Neck Power Station		
b2630	GSU units #4 and #5. Install		Dominion (100%)
02050	two 230 kV CCVT's on		
	Lines #2407 and #2408 for		
	loss of source sensing		
	Install three 230 kV bus		
	breakers and 230 kV, 100		
b2636			Dominion (100%)
	the operational hazard and		
	provide voltage reduction		
	during light load conditions		
	Kerr Dam 115 kV Line #38		
h7617			Dominion $(100\%)$
02047	standards with summer		Dominion (100%)
	emergency rating of 353		
b2636       MVAR Variable Shunt Reactor at Dahlgren to provide line protection during maintenance, remove the operational hazard and provide voltage reduction during light load conditions         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.         b2648       Rebuild Carolina – Kerr Dam 115 kV Line #90 (38.7 miles) to current standards			
b2648	miles) to current standards		Dominion (100%)
	with summer emergency		
	rating of 353 MVA 115 kV.		
	Rebuild Clubhouse –		
	Carolina 115 kV Line #130		
h2640	(17.8 miles) to current		Dominica (1000/)
b2649	standards with summer		Dominion (100%)
	emergency rating of 353		
	MVA at 115 kV.		
	Rebuild Twittys Creek –		
	Pamplin 115 kV Line #154		
1.0650	(17.8 miles) to current		$\mathbf{D}_{\text{excision}}$ (1000()
b2650	standards with summer		Dominion (100%)
	emergency rating of 353		
	MVA at 115 kV.		
L			•

Dominion (100%)
Dominion (100%)

Required Th		Responsible Customer(s)
b2665	Rebuild the Cunningham – Dooms 500 kV line	Dominion (100%)
b2686	Pratts Area Improvement	Dominion (100%)
b2686.1	Build a 230 kV line from Remington Substation to Gordonsville Substation utilizing existing ROW	Dominion (100%)
b2686.11	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%)
b2686.2	Install a 3rd 230/115 kV transformer at Gordonsville Substation	Dominion (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

*Neptune Regional Transmission System, LLC ** East Coast Power, LLC

***Hudson Transmission Partners, LLC

Required Tra	ansmission Enhancements	Annual Revenue Requirement Responsible Customer(s)
b2686.3	Upgrade Line 2088 between Gordonsville Substation and Louisa CT Station	Dominion (100%)
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 50kA breaker	Dominion (100%)
b2729	Optimal Capacitors Configuration: New 175 MVAR capacitor at Brambleton, new 175 MVAR capacitor at Ashburn, new 300 MVAR capacitor at Shelhorm, new 150 MVAR capacitor at Liberty	AEC ( <u>1.961.97</u> %) / BGE ( <u>14.3714.46</u> %) / Dominion ( <u>35.1135.33</u> %) / DPL ( <u>3.763.78</u> %) / <del>ECP (0.29%) /</del> <u>HTP (0.34%) / JCPL</u> ( <u>3.313.33</u> %) / ME ( <u>2.512.53</u> %) / Neptune (0.63%) / PECO ( <u>6.266.30</u> %) / PEPCO ( <u>20.2320.36</u> %) / PPL ( <u>3.943.97</u> %) / PSEG ( <u>7.297.34</u> %)

Required Tra	ansmission Enhancements Annual	Revenue Requirement	Responsible Customer(s)
			Load-Ratio Share
			Allocation:
			AEC (1.66%) / AEP (14.16%)
			/ APS (5.73%) / ATSI
			× /
			· · · ·
b2744	Rebuild the Carson – Rogers		
02744	Rd 500 kV circuit		× /
			PSEG (6.26%) / RE (0.26%)
	Rebuild 21.32 miles of		Dominion (100%)
1 07 45	existing line between		D (1000()
b2745	Chesterfield – Lakeside		Dominion (100%)
	230 kV		
	Rebuild Line #137 Ridge Rd – Kerr Dam 115 kV, 8.0		
b2746.1	miles, for 346 MVA summer		Dominion (100%)
	emergency rating		Load-Ratio Share Allocation: AEC (1.66%) / AEP (14.16% / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / MH (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCC (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%) DFAX Allocation: Dominion (100%) Dominion (100%)
	Rebuild Line #1009 Ridge Rd		
b2746.2	- Chase City 115 kV, 9.5		Dominion (100%)
	miles, for 346 MVA summer emergency rating		
	Install a second 4.8 MVAR		
b2746.3	capacitor bank on the 13.8 kV		Dominion $(1000/)$
02/40.3	bus of each transformer at		Dominion (100%)
	Ridge Rd		
	Install a Motor Operated Switch and SCADA control		
b2747	between Dominion's		Dominion (100%)
	Gordonsville 115 kV bus and		
	FirstEnergy's 115 kV line		

Required Tr	ansmission Enhancements Annual Revenue Requirem	ent Responsible Customer(s)
b2757	Install a +/-125 MVAr Statcom at Colington 230 kV	Dominion (100%)
b2758	Rebuild Line #549 Dooms – Valley 500kV	Dominion (100%)
b2759	Rebuild Line #550 Mt. Storm – Valley 500kV	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 115kV	Dominion (100%)
b2815	Build a new Pinewood 115kV switching station at the tap serving North Doswell DP with a 115kV four breaker ring bus	Dominion (100%)
b2842	Update the nameplate for Mount Storm 500 kV "57272" to be 50kA breaker	Dominion (100%)
b2843	Replace the Mount Storm 500 kV "G2TY" with 50kA breaker	Dominion (100%)
b2844	Replace the Mount Storm 500 kV "G2TZ" with 50kA breaker	Dominion (100%)
b2845	Update the nameplate for Mount Storm 500 kV "G3TSX1" to be 50kA breaker	Dominion (100%)
b2846	Update the nameplate for Mount Storm 500 kV "SX172" to be 50kA breaker	Dominion (100%)
b2847	Update the nameplate for Mount Storm 500 kV "Y72" to be 50kA breaker	Dominion (100%)
b2848	Replace the Mount Storm 500 kV "Z72" with 50kA 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%)

# **Attachment B**

Revisions to Schedule 12- Appendix and Appendix A of the PJM Open Access Transmission Tariff

(Clean Format)

### **SCHEDULE 12 – APPENDIX**

# (1) Atlantic City Electric Company

b0135	Build new Cumberland – Dennis 230 kV circuit which replaces existing Cumberland – Corson 138 kV	AEC (100%)	
b0136	Install Dennis 230/138 kV transformer, Dennis 150 MVAR SVC and 50 MVAR capacitor	AEC (100%)	
b0137	Build new Dennis – Corson 138 kV circuit	AEC (100%)	
b0138	Install Cardiff 230/138 kV transformer and a 50 MVAR capacitor at Cardiff	AEC (100%)	
b0139	Build new Cardiff – Lewis 138 kV circuit	AEC (100%)	
b0140	Reconductor Laurel – Woodstown 69 kV	AEC (100%)	
b0141	Reconductor Monroe – North Central 69 kV	AEC (100%)	
b0265	Upgrade AE portion of Delco Tap – Mickleton 230 kV circuit	AEC (89.87%) / JCPL (9.48%) / Neptune* (0.65%)	<b>,</b>
b0276	Replace both Monroe 230/69 kV transformers	AEC (91.46%) / PSEC (8.31%) / RE (0.23%)	
b0276.1	Upgrade a strand bus at Monroe to increase the rating of transformer #2	AEC (100%)	
b0277	Install a second Cumberland 230/138 kV transformer	AEC (100%)	
b0281.1	Install 35 MVAR capacitor at Lake Ave 69 kV substation	AEC (100%)	

#### Atlantic City Electric Company (cont.)

Required I	ransmission Enhancements Anr	nual Revenue Requirement	Responsible Customer(s)
b0281.2	Install 15 MVAR capacitor at Shipbottom 69 kV substation		AEC (100%)
b0281.3	Install 8 MVAR capacitors on the AE distribution system		AEC (100%)
b0142	Reconductor Landis – Minotola 138 kV		AEC (100%)
b0143	Reconductor Beckett – Paulsboro 69 kV		AEC (100%)
b0210	Install a new 500/230kV substation in AEC area. The high side will be tapped on the Salem - East Windsor 500kV circuit and the low side will be tapped on the Churchtown - Cumberland 230kV circuit.		AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%)
b0210.1	Orchard – Cumberland – Install second 230 kV line		AEC (65.23%) / JCPL (25.87%) / Neptune * (2.55%) / PSEG (6.35%)††
b0210.2	Install a new 500/230kV substation in AEC area, the high side will be tapped on the Salem - East Windsor 500kV circuit and the low side will be tapped on the Churchtown - Cumberland 230kV circuit.		AEC (65.23%) / JCPL (25.87%) / Neptune* (2.55%) / PSEG (6.35%)††

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

* Neptune Regional Transmission System, LLC

[†]Cost allocations associated with Regional Facilities and Necessary Lower Voltage Facilities associated with the project

††Cost allocations associated with below 500 kV elements of the project

The Annual Revenue Requirement associated with the Transmission Enhancement Charges are set forth and determined in Appendix A to Attachment H-1.

# Atlantic City Electric Company (cont.)

Required T	ransmission Enhancements	Annual Revenue Requireme	ent Responsible Customer(s)
b0211	Reconductor Union - Corson 138kV circuit		AEC (65.23%) / JCPL (25.87%) / Neptune* (2.55%) / PSEG (6.35%)
b0212	Substation upgrades at Union and Corson 138kV		AEC (65.23%) / JCPL (25.87%) / Neptune* (2.55%) / PSEG (6.35%)
b0214	Install 50 MVAR capacitor at Cardiff 230kV substation		AEC (100%)
b0431	Monroe Upgrade New Freedom strand bus		AEC (100%)
b0576	Move the Monroe 230/69 kV to Mickleton		AEC (100%)
b0744	Upgrade a strand bus at Mill 138 kV		AEC (100%)
b0871	Install 35 MVAR capacitor at Motts Farm 69 kV		AEC (100%)
b1072	Modify the existing EMS load shedding scheme at Cedar to additionally sense the loss of both Cedar 230/69 kV transformers and shed load accordingly		AEC (100%)
b1127	Build a new Lincoln- Minitola 138 kV line		AEC (100%)
b1195.1	Upgrade the Corson sub T2 terminal		AEC (100%)
b1195.2	Upgrade the Corson sub T1 terminal		AEC (100%)

### Atlantic City Electric Company (cont.)

Required T	ransmission Enhancements	Annual Revenue Requireme	ent Responsible Customer(s)
b1244	Install 10 MVAR capacitor at Peermont 69 kV substation		AEC (100%)
b1245	Rebuild the Newport-South Millville 69 kV line		AEC (100%)
b1250	Reconductor the Monroe – Glassboro 69 kV		AEC (100%)
b1250.1	Upgrade substation equipment at Glassboro		AEC (100%)
b1280	Sherman: Upgrade 138/69 kV transformers		AEC (100%)
b1396	Replace Lewis 138 kV breaker 'L'		AEC (100%)
b1398.5	Reconductor the existing Mickleton – Goucestr 230 kV circuit (AE portion)		JCPL (13.03%) / NEPTUNE (1.20%) / PECO (51.93%) / PEPCO (0.58%) / PSEG (31.99%) / RE (1.27%)
b1598	Reconductor Sherman Av – Carl's Corner 69kV circuit		AEC (100%)
b1599	Replace terminal equipments at Central North 69 kV substation		AEC (100%)
b1600	Upgrade the Mill T2 138/69 kV transformer		AEC (89.21%) / JCPL (4.76%) / PSEG (5.80%) / RE (0.23%)
b2157	Re-build 5.3 miles of the Corson - Tuckahoe 69 kV circuit		AEC (100%)

* Neptune Regional Transmission System, LLC

The Annual Revenue Requirement associated with the Transmission Enhancement Charges are set forth and determined in Appendix A to Attachment H-1.

### **SCHEDULE 12 – APPENDIX**

# (2) Baltimore Gas and Electric Company

Required'	Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b0152	Add (2) 230 kV Breakers at High Ridge and install two Northwest 230 kV 120 MVAR capacitors		BGE (100%)
b0244	Install a 4 th Waugh Chapel 500/230kV transformer, terminate the transformer in a new 500 kV bay and operate the existing in- service spare transformer on standby		BGE (85.56%) / ME (0.83%) / PEPCO (13.61%)
b0298	Replace both Conastone 500/230 kV transformers with larger transformers	As specified in Attachment H- 2A, Attachment 7, the Transmission Enhancement Charge Worksheet	BGE (75.85%) / Dominion (11.54%) / ME (4.73%) / PEPCO (7.88%)
b0298.1	Replace Conastone 230 kV breaker 500-3/2323		BGE (100%)
b0474	Add a fourth 230/115 kV transformer, two 230 kV circuit breakers and a 115 kV breaker at Waugh Chapel		BGE (100%)
b0475	Create two 230 kV ring buses at North West, add two 230/ 115 kV transformers at North West and create a new 115 kV station at North West		BGE (100%)
b0476	Rebuild High Ridge 230 kV substation to Breaker and Half configuration		BGE (100%)
b0477	Replace the Waugh Chapel 500/230 kV transformer #1 with three single phase transformers		BGE (90.56%) / ME (1.51%) / PECO (.92%) / PEPCO (4.01%) / PPL (3.00%)

* Neptune Regional Transmission System, LLC

Required 7	Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b0497	Install a second Conastone – Graceton 230 kV circuit		AEC (9.03%) / DPL (16.90%) / JCPL (9.67%) / ME (1.48%) / Neptune* (0.95%) / PECO (30.88%) / PPL (16.46%) / PSEG (14.11%) / RE (0.52%)
b0497.1	Replace Conastone 230 kV breaker #4		BGE (100%)
b0497.2	Replace Conastone 230 kV breaker #7		BGE (100%)
60500.2	Replace wavetrap and raise operating temperature on Conastone – Otter Creek 230 kV line to 165 deg		AEC (6.31%) / DPL (8.70 %) / JCPL (14.62%) / ME (10.65%) / Neptune* (1.38%) / PECO (15.75%) / PPL (21.14%) / PSEG (20.68%) / RE (0.77%)
b0512.33	MAPP Project Install new Hallowing Point – Calvert Cliffs 500 kV circuit and associated substation work at Calvert Cliffs substation		AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (11.40%) / ComEd (6.13%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%)

Required '	Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b0512.43	MAPP Project Install new Hallowing Point – Calvert Cliffs 500 kV circuit and associated substation work at Calvert Cliffs substation		AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (11.40%) / ComEd (6.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%)
b0729	Rebuild both Harford – Perryman 110615-A and 110616-A 115 kV circuits		BGE (100%)
b0749	Replace 230 kV breaker and associated CT's at Riverside 230 kV on 2345 line; replace all dead-end structures at Brandon Shores, Hawkins Point, Sollers Point and Riverside; Install a second conductor per phase on the spans entering each station		BGE (100%)

Requiree	1 Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b0795	Install a 115 kV breaker at Chesaco Park		BGE (100%)
b0796	Install 2, 115 kV breakers at Gwynnbrook		BGE (100%)
b0819	Remove line drop limitations at the substation terminations for Gwynnbrook – Mays Chapel 115 kV		BGE (100%)
b0820	Remove line drop limitations at the substation terminations and replace switch for Delight – Gwynnbrook 115 kV		BGE (100%)
b0821	Remove line drop limitations at the substation terminations for Northwest – Delight 115 kV		BGE (100%)
b0822	Remove line drop limitations at the substation terminations for Gwynnbrook – Sudbrook 115 kV		BGE (100%)
b0823	Remove line drop limitations at the substation terminations for Windy Edge – Texas 115 kV		BGE (100%)
b0824	Remove line drop limitations at the substation terminations for Granite – Harrisonville 115 kV		BGE (100%)
b0825	Remove line drop limitations at the substation terminations for Harrison – Dolefield 115 kV		BGE (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

* Neptune Regional Transmission System, LLC

Required	Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
	Remove line drop		
	limitations at the		
b0826	substation terminations for		BGE (100%)
	Riverside – East Point 115		
	kV		
	Install an SPS for one year		
	to trip a Mays Chapel 115		
b0827	kV breaker one line		BGE (100%)
	110579 for line overloads		
	110509		
	Disable the HS throwover		
b0828	at Harrisonville for one		BGE (100%)
	year		
	Rebuild each line (0.2		
	miles each) to increase the		
b0870	normal rating to 968 MVA		BGE (100%)
	and the emergency rating		
	to 1227 MVA		
	Increase contact parting		
b0906	time on Wagner 115 kV		BGE (100%)
	breaker 32-3/2		
	Increase contact parting		
b0907	time on Wagner 115 kV		BGE (100%)
	breaker 34-1/3		
	Rebuild Graceton - Bagley		
	230 kV as double circuit		APS (2.02%) / BGE (75.22%)
b1016	line using 1590 ACSR.		/ Dominion (16.1%) / PEPCO
	Terminate new line at		(6.6%)
	Graceton with a new		(0.070)
	circuit breaker.		
	Upgrade wire drops at		
b1055	Center 115kV on the		BGE (100%)
01000	Center - Westport 115 kV		
	circuit		
	Upgrade wire sections at		
b1029	Wagner on both 110534		
	and 110535 115 kV		
	circuits. Reconfigure		
	Lipins Corner substation		BGE (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

The Annual Revenue Requirement associated with the Transmission Enhancement Charges are set forth and determined in Appendix A to Attachment H-2.

riequirea	Transmission Enhancements F	undur Revenue Requirement	Responsible Customer(s)
b1030	Move the Hillen Rd substation from circuits 110507/110508 to circuits 110505/110506		BGE (100%)
b1031	Replace wire sections on Westport - Pumphrey 115 kV circuits #110521, 110524, 110525, and 110526		BGE (100%)
b1083	Upgrade wire sections of the Mays Chapel – Mt Washington circuits (110701 and 110703) to improve the rating to 260/300 SN/SE MVA		BGE (100%)
b1084	Extend circuit 110570 from Deer Park to Northwest, and retire the section of circuit 110560 from Deer Park to Deer Park tap and retire existing Deer Park Breaker		BGE (100%)
b1085	Upgrade substation wire conductors at Lipins Corner to improve the rating of Solley-Lipins Corner sections of circuits 110534 and 110535 to 275/311 MVA SN/SE		BGE (100%)
b1086	Build a new 115 kV switching station between Orchard St. and Monument St.		BGE (100%)
b1175	Apply SPS at Mt. Washington to delay load pick-up for one outage and for the other outage temporarily drop load		BGE (100%)

<b>1</b>		1 1	
	Transfer 6 MW of load		
b1176	from Mt. Washington –		
	East Towson		BGE (100%)
			APS (4.42%) / BGE (66.95%)
	Build a second Panhaal		/ ComEd (4.12%) / Dayton
b1251	Build a second Raphael –		(0.49%) / Dominion (18.76%)
	Bagley 230 kV		/ PENELEC (0.05%) / PEPCO
			(5.21%)
	Re-build the existing Raphael – Bagley 230 kV		APS (4.42%) / BGE (66.95%)
			/ ComEd (4.12%) / Dayton
b1251.1			(0.49%) / Dominion (18.76%)
			/ PENELEC (0.05%) / PEPCO
		(5.21%)	
b1252	Upgrade terminal		
	equipment (remove		
	terminal limitation at		
	Pumphrey Tap to bring		
	the circuit to 790N/941E		BGE (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Tequirea		initia ite (enae itequitement	rtesponsione existentier(s)
1 1050	Replace the existing Northeast 230/115 kV		
b1253	transformer #3 with 500		
	MVA		BGE (100%)
1 1052 1	Replace the Northeast 230		
b1253.1	kV breaker '2317/315'		BGE (100%)
	Revise reclosing on		
b1253.2	Windy Edge 115 kV		
	breaker '110515'		BGE (100%)
	Revise reclosing on		
b1253.3	Windy Edge 115 kV		
	breaker '110516'		BGE (100%)
1 1052 4	Revise reclosing on		
b1253.4	Windy Edge 115 kV breaker '110517'		BCE(1000/)
	breaker 110317		BGE (100%) APS (4.07%) / BGE (53.19%)
			/ ComEd (3.71%) / Dayton
b1254	Build a new 500/230 kV		(0.50%) / Dominion (16.44%)
01234	substation (Emory Grove)		/ PENELEC (0.59%) / PEPCO
			(21.50%)
	Bundle the Emory – North		
b1254.1	West 230 kV circuits		BGE (100%)
	Rebuild existing Erdman		
	115 kV substation to a		
b1267	dual ring-bus		
01207	configuration to enable		
	termination of new		
	circuits		BGE (100%)
	Construct 115 kV double		
b1267.1	circuit underground line		
	from existing Coldspring		
	to Erdman substation		BGE (100%)
b1267.2	Replace Mays Chapel 115		DCE (100%)
	kV breaker '110515A'		BGE (100%)
b1267.3	Replace Mays Chapel 115 kV breaker '110579C'		DCE (100%)
	kv breaker 1105/9C		BGE (100%)

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

Requireu		Annual Revenue Requirement	
b1544	Advance the baseline upgrade B1252 to upgrade terminal equipment removing terminal limitation at Pumphrey Tap on BGE 230 kV circuit 2332-A		BGE (100%)
b1545	Upgrade terminal equipment at both Brandon Shores and Waugh Chapel removing terminal limitation on BGE 230 kV circuit 2343		BGE (100%)
b1546	Upgrade terminal equipment at Graceton removing terminal limitation on BGE portion of the 230 kV Graceton – Cooper circuit 2343		BGE (100%)
b1583	Replace Hazelwood 115 kV breaker '110602'		BGE (100%)
b1584	Replace Hazelwood 115 kV breaker '110604'		BGE (100%)
b1606.1	Moving the station supply connections of the Hazelwood 115/13kV station		BGE (100%)
b1606.2	Installing 115kV tie breakers at Melvale		BGE (100%)
b1785	Revise the reclosing for Pumphrey 115 kV breaker '110521 DR'		BGE (100%)
b1786	Revise the reclosing for Pumphrey 115 kV breaker '110526 DR'		BGE (100%)
b1789	Revise the reclosing for Pumphrey 115 kV breaker '110524DR'		BGE (100%)
b1806	Rebuild Wagner 115kV substation to 80kA		BGE (100%)

#### **SCHEDULE 12 – APPENDIX**

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

Required T	ransmission Enhancements Ar	nnual Revenue Requirement	Responsible Customer(s)
b0144.1	Build new Red Lion – Milford – Indian River 230 kV circuit		DPL (100%)
b0144.2	Indian River Sub – 230 kV Terminal Position		DPL (100%)
b0144.3	Red Lion Sub – 230 kV Terminal Position		DPL (100%)
b0144.4	Milford Sub – (2) 230 kV Terminal Positions		DPL (100%)
b0144.5	Indian River – 138 kV Transmission Line to AT- 20		DPL (100%)
b0144.6	Indian River – 138 & 69 kV Transmission Ckts. Undergrounding		DPL (100%)
b0144.7	Indian River – (2) 230 kV bus ties		DPL (100%)
b0148	Re-rate Glasgow – Mt. Pleasant 138 kV and North Seaford – South Harrington 138 kV		DPL (100%)
b0149	Complete structure work to increase rating of Cheswold – Jones REA 138 kV		DPL (100%)
b0221	Replace disconnect switch on Edgewood-N. Salisbury 69 kV		DPL (100%)
b0241.1	Keeny Sub – Replace overstressed breakers		DPL (100%)
b0241.2	Edgemoor Sub – Replace overstressed breakers		DPL (100%)
b0241.3	Red Lion Sub – Substation reconfigure to provide for second Red Lion 500/230 kV transformer		DPL (84.5%) / PECO (15.5%)
b0261	Replace 1200 Amp disconnect switch on the Red Lion – Reybold 138 kV circuit		DPL (100%)

Requileu		nual Revenue Requirement	Responsible Customer(s)
b0262	Reconductor 0.5 miles of		DPL (100%)
	Christiana – Edgemoor 138 kV		``´´
b0263	Replace 1200 Amp wavetrap at Indian River on the Indian		DPL (100%)
00205	River – Frankford 138 kV line		
b0272.1	Replace line trap and disconnect switch at Keeney 500 kV substation – 5025 Line Terminal Upgrade		AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG
b0282	Install 46 MVAR capacitors on the DPL distribution system		(6.26%) / RE (0.26%) DPL (100%)
b0291	Replace 1600A disconnect switch at Harmony 230 kV and for the Harmony – Edgemoor 230 kV circuit, increase the operating temperature of the conductor		DPL (100%)
b0295	Raise conductor temperature of North Seaford – Pine Street – Dupont Seaford		DPL (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

ræquneu		iluai Revenue Requirement	Responsible Customer(s)
b0296	Rehoboth/Cedar Neck Tap		DPL (100%)
	(6733-2) upgrade		, , , , , , , , , , , , , , , ,
	Create a new 230 kV station		
	that splits the 2 nd Milford to		
1.0220	Indian River 230 kV line,		
b0320	add a 230/69 kV		DPL (100%)
	transformer, and run a new		
	69 kV line down to		
	Harbeson 69 kV		
b0382	Cambridge Sub – Close		DPL (100%)
	through to Todd Substation		
b0383	Wye Mills AT-1 and AT-2		DPL (100%)
	138/69 kV Replacements		
b0384	Replace Indian River AT-20		DPL (100%)
	(400 MVA)		
b0385	Oak Hall to New Church		DPL (100%)
	(13765) Upgrade		
b0386	Cheswold/Kent (6768)		DPL (100%)
	RebuildN. Seaford – Add a $2^{nd}$		
b0387	N. Seaford – Add a 2 138/69 kV autotransformer		DPL (100%)
b0388	Hallwood/Parksley (6790-2)		DPL (100%)
	Upgrade Indian River AT-1 and AT-		
b0389			DPL (100%)
	2 138/69 kV Replacements Rehoboth/Lewes (6751-1		
b0390	and 6751-2) Upgrade		DPL (100%)
	Kent/New Meredith (6704-		
b0391	2) Upgrade		DPL (100%)
	East New Market Sub –		
b0392	Establish a 69 kV Bus		DPL (100%)
	Arrangement		
	Increase the temperature		
	ratings of the Edgemoor –		
b0415	Christiana – New Castle		DPL (100%)
	138 kV by replacing six		
	transmission poles		
	runshinssion poles		

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required	Transmission Enhancements Annual Revenue Requir	ement Responsible Customer(s)
b0437	Spare Keeney 500/230 kV transformer	DPL (100%)
b0441	Additional spare Keeney 500/230 kV transformer	DPL (100%)
b0480	Rebuild Lank – Five Points 69 kV	DPL (100%)
b0481	Replace wave trap at Indian River 138 kV on the Omar – Indian River 138 kV circuit	DPL (100%)
b0482	Rebuild Millsboro – Zoar REA 69 kV	DPL (100%)
b0483	Replace Church 138/69 kV transformer and add two breakers	DPL (100%)
b0483.1	Build Oak Hall – Wattsville 138 kV line	DPL (100%)
b0483.2	Add 138/69 kV transformer at Wattsville	DPL (100%)
b0483.3	Establish 138 kV bus position at Oak Hall	DPL (100%)
b0484	Re-tension Worcester – Berlin 69 kV for 125°C	DPL (100%)
b0485	Re-tension Taylor – North Seaford 69 kV for 125°C	DPL (100%)
b0494.1	Install a 2 nd Red Lion 230/138 kV	DPL (100%)
b0494.2	Hares Corner – Relay Improvement	DPL (100%)
b0494.3	Reybold – Relay Improvement	DPL (100%)
b0494.4	New Castle – Relay Improvement	DPL (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required 7	Transmission Enhancements A	nnual Revenue Requirement	Responsible Customer(s)
			AEC (1.66%) / AEP
			(14.16%) / APS (5.73%) /
			ATSI (7.88%) / BGE
	MAPP Project – install new		(4.22%) / ComEd (13.31%) /
	500 kV transmission from		Dayton (2.11%) / DEOK
	Possum Point to Calvert		(3.29%) / DL (1.75%) / DPL
b0512	Cliffs and install a DC line		(2.50%) / Dominion
00312	from Calvert Cliffs to		(12.86%) / EKPC (1.87%) /
	Vienna and a DC line from		JCPL (3.74%) / ME (1.90%)
	Calvert Cliffs to Indian		/ NEPTUNE* (0.44%) /
	River		PECO (5.34%) / PENELEC
			(1.89%) / PEPCO (3.99%) /
			PPL (4.84%) / PSEG
			(6.26%) / RE (0.26%)
1.0512	Rebuild the Ocean Bay –		DDL (1000/)
b0513	Maridel 69 kV line		DPL (100%)
	Replace existing 12 MVAR		
b0527	capacitor at Bethany with a		DPL (100%)
	30 MVAR capacitor		
	Replace existing 69/12 kV		
b0528	transformer at Bethany with		DPL (100%)
	a 138/12 kV transformer		
	Install an additional 8.4		
b0529	MVAR capacitor at		DPL (100%)
	Grasonville 69 Kv		
	Replace existing 12 MVAR		
b0530	capacitor at Wye Mills with		DPL (100%)
	a 30 MVAR capacitor		

Required	Transmission Enhancements An	nual Revenue Requirement	Responsible Customer(s)
b0531	Create a four breaker 138 kV ring bus at Wye Mills and add a second 138/69 kV transformer		DPL (100%)
b0566	Rebuild the Trappe Tap – Todd 69 kV line		DPL (100%)
b0567	Rebuild the Mt. Pleasant – Townsend 138 kV line		DPL (100%)
b0568	Install a third Indian River 230/138 kV transformer		DPL (100%)
b0725	Add a third Steele 230/138 kV transformer		DPL (100%)
b0732	Rebuild Vaugh – Wells 69 kV		DPL (100%)
b0733	Add a second 230/138 kV transformer at Harmony		DPL (97.06%) / PECO (2.94%)
b0734	Rebuild Church – Steele 138 kV		DPL (100%)
b0735	Rebuild Indian River – Omar – Bethany 138 kV		DPL (100%)
b0736	Rebuild Dupont Edgemoor – Edgemoor – Silverside 69 kV		DPL (69.65%) / PECO (17.30%) / PSEG (12.56%) / RE (0.49%)
b0737	Build a new Indian River – Bishop 138 kV line		DPL (100%)
b0750	Convert 138 kV network path from Vienna – Loretto – Piney - Grove to 230 kV, add 230/138 kV transformer to Loretto 230 kV		DPL (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required 7	Transmission Enhancements An	nual Revenue Requirement	Responsible Customer(s)
b0751	Add two additional breakers at Keeney 500 kV		AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%)
b0752	Replace two circuit breakers to bring the emergency rating up to 348 MVA		DPL (100%)
b0753	Add a second Loretto 230/138 kV transformer		DPL (100%)
b0754	Rebuild 10 miles of Glasgow to Mt. Pleasant 138 kV line to bring the normal rating to 298 MVA and the emergency rating to 333 MVA		DPL (100%)
b0792	Reconfigure Cecil Sub into 230 and 138 kV ring buses, add a 230/138 kV transformer, and operate the 34.5 kV bus normally open		DPL (100%)
b0873	Build 2nd Glasgow-Mt Pleasant 138 kV line		DPL (100%)
b0874	Reconfigure Brandywine substation		DPL (100%)

Requireu	ransmission Ennancements Ai	inual Revenue Requirement	Responsible Customer(s)
b0876	Install 50 MVAR SVC at 138th St 138 kV		DPL (100%)
b0877	Build a 2nd Vienna-Steele 230 kV line		DPL (100%)
b0879.1	Apply a special protection scheme (load drop at Stevensville and Grasonville)		DPL (100%)
b1246	Re-build the Townsend – Church 138 kV circuit		DPL (100%)
b1247	Re-build the Glasgow – Cecil 138 kV circuit		DPL (72.06%) / PECO (27.94%)
b1248	Install two 15 MVAR capacitor at Loretto 69 kV		DPL (100%)
b1249	Reconfigure the existing Sussex 69 kV capacitor		DPL (100%)
b1603	Upgrade 19 miles conductor of the Wattsville - Signepost - Stockton - Kenney 69 kV circuit		DPL (100%)
b1604	Replace CT at Reybold 138 kV substation		DPL (100%)
b1723	Replace strand bus and disconnect switch at Glasgow 138 kV substation		DPL (100%)
b1899.1	Install new variable reactors at Indian River and Nelson 138 kV		DPL (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

* Neptune Regional Transmission System, LLC

The Annual Revenue Requirement associated with the Transmission Enhancement Charges are set forth and determined in Appendix A to Attachment H-3.

<b>1</b>					
b1899.2	Install new variable reactors at Cedar Creek 230 kV		DPL (100%)		
b1899.3	Install new variable reactors at New Castle 138 kV and Easton 69 kV		DPL (100%)		

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

#### **SCHEDULE 12 – APPENDIX**

### (4) Jersey Central Power & Light Company

Required T	ransmission Enhancements Anr	nual Revenue Requirement	Responsible Customer(s)
•	Add 180 MVAR of	-	•
	distributed capacitors. 65		
	MVAR in northern JCPL and		
	115 MVAR in southern		
b0123	JCPL		JCPL (100%)
	Add a 72 MVAR capacitor at		
b0124.1	Kittatinny 230 kV		JCPL (100%)
	Add a 130 MVAR capacitor		
b0124.2	at Manitou 230 kV		JCPL (100%)
	Reconductor Portland –		
	Kittatinny 230 kV with 1590		
b0132	ACSS		JCPL (100%)
	Replace terminal equipment		
	on the Portland – Kittatinny		
	230 kV and CB at the		
b0132.1	Kittatinny bus		JCPL (100%)
	Replace terminal equipment		
	on the Portland – Kittatinny		
	230 kV and CB at the		
b0132.2	Portland bus		JCPL (100%)
	Replace a line trap at Newton		
	230kV substation for the		
	Kittatinny-Newton 230kV		
b0173	circuit		JCPL (100%)
		The following rates are	
		consistent with the	
		settlement agreement filed	<b>ICDI</b> $(25.090/)/$
	Upgrade the Portland –	in and approved by the	JCPL (35.98%) /
b0174	18	Commission in Docket No.	Neptune* (5.76%) /
	Greystone 230kV circuit	ER17-217,	PSEG (55.27%) RE (2.99%)
		2017: \$1,442,372	(2.99%)
		2018: \$1,273,748	
		2019: \$1,235,637	
	Greystone 230kV substation:		
	Change Tap of limiting CT		
b0199	and replace breaker on the		
	Greystone Whippany		
	(Q1031) 230kV line		JCPL (100%)
	Greystone 230kV substation:		
b0200	Change Tap of limiting CT		
	on the West Wharton		

Required '	Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
	Kittatinny 230kV		
	substation: Replace line		
	trap on Kittatinny		
	Pohatcong (L2012)		
	230kV line; Pohatcong		
	230kV substation: Change		
	Tap of limiting CT on		
	Kittatinny Pohatcong		
b0202	(L2012) 230kV line		JCPL (100%)
	Smithburg 230kV		
	Substation: Replace line		
	trap on the East Windsor		
	Smithburg (E2005)		
	230kV line; East Windsor		
	230kV substation:		
	Replace line trap on the		
b0203	East Windsor Smithburg		$\mathbf{ICDI}$ (100%)
00203	(E2005) 230kV line		JCPL (100%)
	Install 72Mvar capacitor		
	at Cookstown 230kV		
b0204	substation		JCPL (100%)
	Reconductor JCPL 2 mile		
	portion of Kittatinny –		
b0267	Newton 230 kV line		JCPL (100%)
		The following rates are	
		consistent with the	
		settlement agreement filed	
		in and approved by the	JCPL (62.43%) / Neptune*
		Commission in Docket No.	(3.03%) / PSEG (33.08%) /
		ER17-217,	RE (1.46%)
	Reconductor the 8 mile	2017: \$734,194	
1.0.2.50	Gilbert – Glen Gardner	2018: \$646,180	
b0268	230 kV circuit	2019: \$628,066	

Required Tra	ansmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
	Install 100 MVAR		
	capacitor at Glen		
b0279.1	Gardner substation		JCPL (100%)
	Install MVAR capacitor		
	at Kittatinny 230 kV		
b0279.2	substation		JCPL (100%)
	Install 17.6 MVAR		
	capacitor at Freneau		
b0279.3	34.5 kV substation		JCPL (100%)
	Install 6.6 MVAR		
	capacitor at Waretown		
	#1 bank 34.5 kV		
b0279.4	substation		JCPL (100%)
	Install 10.8 MVAR		· · · · · ·
	capacitor at Spottswood		
	#2 bank .4.5 kV		
b0279.5	substation		JCPL (100%)
	Install 6.6 MVAR		
	capacitor at Pequannock		
	N bus 34.5 kV		
b0279.6	substation		JCPL (100%)
	Install 6.6 MVAR		, , , , , , , , , , , , , , , , ,
	capacitor at Haskell P		
b0279.7	bus 34.5 kV substation		JCPL (100%)
	Install 6.6 MVAR		· · · · ·
	capacitor at Pinewald #2		
	Bank 34.5 kV		
b0279.8	substation		JCPL (100%)
	Install 6.6 MVAR		
	capacitor at Matrix 34.5		
b0279.9	kV substation		JCPL (100%)
	Install 6.6 MVAR		· · · · · ·
	capacitor at Hamburg		
	Boro Q Bus 34.5 kV		
b0279.10	substation		JCPL (100%)
	Install 6.6 MVAR		
	capacitor at Newburg Q		
b0279.11	Bus 34.5 kV substation		JCPL (100%)
	Install 130 MVAR		
	capacitor at Whippany		
b0286	230 kV		JCPL (100%)
b0286	230 KV		JCPL (100%)

Required Tr	ansmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
	Install 600 MVAR		AEC (0.66%) / JCPL
	Dynamic Reactive		(30.90%) / Neptune*
	Device in the Whippany		(5.05%) / PSEG (60.69%) /
b0289	230 kV vicinity		RE (2.70%)
	Install additional 130		
	MVAR capacitor at		
	West Wharton 230 kV		
b0289.1	substation		JCPL (100%)
	Replace a 1600A line		
	trap at Atlantic Larrabee		
b0292	230 kV substation		JCPL (100%)
	Implement Operating		
	Procedure of closing the		
	Glendon – Gilbert 115		
b0350	kV circuit		JCPL (100%)
* Nep	otune Regional Transmissio	on System, LLC	

Required T	Fransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b0356	Replace wave trap on the Portland – Greystone 230 kV		JCPL (100%)
b0361	Change tap of limiting CT at Morristown 230 kV		JCPL (100%)
b0362	Change tap setting of limiting CT at Pohatcong 230 kV		JCPL (100%)
b0363	Change tap setting of limiting CT at Windsor 230 kV		JCPL (100%)
b0364	Change tap setting of CT at Cookstown 230 kV		JCPL (100%)
b0423.1	Upgrade terminal equipment at Readington (substation conductor)		JCPL (100%)
b0520	Replace Gilbert circuit breaker 12A		JCPL (100%)
b0657	Construct Boston Road 34.5 kV stations, construct Hyson 34.5 stations, add a 7.2 MVAR capacitor at Boston Road 34.5 kV		JCPL (100%)
b0726	Add a 2 nd Raritan River 230/115 kV transformer	The following rates are consistent with the settlement agreement filed in and approved by the Commission in Docket No. ER17-217, 2017: \$950,666 2018: \$846,872 2019: \$827,854	AEC (2.45%) / JCPL (97.55%)
b1020	Replace wave trap at Englishtown on the Englishtown - Manalapan circuit		JCPL (100%)

**D**aguired Transmission Enhancements Annual Devenue Decuirement Desponsible Customer(s)

Required T	ransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1075	Replace the West Wharton - Franklin - Vermont D931 and J932 115 kV line conductors with 1590 45/7 ACSR wire between the tower structures 78 and 78-B		JCPL (100%)
b1154.1	Upgrade the Whippany 230 kV breaker 'JB'		JCPL (100%)
b1155.1	Upgrade the Red Oak 230 kV breaker 'G1047'		JCPL (100%)
b1155.2	Upgrade the Red Oak 230 kV breaker 'T1034'		JCPL (100%)
b1345	Install Martinsville 4- breaker 34.5 rink bus		JCPL (100%)
b1346	Reconductor the Franklin – Humburg (R746) 4.7 miles 34.5 kV line with 556 ACSR and build 2.7 miles 55 ACSR line extension to Sussex		JCPL (100%)
b1347	Replace 500 CU substation conductor with 795 ACSR on the Whitesville – Asbury Tap 34.5 kV (U47) line		JCPL (100%)
b1348	Upgrade the Newton – North Newton 34.5 kV (F708) line by adding a second underground 1250 CU egress cable		JCPL (100%)
b1349	Reconductor 5.2 miles of the Newton – Woodruffs Gap 34.5 kV (A703) line with 556 ACSR		JCPL (100%)
b1350	Upgrade the East Flemington – Flemington 34.5 kV (V724) line by adding second underground 1000 AL egress cable and replacing 4/0		JCPL (100%)

Required '	Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
	Add 34.5 kV breaker on		
b1351	the Larrabee A and D bus		
	tie		JCPL (100%)
	Upgrade the Smithburg –		
	Centerstate Tap 34.5 kV		
b1352	(X752) line by adding		
01552	second 200 ft		
	underground 1250 CU		
	egress cable		JCPL (100%)
	Upgrade the Larrabee –		
	Laurelton 34.5 kV (Q43)		
b1353	line by adding second 700		
	ft underground 1250 CU		
	egress cable		JCPL (100%)

equired Transmission Enhancements	Annual Revenue Requirement	Re
1	1	

Required T	ransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
	Add four 34.5 kV		
b1354	breakers and re-configure		
	A/B bus at Rockaway		JCPL (100%)
	Build a new section 3.3		
b1355	miles 34.5 kV 556 ACSR		
01555	line from Riverdale to		
	Butler		JCPL (100%)
	Build 10.2 miles new		
b1357	34.5 kV line from		
	Larrabee – Howell		JCPL (100%)
	Install a Troy Hills 34.5		
	kV by-pass switch and		
b1359	reconfigure the Montville		
	– Whippany 34.5 kV		
	(D4) line		JCPL (100%)
	Reconductor 0.7 miles of		
	the Englishtown –		
b1360	Freehold Tap 34.5 kV		
	(L12) line with 556		
	ACSR		JCPL (100%)
	Reconductor the		
1 1 0 4 1	Oceanview – Neptune		
b1361	Tap 34.5 kV (D130) line		
	with 795 ACSR		JCPL (100%)
	Install a 23.8 MVAR		
b1362	capacitor at Wood Street		
	69 kV		JCPL (100%)
	Upgrade South Lebanon		
	230/69 kV transformer		
b1364	#1 by replacing 69 kV		
	substation conductor with		
	1590 ACSR		JCPL (100%)
	Upgrade the Whippany		
b1399.1	230 kV breaker 'QJ'		JCPL (100%)
	Rocktown - Install a		JCI L (10070)
	230/34.5 kV transformer		
	by looping the Pleasant		
b1673	Valley - E Flemington		
010/5	230 kV Q-2243 line (0.4		
	miles) through the		
	Rocktown Substation		JCPL (100%)
	ROCKIOWII SUUSIAIIUII		JCIL (10070)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Build a new Englishlown - Wyckoff St 15 mile, 115 kV line and install 115/34.5 kV transformer at Wyckoff StJCPL (100%)Atlantic Sub - 230 kV ring bus reconfiguration. Put a "source" between the Red Bank and Oceanview "loads"JCPL (100%)b1689Build a new third 230 kV line into the Red Bank 230 kV substationJCPL (100%)b1690Build a new third 230 kV line into the Red Bank 230 kV substationJCPL (100%)b1690Build a new third 230 kV line into the Red Bank 230 kV substationJCPL (100%)b1853Install new 135 MVA 230/34.5 kV transformer with one 230 kV CB at Eaton Crest and create a new 34.5 kV CB straight bus to feed new radial lines to Locust Groove and Interdata/WoodbineJCPL (100%)b1854Readington I737 34.5 kV Line - Parallel existing 1250 CU UG cable (440 feet)JCPL (100%)b1854Oceanview Substation - Relocate the H216 breaker from the A bus to the B busJCPL (100%)b1856Madison Tp to Madison (N14) line - Upgrade limiting 250 Cu substation - Replace both the 397 ACSR and the 500 Cu substation conductor with 795 ACSR on the 34.5 kV MOINTILe substation - Replace both the 397 ACSR on the 34.5 kVJCPL (100%)	Required'	Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1674       kV line and install         115/34.5 kV transformer       at Wyckoff St         attantic Sub - 230 kV       ring bus reconfiguration.         b1689       Put a "source" between         the Red Bank and       Oceanview "loads"         230 kV substation       JCPL (100%)         b1690       Build a new third 230 kV         b1690       Install new 135 MVA         230 kV substation       JCPL (100%)         b1853       Install new 135 MVA         230 xV substation       JCPL (100%)         b1853       Install new 135 MVA         230 xV substation       JCPL (100%)         b1854       Eaton Crest and create a new 34.5 kV CB straight bus to feed new radial lines to Locust Groove and Interdata/Woodbine       JCPL (100%)         b1854       I250 CU UG cable (440 feet)       JCPL (100%)         cealington I737 34.5 kV       Line - Parallel existing 1250 CU UG cable (440 feet)       JCPL (100%)         b1855       Oceanview Substation - Relocate the H216 breaker from the A bus to the B bus       JCPL (100%)         b1856       Imiting 250 Cu substation conductor with 795 ACSR at Madison sub       JCPL (100%)         b1857       Motiville substation - Replace both the 397       ACSR and the 500 Cu substation conductor with 795 ACSR on the 34.5 kV				
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b1856(N14) line - Upgrade limiting 250 Cu substation conductor with 795 ACSR at Madison subJCPL (100%)b1857Montville substation - Replace both the 397 ACSR and the 500 Cu substation conductor with 795 ACSR on the 34.5 kVJCPL (100%)				
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b1857 Montville substation - Replace both the 397 ACSR and the 500 Cu substation conductor with 795 ACSR on the 34.5 kV		0		
b1857 Montville substation - Replace both the 397 ACSR and the 500 Cu substation conductor with 795 ACSR on the 34.5 kV				JCPL (100%)
b1857 Replace both the 397 ACSR and the 500 Cu substation conductor with 795 ACSR on the 34.5 kV				
b1857 ACSR and the 500 Cu substation conductor with 795 ACSR on the 34.5 kV				
substation conductor with 795 ACSR on the 34.5 kV	1 10 77	-		
795 ACSR on the 34.5 kV	b1857			
		(M117) line		JCPL (100%)

Required '	Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1858	Reconductor the Newton - Mohawk (Z702) 34.5 kV line with 1.9 miles of 397 ACSR		JCPL (100%)
b2003	Construct a Whippany to Montville 230 kV line (6.4 miles)		JCPL (100%)
b2015	Build a new 230 kV circuit from Larrabee to Oceanview	The following rates are consistent with the settlement agreement filed in and approved by the Commission in Docket No. ER17-217, 2017: \$9,616,241 2018: \$18,839,128 2019: \$19,935,489	JCPL (37.04%) / NEPTUNE* (24.40%) / PSEG (37.08%) / RE (1.48%)
b2147	At Deep Run, install 115 kV line breakers on the B2 and C3 115 kV lines		JCPL (100%)

#### **SCHEDULE 12 – APPENDIX**

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

		1	AEC((750/)/ADC((4000/)/)
	Install 230Kv series reactor		AEC (6.75%) / APS (4.00%) / DPL (9.16%) / JCPL
1.0215	and 2-100MVAR PLC		(16.96%) / ME (10.60%) /
b0215	switched capacitors at		Neptune* (1.70%) / PECO
	Hunterstown		(19.12%) / PPL (8.55%) /
			PSEG (22.82%) / RE (0.34%)
b0404.1	Replace South Reading 230 kV breaker 107252		ME (100%)
b0404.2	Replace South Reading 230		
	kV breaker 100652		ME (100%)
	Rebuild Hunterstown –		
b0575.1	Texas Eastern Tap 115 kV		
	*		ME (100%)
	Rebuild Texas Eastern Tap		
b0575.2	– Gardners 115 kV and		
00373.2	associated upgrades at Gardners including		
	disconnect switches		ME (100%)
	Reconductor Jackson – JE		WIE (10078)
b0650	Baker – Taxville 115 kV		
00050	line		ME (100%)
	Install bus tie circuit breaker		
	on Yorkana 115 kV bus and		
	expand the Yorkana 230 kV		
	ring bus by one breaker so		
1.0652	that the Yorkana 230/115		
b0652	kV banks 1, 3, and 4 cannot		
	be lost for either B-14		
	breaker fault or a 230 kV		
	line or bank fault with a		
	stuck breaker		ME (100%)
* NT 4	Degional Transmission System	IIO	

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

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

Required	Transmission Enhancements	Annual Revenue Requirement	t Responsible Customer(s)
	Construct a 230 kV		
	Bernville station by		
	tapping the North Temple –		
b0653	North Lebanon 230 kV		
	line. Install a 230/69 kV		
	transformer at existing		
	Bernville 69 kV station		ME (100%)
1 1000	Replace Portland 115kV		
b1000	breaker '95312'		ME (1000/)
			ME (100%)
b1001	Replace Portland 115kV		
01001	breaker '92712'		ME (100%)
b1002	Replace Hunterstown 115		
01002	kV breaker '96392'		ME (100%)
b1003	Replace Hunterstown 115		
01005	kV breaker '96292'		ME (100%)
b1004	Replace Hunterstown 115		
01001	kV breaker '99192'		ME (100%)
	Replace existing Yorkana		
	230/115 kV transformer		
b1061	banks 1 and 4 with a		
01001	single, larger transformer		
	similar to transformer bank		
	#3		ME (100%)
b1061.1	Replace the Yorkana 115		
01001.1	kV breaker '97282'		ME (100%)
b1061.2	Replace the Yorkana 115		
01001.2	kV breaker 'B282'		ME (100%)
	Replace the limiting bus		
	conductor and wave trap at		
b1302	the Jackson 115 kV		
	terminal of the Jackson –		
	JE Baker Tap 115 kV line		ME (100%)
	Reconductor the		
b1365	Middletown – Collins 115		
01505	kV (975) line 0.32 miles of		
	336 ACSR		ME (100%)
* Nentune	e Regional Transmission Syste	mIIC	

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

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

	Reconductor the Collins –	*
	Cly – Newberry 115 kV	
b1366	(975) line 5 miles with 795	
	ACSR	ME (100%)
	Reconductor 2.4 miles of	
	existing 556 and 795	
1 1 7 9 7	ACSR from Harley	
b1727	Davidson to Pleasureville	
	115 kV with 795 ACSS to	
	raise the ratings	ME (100%)
		AEC (1.66%) / AEP (14.16%) /
		APS (5.73%) / ATSI (7.88%) /
	Install a 500 MVAR SVC at the existing Hunterstown 500kV substation	BGE (4.22%) / ComEd
		(13.31%) / Dayton (2.11%) /
		DEOK (3.29%) / DL (1.75%) /
b1800		DPL (2.50%) / Dominion
01800		(12.86%) / EKPC (1.87%) /
		JCPL (3.74%) / ME (1.90%) /
		NEPTUNE* (0.44%) / PECO
		(5.34%) / PENELEC (1.89%) /
		PEPCO (3.99%) / PPL (4.84%)
		/ PSEG (6.26%) / RE (0.26%)
		AEC (6.48%) / AEP (2.58%) /
		APS (6.89%) / BGE (6.58%) /
b1801	Build a 250 MVAR SVC at	DPL (12.40%) / Dominion
	Altoona 230 kV	(14.90%) / JCPL (8.15%) / ME
		(6.21%) / Neptune* (0.82%) /
		PECO (21.58%) / PPL (4.89%)
		/ PSEG (8.19%) / RE (0.33%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

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

Customer		Annual Revenue Requirement	Responsible
Customer			
b1816.5	Replace SCCIR (Sub-		
	conductor) at Hunterstown		
	Substation on the No. 1,		
	230/115 kV transformer		ME (100%)
	Replace limiting wave trap,		
	circuit breaker, substation		
b1999	conductor, relay and		
	current transformer		
	components at Northwood		ME (100%)
	Replace limiting wave trap		
b2000	on the Glendon -		
	Hosensack line		ME (100%)
	Replace limiting circuit		
	breaker and substation		
b2001	conductor transformer		
	components at Portland		
	230kV		ME (100%)
1 2002	Northwood 230/115 kV		, ,
b2002	Transformer upgrade		ME (100%)
	Construct a new North		. ,
1 0000	Temple - Riverview -		
b2023	Cartech 69 kV line (4.7		
	miles) with 795 ACSR		ME (100%)
	Upgrade 4/0 substation		
b2024	conductors at Middletown		
	69 kV		ME (100%)
	Upgrade 4/0 and 350 Cu		
	substation conductors at		
1 2025	the Middletown Junction		
b2025	terminal of the Middletown		
	Junction - Wood Street Tap		
	69 kV line		ME (100%)
	Upgrade an OC protection		<pre></pre>
b2026	relay at the Baldy 69 kV		
	substation		ME (100%)
	Install a 115 kV 28.8		(/
b2148	MVAR capacitor at		
5=110	Pleasureville substation		ME (100%)
			····· (100/0)

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

-	Transmission Enhancements	Annual Revenue Require	ement Responsible
Customer	(s)		
	Upgrade substation riser on		
b2149	the Smith St York Inc.		
	115 kV line		ME (100%)
	Upgrade York Haven		
b2150	structure 115 kV bus		
02150	conductor on Middletown		
	Jct Zions View 115 kV		ME (100%)

 Jct. - Zions View 115 kV

 * Neptune Regional Transmission System, LLC

#### **SCHEDULE 12 – APPENDIX**

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

Required T	ransmission Enhancements	Annual Revenue Requirem	ent Responsible Customer(s)
b0284.1	Build 500 kV substation in PENELEC – Tap the Keystone – Juniata and Conemaugh – Juniata 500 kV, connect the circuits with a breaker and half scheme, and install new 400 MVAR capacitor		AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%)
b0284.3	Replace wave trap and upgrade a bus section at Keystone 500 kV – on the Keystone – Airydale 500 kV		AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%)

Required T	ransmission Enhancements	Annual Revenue Requirement	t Responsible Customer(s)
			AEC (1.66%) / AEP (14.16%)
			/ APS (5.73%) / ATSI
			(7.88%) / BGE (4.22%) /
			ComEd (13.31%) / Dayton
	Replace wave trap at		(2.11%) / DEOK (3.29%) /
	Keystone $500 \text{ kV}$ – on the		DL (1.75%) / DPL (2.50%) /
b0285.1	Keystone – Conemaugh		Dominion (12.86%) / EKPC
	500 kV		(1.87%) / JCPL (3.74%) / ME
	500 K V		(1.90%) / NEPTUNE*
			(0.44%) / PECO (5.34%) /
			PENELEC (1.89%) / PEPCO
			(3.99%) / PPL (4.84%) /
			PSEG (6.26%) / RE (0.26%)
			AEC (1.66%) / AEP (14.16%)
	Replace wave trap and		/ APS (5.73%) / ATSI
			(7.88%) / BGE (4.22%) /
			ComEd (13.31%) / Dayton
			(2.11%) / DEOK (3.29%) /
	relay at Conemaugh 500		DL (1.75%) / DPL (2.50%) /
b0285.2	kV – on the Conemaugh –		Dominion (12.86%) / EKPC
	Keystone 500 kV		(1.87%) / JCPL (3.74%) / ME
	Keystone 500 k v		(1.90%) / NEPTUNE*
			(0.44%) / PECO (5.34%) /
			PENELEC (1.89%) / PEPCO
			(3.99%) / PPL (4.84%) /
			PSEG (6.26%) / RE (0.26%)

<b>Mid-Atlantic Interstate</b>	Transmission,	LLC for	the P	ennsylvania	Electric	<b>Company</b> 2	Zone
(cont.)							

Required 7	Fransmission Enhancements	Annual Revenue Requiremen	t Responsible Customer(s)
b0349	Upgrade Rolling Meadows-Gore Jct 115 kV		PENELEC (100%)
b0360	Construction of a ring bus on the 345 kV side of Wayne substation		PENELEC (100%)
b0365	Add a 50 MVAR, 230 kV cap bank at Altoona 230 kV		PENELEC (100%)
b0369	Install 100 MVAR Dynamic Reactive Device at Airydale 500 kV substation		AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%)
b0370	Install 500 MVAR Dynamic Reactive Device at Airydale 500 kV substation		AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%)

Required Transmission Enhancements Customer(s) Annual Revenue Requirement Responsible

Customer	(S)	
b0376	Install 300 MVAR capacitor at Conemaugh 500 kV substation	AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%)
b0442	Spare Keystone 500/230 kV transformer	PENELEC (100%)
b0515	Replace Lewistown circuit breaker 1LY Yeagertown	PENELEC (100%)
b0516	Replace Lewistown circuit breaker 2LY Yeagertown	PENELEC (100%)
b0517	Replace Shawville bus section circuit breaker	PENELEC (100%)
b0518	Replace Homer City circuit breaker 201 Johnstown	PENELEC (100%)

Required 7	<b>Fransmission Enhancements</b>	Annual Revenue Requirement	Responsible Customer(s)
	Replace Keystone circuit		
b0519	breaker 4 Transformer -		
	20		PENELEC (100%)
			AEC (1.66%) / AEP (14.16%) /
			APS (5.73%) / ATSI (7.88%) /
			BGE (4.22%) / ComEd
			(13.31%) / Dayton (2.11%) /
	Install 250 MVAR		DEOK (3.29%) / DL (1.75%) /
b0549	capacitor at Keystone 500		DPL (2.50%) / Dominion
00517	kV		(12.86%) / EKPC (1.87%) /
	K V		JCPL (3.74%) / ME (1.90%) /
			NEPTUNE* (0.44%) / PECO
			(5.34%) / PENELEC (1.89%) /
			PEPCO (3.99%) / PPL (4.84%)
			/ PSEG (6.26%) / RE (0.26%)
	Install 25 MVAR capacitor at Lewis Run 115 kV substation		AEC (8.64%) / APS (1.70%) /
		I	OPL (12.33%) / JCPL (18.30%)
b0550			/ ME (1.56%) / Neptune*
00550			(1.78%) / PECO (21.94%) /
		F	PPL (6.45%) / PSEG (26.32%) /
			RE (0.98%)
			AEC (8.64%) / APS (1.70%) /
	Install 25 MVAR	I	OPL (12.33%) / JCPL (18.30%)
b0551	capacitor at Saxton 115		/ ME (1.56%) / Neptune*
00551	kV substation		(1.78%) / PECO (21.94%) /
	K v Substation	F	PPL (6.45%) / PSEG (26.32%) /
			RE (0.98%)
			AEC (8.64%) / APS (1.70%) /
	Install 50 MVAD	I	OPL (12.33%) / JCPL (18.30%)
b0552	Install 50 MVAR		/ ME (1.56%) / Neptune*
00552	capacitor at Altoona 230 kV substation		(1.78%) / PECO (21.94%) /
	KV substation	F	PPL (6.45%) / PSEG (26.32%) /
			RE (0.98%)

Required 7	<b>Fransmission Enhancements</b>	Annual Revenue Requirement	Responsible Customer(s)
			AEC (8.64%) / APS (1.70%) /
	Install 50 MVAR		DPL (12.33%) / JCPL
b0553	capacitor at Raystown 230		(18.30%) / ME (1.56%) /
00555	kV substation		Neptune* (1.78%) / PECO
	K V Substation		(21.94%) / PPL (6.45%) /
			PSEG (26.32%) / RE (0.98%)
			AEC (8.64%) / APS (1.70%) /
	Install 100 MVAR		DPL (12.33%) / JCPL
b0555	capacitor at Johnstown		(18.30%) / ME (1.56%) /
00555	230 kV substation		Neptune* (1.78%) / PECO
			(21.94%) / PPL (6.45%) /
			PSEG (26.32%) / RE (0.98%)
	Install 50 MVAR capacitor at Grover 230 kV substation		AEC (8.64%) / APS (1.70%) /
			DPL (12.33%) / JCPL
b0556			(18.30%) / ME (1.56%) /
00550			Neptune* (1.78%) / PECO
			(21.94%) / PPL (6.45%) /
			PSEG (26.32%) / RE (0.98%)
	Install 75 MVAR capacitor at East Towanda 230 kV substation		AEC (8.64%) / APS (1.70%) /
			DPL (12.33%) / JCPL
b0557			(18.30%) / ME (1.56%) /
00557			Neptune* (1.78%) / PECO
			(21.94%) / PPL (6.45%) /
			PSEG (26.32%) / RE (0.98%)
	Install 25 MVAR		
b0563	capacitor at Farmers		
	Valley 115 kV substation		PENELEC (100%)
	Install 10 MVAR		
b0564	capacitor at Ridgeway		
	115 kV substation		PENELEC (100%)
* NI 4	- Pagional Transmission Sys		

<b>Required Transmission Enhancements</b>	Annual Revenue Requirement	Responsible Customer(s)
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Required	I ransmission Ennancements	Annual Revenue Requirement	Responsible Customer(s)
	Reconfigure the Cambria		
	Slope 115 kV and		
b0654	Wilmore Junction 115 kV		
00004	stations to eliminate		
	Wilmore Junction 115 kV		
	3-terminal line		PENELEC (100%)
	Reconfigure and expand		
	the Glade 230 kV ring bus		
b0655	to eliminate the Glade		
	Tap 230 kV 3-terminal		
	line		PENELEC (100%)
	Add three breakers to		
b0656	form a ring bus at Altoona		
	230 kV		PENELEC (100%)
	Upgrade the Homer City		
b0794	230 kV breaker 'Pierce		
	Road'		PENELEC (100%)
	Dealers Clarge 115 HV		
b1005	Replace Glory 115 kV breaker '#7 XFMR'		
	breaker #/ AFIVIR		PENELEC (100%)
	Replace Shawville 115		
b1006	kV breaker 'NO.14		
	XFMR'		<b>PENELEC</b> (100%)
	Replace Shawville 115		
b1007	kV breaker 'NO.15		
	XFMR'		<b>PENELEC</b> (100%)
b1008	Replace Shawville 115		
	kV breaker '#1B XFMR'		<b>PENELEC</b> (100%)
b1009	Replace Shawville 115		
	kV breaker '#2B XFMR'		<b>PENELEC</b> (100%)
b1010	Replace Shawville 115		
01010	kV breaker 'Dubois'		<b>PENELEC</b> (100%)
			1 LITLLE (10070)

Required T	Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1011	Replace Shawville 115 kV breaker 'Philipsburg'		PENELEC (100%)
b1012	Replace Shawville 115 kV breaker 'Garman'		PENELEC (100%)
b1059	Replace a CRS relay at Hooversville 115 kV station		PENELEC (100%)
b1060	Replace a CRS relay at Rachel Hill 115 kV station		PENELEC (100%)
b1153	Upgrade Conemaugh 500/230 kV transformer and add a new line from Conemaugh-Seward 230 kV		AEC (3.86%) / APS (6.45%) / BGE (17.33%) / DL (0.33%) / JCPL (12.95%) / ME (7.10%) / PECO (11.88%) / PEPCO (0.57%) / PPL (15.89%) / PSEG (21.15%) / RE (0.74%) / NEPTUNE* (1.75%)
b1153.1	Revise the reclosing on the Shelocta 115 kV breaker 'Lucerne'		PENELEC (100%)
b1169	Replace Shawville 115 kV breaker '#1A XFMR'		PENELEC (100%)
b1170	Replace Shawville 115 kV breaker '#2A XFMR'		PENELEC (100%)
b1277	Build a new Osterburg East – Bedford North 115 kV Line, 5.7 miles of 795 ACSR		PENELEC (100%)
b1278	Install 25 MVAR Capacitor Bank at Somerset 115 kV		PENELEC (100%)

Required Transmission Enhancements Customer(s) Annual Revenue Requirement Responsible

Customer(	s)	
b1367	Replace the CambriaSlope 115/46 kV 50MVA transformer with75 MVA	PENELEC (100%)
b1368	Replace the Claysburg115/46 kV 30 MVAtransformer with 75MVA	PENELEC (100%)
b1369	Replace the 4/0 CUsubstation conductor with795 ACSR on theWestfall S21 Tap 46 kVline	PENELEC (100%)
b1370	Install a 3rd 115/46 kV transformer at Westfall	PENELEC (100%)
b1371	Reconductor 2.6 miels of the Claysburg – HCR 46 kV line with 636 ACSR	PENELEC (100%)
b1372	Replace 4/0 CU substation conductor with 795 ACSR on the Hollidaysburg – HCR 46 kV	PENELEC (100%)
b1373	Re-configure the Erie West 345 kV substation, add a new circuit breaker and relocate the Ashtabula line exit	PENELEC (100%)
b1374	Replace wave traps at Raritan River and DeepRun 115 kV substations with higher rated equipment for both B2 and C3 circuits	PENELEC (100%)
b1535	Reconductor 0.8 miles of the Gore Junction – ESG Tap 115 kV line with 795 ACSS	PENELEC (100%)

Required Transmission Enhancements Customer(s) Annual Revenue Requirement Responsible

Customer(	5)	
b1607	Reconductor the New Baltimore - Bedford North 115 kV	PENELEC (100%)
b1608	Construct a new 345/115 kV substation and loop the Mansfield - Everts 115 kV	APS (8.61%) / PECO (1.72%) / PENELEC (89.67%)
b1609	Construct Four Mile Junction 230/115 kV substation. Loop the Erie South - Erie East 230 kV line, Buffalo Road - Corry East and Buffalo Road - Erie South 115 kV lines	APS (4.86%) / PENELEC (95.14%)
b1610	Install a new 230 kV breaker at Yeagertown	<b>PENELEC</b> (100%)
b1713	Install a 345 kV breaker at Erie West and relocate Ashtabula 345 kV line	PENELEC (100%)
b1769	Install a 75 MVAR cap bank on the Four Mile 230 kV bus	PENELEC (100%)
b1770	Install a 50 MVAR cap bank on the Buffalo Road 115 kV bus	PENELEC (100%)
b1802	Build a 100 MVAR Fast Switched Shunt and 200 MVAR Switched Shunt at Mansfield 345 kV	AEC (6.48%) / AEP (2.58%) / APS (6.89%) / BGE (6.58%) / DPL (12.40%) / Dominion (14.90%) / JCPL (8.15%) / ME (6.21%) / NEPTUNE* (0.82%) / PECO (21.58%) / PPL (4.89%) / PSEG (8.19%) / RE (0.33%)

Required T	Fransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1821	Replace the Erie South 115 kV breaker 'Union City'		PENELEC (100%)
b1943	Construct a 115 kV ring bus at Claysburg Substation. Bedford North and Saxton lines will no longer share a common breaker		PENELEC (100%)
b1944	Reconductor Eclipse substation 115 kV bus with 1033 kcmil conductor		PENELEC (100%)
b1945	Install second 230/115 kV autotransformer at Johnstown		PENELEC (100%)
b1966	Replace the 1200 Amp Line trap at Lewistown on the Raystown- Lewistown 230 kV line and replace substation conductor at Lewistown		PENELEC (100%)
b1967	Replace the Blairsville 138/115 kV transformer		PENELEC (100%)
b1990	Install a 25 MVAR 115 kV Capacitor at Grandview		PENELEC (100%)
b1991	Construct Farmers Valley 345/230 kV and 230/115 kV substation. Loop the Homer City-Stolle Road 345 kV line into Farmers Valley		PENELEC (100%)
b1992	Reconductor Cambria Slope-Summit 115kV with 795 ACSS Conductor		PENELEC (100%)

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

Required Transmission Enhancements Customer(s) Annual Revenue Requirement Responsible

Customer(	8)	
b1993	Relocate the Erie South 345 kV line terminal	APS (10.19%) / JCPL (5.19%) / Neptune* (0.55%) / PENELEC (71.38%) / PSEG (12.21%) / RE (0.48%)
b1994	Convert Lewis Run- Farmers Valley to 230 kV using 1033.5 ACSR conductor. Project to be completed in conjunction with new Farmers Valley 345/230 kV transformation	APS (33.49%) / JCPL (8.72%) / ME (5.57%) / Neptune (0.87%) / PENELEC (37.14%) / PSEG (13.67%) / RE (0.54%)
b1995	Change CT Ratio at Claysburg	PENELEC (100%)
b1996.1	Replace 600 Amp Disconnect Switches on Ridgeway-Whetstone 115 kV line with 1200	DENIEL EC. (100%)
b1996.2	Amp DisconnectsReconductor Ridgwayand Whetstone 115 kVBus	PENELEC (100%) PENELEC (100%)
b1996.3	Replace Wave Trap at Ridgway	PENELEC (100%)
b1996.4	Change CT Ratio at Ridgway	PENELEC (100%)
b1997	Replace 600 Amp Disconnect Switches on Dubois-Harvey Run- Whetstone 115 kV line with 1200 Amp Disconnects	PENELEC (100%)

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

Required Transmission Enhancements Customer(s) Annual Revenue Requirement Responsible

Customer(	5)		
b1998	Install a 75 MVAR 115 kV Capacitor at Shawville	PENELEC (100%)	)
b2016	Reconductor bus at Wayne 115 kV station	PENELEC (100%)	)

## SCHEDULE 12 – APPENDIX

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

Required T	Transmission Enhancements	Annual Revenue Requirement	t Responsible Customer(s)
b0171.1	Replace two 500 kV circuit breakers and two wave traps at Elroy substation to increase rating of Elroy - Hosensack 500 kV		AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%)
b0180	Replace Whitpain 230kV circuit breaker #165		PECO (100%)
b0181	Replace Whitpain 230kV circuit breaker #J105		PECO (100%)
b0182	Upgrade Plymouth Meeting 230kV circuit breaker #125		PECO (100%)
b0205	Install three 28.8Mvar capacitors at Planebrook 35kV substation		PECO (100%)
b0206	Install 161Mvar capacitor at Planebrook 230kV substation		AEC (14.20%) / DPL (24.39%) / PECO (57.94%) / PSEG (3.47%)

Required 7		Revenue Requirement Responsible Customer(s)
	Install 161Mvar capacitor	AEC (14.20%) / DPL
b0207	at Newlinville 230kV	(24.39%) / PECO (57.94%) /
	substation	PSEG (3.47%)
	Install 161Mvar capacitor	AEC (14.20%) / DPL
b0208	Heaton 230kV substation	(24.39%) / PECO (57.94%) /
		PSEG (3.47%)
	Install 2% series reactor at	
b0209	Chichester substation on	AEC (65.23%) / JCPL
00207	the Chichester -	(25.87%)/ Neptune* (2.55%) /
	Mickleton 230kV circuit	PSEG (6.35%)
	Upgrade Chichester –	
	Delco Tap 230 kV and the	
b0264	PECO portion of the	
	Delco Tap – Mickleton	AEC (89.87%) / JCPL
	230 kV circuit	(9.48%) / Neptune* (0.65%)
	Replace two wave traps	
	and ammeter at Peach	
b0266	Bottom, and two wave	
00200	traps and ammeter at	
	Newlinville 230 kV	
	substations	PECO (100%)
		AEC (1.66%) / AEP (14.16%)
		/ APS (5.73%) / ATSI
		(7.88%) / BGE (4.22%) /
	Install a new 500/230 kV	ComEd (13.31%) / Dayton
	substation in PECO, and	(2.11%) / DEOK (3.29%) /
	tap the high side on the	DL (1.75%) / DPL (2.50%) /
b0269	Elroy – Whitpain 500 kV	Dominion (12.86%) / EKPC
	and the low side on the	(1.87%) / JCPL (3.74%) / ME
	North Wales – Perkiomen	(1.90%) / NEPTUNE*
	230 kV circuit	(0.44%) / PECO (5.34%) /
		PENELEC (1.89%) / PEPCO
		(3.99%) / PPL (4.84%) /
		PSEG (6.26%) / RE (0.26%)†

Required Transmission Enhancements Annual Revenue R	Requirement Responsible Custome	r(s)
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		1	(~)
	Install a new 500/230 kV substation in PECO, and		
	tap the high side on the		
b0269	Elroy – Whitpain 500 kV		
	and the low side on the		
	North Wales – Perkiomen		AEC (8.25%) / DPL (9.56%) /
	230 kV circuit		PECO (82.19%)††
	Add a new 230 kV circuit		
b0269.1	between Whitpain and		AEC (8.25%) / DPL (9.56%) /
	Heaton substations		PECO (82.19%)††
	Reconductor the Whitpain		
b0269.2	1 – Plymtg 1 230 kV		AEC (8.25%) / DPL (9.56%) /
	circuit		PECO (82.19%)††
	Convert the Heater has to		
b0269.3	Convert the Heaton bus to		AEC (8.25%) / DPL (9.56%) /
	a ring bus		PECO (82.19%)††
	Reconductor the Heaton –		
b0269.4	Warminster 230 kV		AEC (8.25%) / DPL (9.56%) /
	circuit		PECO (82.19%)††
	Reconductor Warminster		
b0269.5	– Buckingham 230 kV		AEC (8.25%) / DPL (9.56%) /
	circuit		PECO (82.19%)††

* Neptune Regional Transmission System, LLC †Cost allocations associated with Regional Facilities and Necessary Lower Voltage Facilities associated with the project

††Cost allocations associated with below 500 kV elements of the project

Required T	ransmission Enhancements A	nnual Revenue Requirement	Responsible Customer(s)
			AEC (1.66%) / AEP (14.16%)
			/ APS (5.73%) / ATSI (7.88%)
			/ BGE (4.22%) / ComEd
			(13.31%) / Dayton (2.11%) /
	Add a new 500 kV		DEOK (3.29%) / DL (1.75%) /
	breaker at Whitpain		DPL (2.50%) / Dominion
b0269.6	between #3 transformer		(12.86%) / EKPC (1.87%) /
	and 5029 line		JCPL (3.74%) / ME (1.90%) /
			NEPTUNE* (0.44%) / PECO
			(5.34%) / PENELEC (1.89%) /
			PEPCO (3.99%) / PPL
			(4.84%) / PSEG (6.26%) / RE
			(0.26%)
b0269.7	Replace North Wales 230		
	kV breaker #105		PECO (100%)
	Install 161 MVAR		
b0280.1	capacitor at Warrington		
	230 kV substation		PECO 100%
1.0000.0	Install 161 MVAR		
b0280.2	capacitor at Bradford 230		<b>DECO 1000</b>
	kV substation		PECO 100%
1.0000.0	Install 28.8 MVAR		
b0280.3	capacitor at Warrington		DECO 1000/
	34 kV substation		PECO 100%
10200 4	Install 18 MVAR		
b0280.4	capacitor at Waverly 13.8		<b>DECO 100%</b>
	kV substation		PECO 100%

* Neptune Regional Transmission System, LLC

[†]Cost allocations associated with Regional Facilities and Necessary Lower Voltage Facilities associated with the project

††Cost allocations associated with below 500 kV elements of the project

Required T	ransmission Enhancements	Annual Revenue Requirement Responsible Customer(s)
b0287	Install 600 MVAR Dynamic Reactive Device in Whitpain 500 kV vicinity	AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%)
b0351	Reconductor Tunnel – Grays Ferry 230 kV	PECO (100%)
b0352	Reconductor Tunnel – Parrish 230 kV	PECO (100%)
b0353.1	Install 2% reactors on both lines from Eddystone – Llanerch 138 kV	PECO (100%)
b0353.2	Install identical second 230/138 kV transformer in parallel with existing 230/138 kV transformer at Plymouth Meeting	PECO 100%
b0353.3	Replace Whitpain 230 kV breaker 135	PECO (100%)
b0353.4	Replace Whitpain 230 kV breaker 145	PECO (100%)
b0354	Eddystone – Island Road Upgrade line terminal equipment	PECO 100%

* Neptune Regional Transmission System, LLC ††Cost allocations associated with below 500 kV elements of the project

b0355	Reconductor Master – North Philadelphia 230	
00355	kV line	PECO 100%
b0357	Reconductor Buckingham – Pleasant Valley 230 kV	JCPL (37.89%) / Neptune* (4.55%) / PSEG (55.19%) / RE (2.37%)
b0359	Reconductor North Philadelphia – Waneeta 230 kV circuit	PECO 100%
b0402.1	Replace Whitpain 230 kV breaker #245	PECO (100%)
b0402.2	Replace Whitpain 230 kV breaker #255	PECO (100%)
b0438	Spare Whitpain 500/230 kV transformer	PECO (100%)
b0443	Spare Peach Bottom 500/230 kV transformer	PECO (100%)
b0505	Reconductor the North Wales – Whitpain 230 kV circuit	AEC (8.58%) / DPL (7.76%) / PECO (83.66%)
b0506	Reconductor the North Wales – Hartman 230 kV circuit	AEC (8.58%) / DPL (7.76%) / PECO (83.66%)
b0507	Reconductor the Jarrett – Whitpain 230 kV circuit	AEC (8.58%) / DPL (7.76%) PECO (83.66%)
b0508.1	Replace station cable at Hartman on the Warrington - Hartman 230 kV circuit	PECO (100%)
b0509	Reconductor the Jarrett – Heaton 230 kV circuit	PECO (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Requireu I		Annual Revenue Requirement	Responsible Customer(s)
b0727	Rebuild Bryn Mawr –		
	Plymouth Meeting 138		AEC (1.25%) / DPL
	kV line		(3.11%) / PECO (95.64%)
	Reconductor the line to		AEC (0.73%) / JCPL
	provide a normal rating of		(17.52%) / NEPTUNE*
b0789	677 MVA and an		(1.72%) / PECO (44.88%) /
	emergency rating of 827		PSEG (33.83%) / RE
	MVA		(1.32%)
	Reconductor the Bradford		
	– Planebrook 230 kV Ckt.		
1.0700	220-31 to provide a		JCPL (17.46%) /
b0790	normal rating of 677		NEPTUNE* (1.71%) /
	MVA and emergency		PECO (45.51%) / PSEG
	rating of 827 MVA		(34.00%) / RE (1.32%)
1.0020.1	Replace Whitpain 230 kV		
b0829.1	breaker '155'		PECO (100%)
	Install 2 new 230 kV		
	breakers at Planebrook		
1 1072	(on the 220-02 line		
b1073	terminal and on the 230		
	kV side of the #9		
	transformer)		PECO (100%)
1.0000.0	Replace Whitpain 230 kV		
b0829.2	breaker '525'		PECO (100%)
1.0000.0	Replace Whitpain 230 kV		
b0829.3	breaker '175'		PECO (100%)
	Replace Plymouth		
b0829.4	Meeting 230 kV breaker		
	'225'		PECO (100%)
	Replace Plymouth		
b0829.5	Meeting 230 kV breaker		
00027.0	'335'		PECO (100%)
	Move the connection		
1.00.4.1	points for the 2nd		
b0841	Plymouth Meeting		
	230/138 kV XFMR		PECO (100%)
l			

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

b0842	Install a 2nd 230/138 kV XFMR and 35 MVAR	
00042	CAP at Heaton 138 kV	
	bus	PECO (100%)
b0842.1	Replace Heaton 138 kV breaker '150'	PECO (100%)
b0843	Install a 75 MVAR CAP at Llanerch 138 kV bus	PECO (100%)
b0844	Move the connection point for the Llanerch 138/69 kV XFMR	PECO (100%)
b0887	Replace Richmond- Tacony 69 kV line	PECO (100%)
b0920	Replace station cable at Whitpain and Jarrett substations on the Jarrett - Whitpain 230 kV circuit	PECO (100%)
b1014.1	Replace Circuit breaker, Station Cable, CTs and Wave Trap at Eddistone 230 kV	PECO (100%)
b1014.2	Replace Circuit breaker, Station Cable, CTs Disconnect Switch and Wave Trap at Island Rd. 230 kV	PECO (100%)
b1015	Replace Breakers #115 and #125 at Printz 230 kV substation	PECO (100%)
b1156.1	Upgrade at Richmond 230 kV breaker '525'	PECO (100%)
b1156.2	Upgrade at Richmond 230 kV breaker '415'	PECO (100%)
b1156.3	Upgrade at Richmond 230 kV breaker '475'	PECO (100%)
b1156.4	Upgrade at Richmond 230 kV breaker '575'	PECO (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

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b1156.5	Upgrade at Richmond 230 kV breaker '185'	PECO (100%)
b1156.6	Upgrade at Richmond 230 kV breaker '285'	PECO (100%)
b1156.7	Upgrade at Richmond 230 kV breaker '85'	PECO (100%)
b1156.8	Upgrade at Waneeta 230 kV breaker '425'	PECO (100%)
b1156.9	Upgrade at Emilie 230 kV breaker '815'	PECO (100%)
b1156.10	Upgrade at Plymouth Meeting 230 kV breaker '265'	PECO (100%)
b1156.11	Upgrade at Croydon 230 kV breaker '115'	PECO (100%)
b1156.12	Replace Emilie 138 kV breaker '190'	PECO (100%)
b1178	Add a second 230/138 kV transformer at Chichester. Add an inductor in series with the parallel transformers	JCPL (4.17%) / Neptune (0.44%) / PECO (82.73%) / PSEG (12.18%) / RE (0.48%)
b1179	Replace terminal equipment at Eddystone and Saville and replace underground section of the line	PECO (100%)
b1180.1	Replace terminal equipment at Chichester	PECO (100%)
b1180.2	Replace terminal equipment at Chichester	PECO (100%)
b1181	Install 230/138 kV transformer at Eddystone	PECO (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required Tr	ransmission Enhancements A	nnual Revenue Requirement	Responsible Customer(s)
b1182	Reconductor Chichester – Saville 138 kV line and upgrade terminal equipment		JCPL (5.12%) / Neptune (0.54%) / PECO (79.46%) / PSEG (14.31%) / RE (0.57%)
b1183	Replace 230/69 kV transformer #6 at Cromby. Add two 50 MVAR 230 kV banks at Cromby		PECO (100%)
b1184	Add 138 kV breakers at Cromby, Perkiomen, and North Wales; add a 35 MVAR capacitor at Perkiomen 138 kV		PECO (100%)
b1185	Upgrade Eddystone 230 kV breaker #365		PECO (100%)
b1186	Upgrade Eddystone 230 kV breaker #785		PECO (100%)
b1197	Reconductor the PECO portion of the Burlington – Croydon circuit		PECO (100%)
b1198	Replaceterminalequipmentsincludingstation cable, disconnectsand relay at Conowingo230 kV station		PECO (100%)
b1338	Replace Printz 230 kV breaker '225'		PECO (100%)
b1339	Replace Printz 230 kV breaker '315'		PECO (100%)
b1340	Replace Printz 230 kV breaker '215'		PECO (100%)
b1398.6	Reconductor the Camden – Richmond 230 kV circuit (PECO portion) and upgrade terminal equipments at Camden substations		JCPL (13.03%) / NEPTUNE (1.20%) / PECO (51.93%) / PEPCO (0.58%) / PSEG (31.99%) / RE (1.27%)

	F	Required Tra	ansmission Enhancements	Ar	nual Revenue Requirement	Re	esponsible Custo
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#### **PECO Energy Company (cont.)**

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

	Reconductor Richmond	JCPL (13.03%) /
	– Waneeta 230 kV and	NEPTUNE (1.20%) /
b1398.8	replace terminal	PECO (51.93%) / PEPCO
	equipments at Richmond	(0.58%) / PSEG (31.99%) /
	and Waneeta substations	RE (1.27%)
1 1 2 0 0 1 2	Replace Graysferry 230	
b1398.12	kV breaker '115'	PECO (100%)
		AEC (1.66%) / AEP
		(14.16%) / APS (5.73%) /
		ATSI (7.88%) / BGE
		(4.22%) / ComEd (13.31%)
		/ Dayton (2.11%) / DEOK
		(3.29%)/DL(1.75%)/
		(5.29%)/ DE (1.75%)/ DPL (2.50%)/ Dominion
b1398.13	Upgrade Peach Bottom	
01398.13	500 kV breaker '225'	(12.86%) / EKPC (1.87%) /
		$\operatorname{JCPL}(3.74\%) / \operatorname{ME}(1.00\%) / $
		(1.90%) / NEPTUNE*
		(0.44%) / PECO (5.34%) /
		PENELEC (1.89%) /
		PEPCO (3.99%) / PPL
		(4.84%) / PSEG (6.26%) /
		RE (0.26%)†
b1398.14	Replace Whitpain 230	
01370.14	kV breaker '105'	PECO (100%)
	Upgrade the PECO	
	portion of the Camden –	
1 1 5 0 0 1	Richmond 230 kV to a	
b1590.1	six wire conductor and	BGE (3.06%) / ME (0.83%)
	replace terminal	/ PECO (91.70%) / PEPCO
	equipment at Richmond.	(1.94%) / PPL (2.47%)
<u> </u>	Reconductor the	
	underground portion of	BGE (4.54%) / DL (0.27%)
b1591	the Richmond – Waneeta	/ ME (1.04%) / PECO
01071	230  kV and replace	(88.11%) / PEPCO (2.79%)
	terminal equipment	/ PPL (3.25%)
	Pagional Transmission Syste	

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	Install a second Waneeta		
b1717	230/138 kV transformer		
	on a separate bus section		PECO (100%)
	Reconductor the		
b1718	Crescentville - Foxchase		
	138 kV circuit		PECO (100%)
	Reconductor the		
b1719	Foxchase - Bluegrass 138		
	kV circuit		PECO (100%)
	Increase the effective		
	rating of the Eddystone		
b1720	230/138 kV transformer		
	by replacing a circuit		
	breaker at Eddystone		PECO (100%)
	Increase the rating of the		
b1721	Waneeta - Tuna 138 kV		
01721	circuit by replacing two		
	138 kV CTs at Waneeta		PECO (100%)
	Increase the normal		
	rating of the Cedarbrook		
	- Whitemarsh 69 kV		
b1722	circuit by changing the		
	CT ratio and replacing		
	station cable at		
	Whitemarsh 69 kV		PECO (100%)
	Install 39 MVAR		
b1768	capacitor at Cromby 138		
	kV bus		PECO (100%)
	Add a 3rd 230 kV		PECO (70.24%) / JCPL
	transmission line between		(6.07%) / ATSI (1.24%) /
b1900	Chichester and Linwood		PSEG (21.01%) / RE
	substations and remove		(0.84%) / NEPTUNE*
	the Linwood SPS		(0.60%)
b2140	Install a 3rd Emilie		
02140	230/138 kV transformer		PECO (100%)
	Replace two sections of		
b2145	conductor inside		
	Richmond substation		PECO (100%)
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<b>Required Transmission Enhancements</b>	Annual Revenue Requirement	Responsible Customer(s)

#### **SCHEDULE 12 – APPENDIX**

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

Required T	ransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b0074	Rebuild 12 miles of S. Akron – Berks 230 kV to double circuit, looping Met Ed's S. Lebanon – S. Reading line into Berks; replacement of S. Reading 230 kV breaker 107252		PPL (100%)
b0171.2	Replace wavetrap at Hosensack 500kV substation to increase rating of Elroy - Hosensack 500 kV		AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%)
b0172.1	Replace wave trap at Alburtis 500kV substation		AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%)

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

*** Hudson Transmission Partners, LLC

Required T	ransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b0284.2	Replace two wave traps at Juniata 500 kV – on the two Juniata – Airydale 500 kV	/ [] [] [] [] [] []	AEC (1.66%) / AEP (14.16%) APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / ICPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO 5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL [4.84%) / PSEG (6.26%) / RE (0.26%)
b0284.4	Changes at Juniata 500 kV substation		PPL (100%)
b0293.1	Replace wavetrap at the Martins Creek 230 kV bus		PPL (100%)
b0293.2	Raise the operating temperature of the 2- 1590 ACSR to 140C for the Martins Creek – Portland 230 kV circuit		PPL (100%)
b0440	Spare Juniata 500/230 kV transformer		PPL (100%)
b0468	Build a new substation with two 150 MVA transformers between Dauphin and Hummelstown 230/69 kV substations by sectionalizing the Middletown Junction – New Lebanon 230 kV line	(8	JCPL (4.56%) / Neptune* (0.37%) / PECO (1.79%) / PENELEC (0.33%) / PPL 86.79%) / PSEG (5.94%) / RE (0.22%)

Required Tr	ransmission Enhancements	Annual Revenue Requirement	nt Responsible Customer(s)
b0469	Install 130 MVAR capacitor at West Shore 230 kV line		PPL (100%)
b0487	Build new 500 kV transmission facilities from Susquehanna to Pennsylvania – New Jersey border at Bushkill		AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%)
b0487.1	Install Lackawanna 500/230 kV transformer and upgrade 230 kV substation and switchyard		PENELEC (16.93%) / PPL (77.74%) / PSEG (5.14%) / RE (0.19%)
b0500.1	Conastone – Otter Creek 230 kV – Reconductor approximately 17.2 miles of 795 kcmil ACSR with new 795 kcmil ACSS operated at 160 deg C		AEC (6.31%) / DPL (8.70%) / JCPL (14.62%) / ME (10.65%) / Neptune* (1.38%) / PECO (15.75%) / PPL (21.14%) / PSEG (20.68%) / RE (0.77%)

*Neptune Regional Transmission System, LLC

The Annual Revenue Requirements associated with the Transmission Enhancement Charges are set forth and determined in Appendix A to Attachment H-8G.

Required '	Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b0558	Install 250 MVAR capacitor at Juniata 500 kV substation		AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%)
b0593	Eldred – Pine Grove 69 kV line Rebuild Part 2: 8 miles		PPL (100%)
b0595	Rebuild Lackawanna – Edella 69 kV line to double circuit		PPL (100%)
b0596	Reconductor and rebuild Stanton – Providence 69 kV #1 and #2 lines with 69 kV design; approximately 8 miles total		PPL (100%)
b0597	Reconductor Suburban – Providence 69 kV #1 and resectionalize the Suburban 69 kV lines		PPL (100%)
b0598	Reconductor Suburban Taps #1 and #2 for 69 kV line portions		PPL (100%)

Required	Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b0600	Tripp Park Substation: 69 kV tap off Stanton – Providence 69 kV line #3 to new substation		PPL (100%)
b0601	Jessup Substation: New 138/69 kV tap off of Peckville – Jackson 138/69 kV line		PPL (100%)
b0604	Add 150 MVA, 230/138/69 transformer #6 to Harwood substation		PPL (100%)
b0605	Reconductor Stanton – Old Forge 69 kV line and resectionalize the Jenkins – Scranton 69 kV #1 and #2 lines		PPL (100%)
b0606	New 138 kV tap off Monroe – Jackson 138 kV #1 line to Bartonsville substation		PPL (100%)
b0607	New 138 kV taps off Monroe – Jackson 138 kV lines to Stroudsburg substation		PPL (100%)
b0608	New 138 kV tap off Siegfried – Jackson 138 kV #2 to transformer #2 at Gilbert substation		PPL (100%)
b0610	At South Farmersville substation, a new 69 kV tap off Nazareth – Quarry #2 to transformer #2		PPL (100%)
b0612	Rebuild Siegfried – North Bethlehem portion (6.7 miles) of Siegfried – Quarry 69 kV line		PPL (100%)
b0613	East Tannersville Substation: New 138 kV tap to new substation		PPL (100%)

Required	Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b0614	Elroy substation expansion and new Elroy – Hatfield 138/69 kV double circuit lines (1.9 miles)		PPL (100%)
b0615	Reconductor and rebuild 12 miles of Seidersville – Quakerstown 138/69 kV and a new 75 MVA, 230/69 kV transformer #4		PPL (100%)
b0616	New Springfield 230/69 kV substation and transmission line connections		PPL (100%)
b0620	New 138 kV line and terminal at Monroe 230/138 substation		PPL (100%)
b0621	New 138 kV line and terminal at Siegfried 230/138 kV substation and add a second circuit to Siegfried – Jackson for		
b0622	8.0 miles 138 kV yard upgrades and transmission line rearrangements at Jackson 138/69 kV substation		PPL (100%)
b0623	New West Shore – Whitehill Taps 138/69 kV double circuit line (1.3 miles)		PPL (100%)
b0624	Reconductor Cumberland – Wertzville 69 kV portion (3.7 miles) of Cumberland – West Shore 69 kV line		PPL (100%)
b0625	Reconductor Mt. Allen – Rossmoyne 69 kV portions (1.6 miles) of West Shore – Cumberland #3 and #4 lines		PPL (100%)

Required '	Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b0627	Replace UG cable from Walnut substation to Center City Harrisburg substation for higher ampacity (0.25 miles)		PPL (100%)
b0629	Lincoln substation: 69 kV tap to convert to modified Twin A		PPL (100%)
b0630	W. Hempfield – Donegal 69 kV line: Reconductor / rebuild from Landisville Tap – Mt. Joy (2 miles)		PPL (100%)
b0631	W. Hempfield – Donegal 69 kV line: Reconductor / rebuild to double circuit from Mt. Joy – Donegal (2 miles)		PPL (100%)
b0632	Terminate new S. Manheim – Donegal 69 kV circuit into S. Manheim 69 kV #3		PPL (100%)
b0634	Rebuild S. Manheim – Fuller 69 kV portion (1.0 mile) of S. Manheim – West Hempfield 69 kV #3 line into a 69 kV double circuit		PPL (100%)
b0635	Reconductor Fuller Tap – Landisville 69 kV (4.1 miles) into a 69 kV double circuit		PPL (100%)
b0703	Berks substation modification on Berks – South Akron 230 kV line. Modification will isolate the line fault on the South Akron line and will allow Berks transformer #2 to be energized by the South Lebanon 230 kV circuit		PPL (100%)

Required	Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b0705	New Derry – Millville 69 kV line		PPL (100%)
b0707	Construct Bohemia – Twin Lakes 69 kV line, install a 10.9 MVAR capacitor bank near Bohemia 69 kV substation		PPL (100%)
b0708	New 69 kV double circuit from Jackson – Lake Naomi Tap		PPL (100%)
b0709	Install new 69 kV double circuit from Carlisle – West Carlisle		PPL (100%)
b0710	Install a third 69 kV line from Reese's Tap to Hershey substation		PPL (100%)
b0711	New 69 kV that taps West Shore – Cumberland 69 kV #1 to Whitehill 69 kV substation		PPL (100%)
b0712	Construct a new 69 kV line between Strassburg Tap and the Millwood – Engleside 69 kV #1 line		PPL (100%)
b0713	Construct a new 138 kV double circuit line between Dillersville Tap and the West Hempfield – Prince 138 kV line		PPL (100%)
b0714	Prepare Roseville Tap for 138 kV conversion		PPL (100%)
b0715	Transfer S. Akron – S. Manheim #1 and #2 lines from the S. Akron 69 kV Yard to the S. Akron 138 kV Yard; Install switches on S. Akron – S. Manheim 138 kV #1 and #2 lines		PPL (100%)

Required Transmission Enhancements		Annual Revenue Requirement	Responsible Customer(s
b0705	New Derry – Millville 69		

Required	Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b0716	Add a second 69 kV line from Morgantown – Twin Valley		PPL (100%)
b0717	Rebuild existing Brunner Island – West Shore 230 kV line and add a second Brunner Island – West		DDL (100%)
b0718	Shore 230 kV lineSPS scheme to drop 190MVA of 69 kV radial loadat West Shore and 56MVA of 69 kV radial loadat Cumberland		PPL (100%) PPL (100%)
b0719	SPS scheme at Jenkins substation to open the Stanton #1 and Stanton #2 230 kV circuit breakers after the second contingency		PPL (100%)
b0791	Add a fourth 230/69 kV transformer at Stanton		PENELEC (9.55%) / PPL (90.45%)
b1074	Install motor operators on the Jenkins 230 kV '2W' disconnect switch and build out Jenkins Bay 3 and have MOD '3W' operated as normally open		PPL (100%)
b0881	Install motor operators on Susquehanna T21 - Susquehanna 230 kV line East CB at Susquehanna 230 kV switching station		PPL (100%)
b0908	Install motor operators at South Akron 230 kV		PPL (100%)

Required	Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b0909	Convert Jenkins 230 kV yard into a 3-breaker ring bus		PPL (100%)
b0910	Install a second 230 kV line between Jenkins and Stanton		PPL (100%)
b0911	Install motor operators at Frackville 230 kV		PPL (100%)
b0912	Install 2, 10.8 MVAR capacitor banks at Scranton 69 kV		PPL (100%)
b0913	Extend Cando Tap to the Harwood-Jenkins #2 69 kV line		PPL (100%)
b0914	Build a 3rd 69 kV line from Harwood to Valmont Taps		PPL (100%)
b0915	Replace Walnut-Center City 69 kV cable		PPL (100%)
b0916	Reconductor Sunbury- Dalmatia 69 kV line		PPL (100%)
b1021	Install a new (#4) 138/69 kV transformer at Wescosville		PPL (100%)
b1196	Remove the Siegfried bus tie breaker and install a new breaker on the Martins Creek 230 kV line west bay to maintain two ties between the 230 kV buses		PPL (100%)
b1201	Rebuild the Hercules Tap to Double Circuit 69 kV		PPL (100%)

nhancements	Annual Revenue Requir

Required	Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1202	Mack-Macungie Double Tap, Single Feed Arrangement		PPL (100%)
b1203	Add the 2nd Circuit to the East Palmerton-Wagners- Lake Naomi 138/69 kV Tap		PPL (100%)
b1204	New Breinigsville 230-69 kV Substation		PPL (100%)
b1205	Siegfried-East Palmerton #1 69 kV Line- Install new 69 kV LSAB, Sectionalize, and Transfer Treichlers Substation		PPL (100%)
b1206	Siegfried-Quarry #1 & #2 69 kV Lines- Rebuild 3.3 mi from Quarry Substation to Macada Taps		PPL (100%)
b1209	Convert Neffsville Taps from 69 kV to 138 kV Operation		PPL (100%)
b1210	Convert Roseville Taps from 69 kV to 138 kV Operation (Part 1 – operate on the 69 kV system)		PPL (100%)
b1211	Convert Roseville Taps from 69 kV to 138 kV Operation (Part 2 – operate on the 138 kV system)		PPL (100%)
b1212	New 138 kV Taps to Flory Mill 138/69 kV Substation		PPL (100%)

Required T	ransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1213	Convert East Petersburg Taps from 69 kV to 138 kV operation, install two 10.8 MVAR capacitor banks		PPL (100%)
b1214	Terminate South Manheim-Donegal #2 at South Manheim, Reduce South Manheim 69 kV Capacitor Bank, Resectionalize 69 kV		PPL (100%)
b1215	Reconductor and rebuild 16 miles of Peckville- Varden 69 kV line and 4 miles of Blooming Grove-Honesdale 69 kV line		PPL (100%)
b1216	Build approximately 2.5 miles of new 69 kV transmission line to provide a "double tap – single feed" connection to Kimbles 69/12 kV substation		PPL (100%)
b1217	Provide a "double tap – single feed" connection to Tafton 69/12 kV substation		PPL (100%)
b1524	Build a new Pocono 230/69 kV substation		PPL (100%)
b1524.1	Build approximately 14 miles new 230 kV South Pocono – North Pocono line		PPL (100%)
b1524.2	Install MOLSABs at Mt. Pocono substation		PPL (100%)

Required T	ransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1525	Build new West Pocono 230/69 kV Substation		PPL (100%)
b1525.1	Build approximately 14 miles new 230 kV Jenkins-West Pocono 230 kV Line		PPL (100%)
b1525.2	Install Jenkins 3E 230 kV circuit breaker		PPL (100%)
b1526	Install a new Honeybrook – Twin Valley 69/138 kV tie		PPL (100%)
b1527	Construct a new 230/69 kV North Lancaster substation. The sub will be supplied from the SAKR-BERK 230kV Line		PPL (100%)
b1527.1	Construct new 69/138 kV transmission from North Lancaster 230/69 kV sub to Brecknock and Honeybrook areas		PPL (100%)
b1528	Install Motor-Operated switches on the Wescosville-Trexlertown #1 & #2 69 kV lines at East Texas Substation		PPL (100%)
b1529	Add a double breaker 230 kV bay 3 at Hosensack		PPL (100%)
b1530	Replace Lock Haven 69kV ring bus with standard breaker and half design		PPL (100%)
b1532	Install new 32.4 MVAR capacitor bank at Sunbury		PPL (100%)

Required '	Transmission Enhancements	Annual Revenue Requirem	ent Responsible Customer(s)
b1533	Rebuild Lycoming-Lock Haven #1 and Lycoming-Lock Haven #2 69kV lines		PPL (100%)
b1534	Rebuild 1.4 miles of the Sunbury-Milton 69kV		PPL (100%)
b1601	Re-configure the Breinigsville 500 kV substation with addition two 500 kV circuit breakers		AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%) [†]
b1602	Re-configure the Elimsport 230 kV substation to breaker and half scheme and install 80 MVAR capacitor		PPL (100%)
b1740	Install a 90 MVAR cap bank on the Frackville 230 kV bus #207973		PPL (100%)
b1756	Install a 3rd West Shore 230/69 kV transformer		PPL (100%)
b1757	Install a 230 kV motor- operated air-break switch on the Clinton - Elimsport 230 kV line		PPL (100%)

Required	Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1758	Rebuild 1.65 miles of Columbia - Danville 69 kV line		PPL (100%)
b1759	Install a 69 kV 16.2 MVAR Cap at Milton substation		PPL (100%)
b1760	Install motor operated devices on the existing disconnect switches that are located on each side of all four 230 kV CBs at Stanton		PPL (100%)
b1761	Build a new Paupack - North 230 kV line (Approximately 21 miles)		PPL (100%)
b1762	Replace 3.7 miles of the existing 230 kV Blooming Grove - Peckville line by building 8.4 miles of new 230 kV circuit onto the Lackawanna - Hopatcong tower-line		PPL (100%)
b1763	Re-terminate the Peckville - Jackson and the Peckville - Varden 69 kV lines from Peckville into Lackawanna		PPL (100%)
b1764	Build a new 230-69 kV substations (Paupack)		PPL (100%)
b1765	Install a 16.2 MVAR capacitor bank at Bohemia 69-12 kV substation		PPL (100%)
b1766	Reconductor/rebuild 3.3 miles of the Siegfried - Quarry #1 and #2 lines		PPL (100%)
b1767	Install 6 motor-operated disconnect switches at Quarry substation		PPL (100%)

Required	Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1788	Install a new 500 kV circuit breaker at Wescosville		PPL (100%)
b1890	Add a second 230/69 kV transformer at North Pocono (NE/Pocono Reliability Project)		PPL (100%)
b1891	Build a new 230/138 kV Yard at Lackawanna (138 kV conversion from Lackawanna to Jenkins)		PPL (100%)
b1892	Rebuild the Throop Taps for 138 kV operation (138 kV Conversion from Lackawanna to Jenkins)		PPL (100%)
b1893	Swap the Staton - Old Forge and Stanton - Brookside 69 kV circuits at Stanton (138 kV Conversion from Lackawanna to Jenkins)		PPL (100%)
b1894	Rebuild and re-conductor 2.5 miles of the Stanton - Avoca 69 kV line		PPL (100%)
b1895	Rebuild and re-conductor 4.9 miles of the Stanton - Providence #1 69 kV line		PPL (100%)
b1896	Install a second 230/138 kV transformer and expand the 138 kV yard at Monroe		PPL (100%)
b1897	Build a new 230/138 kV substation at Jenkins (138 kV Conversion from Lackawanna to Jenkins)		PPL (100%)
b1898	Install a 69 kV Tie Line between Richfield and Dalmatia substations		PPL (100%)
b2004	Replace the CTs and switch in South Akron Bay 4 to increase the rating		PPL (100%)

Required T	<b>Transmission Enhancements</b>	Annual Revenue Requiremen	t Responsible Customer(s)
b2005	Replace the CTs and switch in SAKR Bay 3 to increase the rating of the Millwood-South Akron 230 kV Line and of the rating in Bay 3		PPL (100%)
b2006	Install North Lancaster 500/230 kV substation (below 500 kV portion)		AEC (1.11%) / JCPL (9.68%) / ME (19.56%) / Neptune* (0.76%) / PECO (6.06%) / PPL (50.95%) / PSEG (11.43%) / RE (0.45%)
b2006.1	Install North Lancaster 500/230 kV substation (500 kV portion)		AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%)
b2007	Install a 90 MVAR capacitor bank at the Frackville 230 kV Substation		PPL (100%)
b2158	Install 10.8 MVAR capacitor at West Carlisle 69/12 kV substation		PPL (100%)

#### **SCHEDULE 12 – APPENDIX**

#### (10) Potomac Electric Power Company

Required '	Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
	Installation of (2) new 230		
	kV circuit breakers at		
b0146	Quince Orchard substation		
	on circuits 23028 and		
	23029		PEPCO (100%)
	Install two new 230 kV		
	circuits between Palmers		
b0219	Corner and Blue Plains		PEPCO (100%)
	Upgrade Burtonsville –		
	Sandy Springs 230 kV		
b0228	circuit		PEPCO (100%)
	Modify Dickerson Station		
b0238.1	H 230 kV		PEPCO (100%)
	Install 100 MVAR of 230		
b0251	kV capacitors at Bells		
	Mill		PEPCO (100%)
	Install 100 MVAR of 230		
b0252	kV capacitors at Bells		
	Mill		PEPCO (100%)
	Brighton Substation – add		
	2 nd 1000 MVA 500/230		
b0288	kV transformer, 2 500 kV		
	circuit breakers and		BGE (19.33%) / Dominion
	miscellaneous bus work		(17%) / PEPCO (63.67%)
	Add a second 1000 MVA		
b0319	Bruches Hill 500/230 kV		
	transformer		PEPCO (100%)
b0366	Install a 4 th Ritchie 230/69		
	kV transformer		PEPCO (100%)

* Neptune Regional Transmission System, LLC

The Annual Revenue Requirement associated with the Transmission Enhancement Charges are set forth and determined in Appendix A to Attachment H-9.

Required Transmission Enhancements		Annual Revenue Requirement	Responsible Customer(s)
b0367.1	Reconductor circuit "23035" for Dickerson –		AEC (1.78%) / BGE
			(26.54%) / DPL (3.25%) /
			JCPL (2.67%) / ME (1.16%) /
00307.1	Quince Orchard 230 kV		Neptune* (0.25%) / PECO
	Quince Orchard 250 KV		(4.80%) / PEPCO (52.50%) /
			PPL (3.23%) / PSEG (3.82%)
			AEC (1.78%) / BGE
	Reconductor circuit		(26.54%) / DPL (3.25%) /
b0367.2	"23033" for Dickerson –		JCPL (2.67%) / ME (1.16%) /
00307.2	Quince Orchard 230 kV		Neptune* (0.25%) / PECO
	Quince Orenard 230 KV		(4.80%) / PEPCO (52.50%) /
			PPL (3.23%) / PSEG (3.82%)
	Install 0.5% reactor at		AEC (1.02%) / BGE
b0375	Dickerson on the Pleasant		(25.42%) / DPL (2.97%) / ME
00375	View – Dickerson 230 kV		(1.72%) / PECO (3.47%) /
	circuit		PEPCO (65.40%)
	Reconductor the Dickerson – Pleasant View 230 kV circuit		AEC (1.75%) / APS (19.70%)
			/ BGE (22.13%) / DPL
b0467.1			(3.70%) / JCPL (0.71%) / ME
00407.1			(2.48%) / Neptune* (0.06%) /
			PECO (5.54%) / PEPCO
			(41.86%) / PPL (2.07%)
b0478	Reconductor the four		
	circuits from Burches Hill		APS (1.68%) / BGE (1.83%) /
	to Palmers Corner		PEPCO (96.49%)
b0496	Replace existing 500/230		APS (5.67%) / BGE (29.68%)
	kV transformer at		/ Dominion (10.91%) /
	Brighton		PEPCO (53.74%)
b0499	Install third Burches Hill		APS (3.54%) / BGE (7.31%) /
	500/230 kV transformer		PEPCO (89.15%)

*Neptune Regional Transmission System, LLC

The Annual Revenue Requirement associated with the Transmission Enhancement Charges are set forth and determined in Appendix A to Attachment H-9.

Required '	Transmission Enhancements	Annual Revenue Requirement	t Responsible Customer(s)
0512	MAPP Project – install new 500 kV transmission from Possum Point to Calvert Cliffs and install a DC line from Calvert Cliffs to Vienna and a DC line from Calvert Cliffs to Indian River		AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%)
b0512.7	Advance n0772 (Replace Chalk Point 230 kV breaker (1A) with 80 kA breaker)		AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%)

Required Transmission Enhancements		Annual Revenue Requirement	Responsible Customer(s)
b0512.8	Advance n0773 (Replace Chalk Point 230 kV breaker (1B) with 80 kA breaker)	I I ( F	AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%)
b0512.9	Advance n0774 (Replace Chalk Point 230 kV breaker (2A) with 80 kA breaker)	I I ( F	AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%)

Required Transmission Enhancements		Annual Revenue Requirement	t Responsible Customer(s)
b0512.10	Advance n0775 (Replace Chalk Point 230 kV breaker (2B) with 80 kA breaker)		AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%)
b0512.11	Advance n0776 (Replace Chalk Point 230 kV breaker (2C) with 80 kA breaker)		AEC (1.66%) / AEP (14.16%) / AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / DD (1.75%) / DPL (2.50%) / DOminion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%)

Required T	ransmission Enhancements	Annual Revenue Requiremen	t Responsible Customer(s)
			AEC (1.66%) / AEP (14.16%) /
			APS (5.73%) / ATSI (7.88%) /
			BGE (4.22%) / ComEd
			(13.31%) / Dayton (2.11%) /
	Advance n0777 (Replace		DEOK (3.29%) / DL (1.75%) /
b0512.12	Chalk Point 230 kV		DPL (2.50%) / Dominion
00312.12	breaker (3A) with 80 kA		(12.86%) / EKPC (1.87%) /
	breaker)		JCPL (3.74%) / ME (1.90%) /
			NEPTUNE* (0.44%) / PECO
			(5.34%) / PENELEC (1.89%) /
			PEPCO (3.99%) / PPL (4.84%)
			/ PSEG (6.26%) / RE (0.26%)
			AEC (1.66%) / AEP (14.16%) /
			APS (5.73%) / ATSI (7.88%) /
			BGE (4.22%) / ComEd
			(13.31%) / Dayton (2.11%) /
	Advance n0778 (Replace		DEOK (3.29%) / DL (1.75%) /
b0512.13	Chalk Point 230 kV		DPL (2.50%) / Dominion
00312.15	breaker (3B) with 80 kA		(12.86%) / EKPC (1.87%) /
	breaker)		JCPL (3.74%) / ME (1.90%) /
			NEPTUNE* (0.44%) / PECO
			(5.34%) / PENELEC (1.89%) /
			PEPCO (3.99%) / PPL (4.84%)
			/ PSEG (6.26%) / RE (0.26%)

Required T	ransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
			AEC (1.66%) / AEP (14.16%) /
			APS (5.73%) / ATSI (7.88%) /
			BGE (4.22%) / ComEd
			(13.31%) / Dayton (2.11%) /
	Advance n0779 (Replace		DEOK (3.29%) / DL (1.75%) /
b0512.14	Chalk Point 230 kV		DPL (2.50%) / Dominion
00312.14	breaker (3C) with 80 kA		(12.86%) / EKPC (1.87%) /
	breaker)		JCPL (3.74%) / ME (1.90%) /
			NEPTUNE* (0.44%) / PECO
			(5.34%) / PENELEC (1.89%) /
			PEPCO (3.99%) / PPL (4.84%)
			/ PSEG (6.26%) / RE (0.26%)
			AEC (1.66%) / AEP (14.16%) /
			APS (5.73%) / ATSI (7.88%) /
			BGE (4.22%) / ComEd
			(13.31%) / Dayton (2.11%) /
	Advance n0780 (Replace		DEOK (3.29%) / DL (1.75%) /
b0512.15	Chalk Point 230 kV		DPL (2.50%) / Dominion
00312.13	breaker (4A) with 80 kA		(12.86%) / EKPC (1.87%) /
	breaker)		JCPL (3.74%) / ME (1.90%) /
			NEPTUNE* (0.44%) / PECO
			(5.34%) / PENELEC (1.89%) /
			PEPCO (3.99%) / PPL (4.84%)
			/ PSEG (6.26%) / RE (0.26%)

Required T	ransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
			AEC (1.66%) / AEP (14.16%) /
			APS (5.73%) / ATSI (7.88%) /
			BGE (4.22%) / ComEd
			(13.31%) / Dayton (2.11%) /
	Advance n0781 (Replace		DEOK (3.29%) / DL (1.75%) /
b0512.16	Chalk Point 230 kV		DPL (2.50%) / Dominion
00312.10	breaker (4B) with 80 kA		(12.86%) / EKPC (1.87%) /
	breaker)		JCPL (3.74%) / ME (1.90%) /
			NEPTUNE* (0.44%) / PECO
			(5.34%) / PENELEC (1.89%) /
			PEPCO (3.99%) / PPL (4.84%)
			/ PSEG (6.26%) / RE (0.26%)
			AEC (1.66%) / AEP (14.16%) /
			APS (5.73%) / ATSI (7.88%) /
			BGE (4.22%) / ComEd
			(13.31%) / Dayton (2.11%) /
	Advance n0782 (Replace		DEOK (3.29%) / DL (1.75%) /
b0512.17	Chalk Point 230 kV		DPL (2.50%) / Dominion
00312.17	breaker (5A) with 80 kA		(12.86%) / EKPC (1.87%) /
	breaker)		JCPL (3.74%) / ME (1.90%) /
			NEPTUNE* (0.44%) / PECO
			(5.34%) / PENELEC (1.89%) /
			PEPCO (3.99%) / PPL (4.84%)
			/ PSEG (6.26%) / RE (0.26%)

Required T	ransmission Enhancements	Annual Revenue Requirement	at Responsible Customer(s)
			AEC (1.66%) / AEP (14.16%) /
			APS (5.73%) / ATSI (7.88%) /
			BGE (4.22%) / ComEd
			(13.31%) / Dayton (2.11%) /
	Advance n0783 (Replace		DEOK (3.29%) / DL (1.75%) /
b0512.18	Chalk Point 230 kV		DPL (2.50%) / Dominion
00312.18	breaker (5B) with 80 kA		(12.86%) / EKPC (1.87%) /
	breaker)		JCPL (3.74%) / ME (1.90%) /
			NEPTUNE* (0.44%) / PECO
			(5.34%) / PENELEC (1.89%) /
			PEPCO (3.99%) / PPL (4.84%)
			/ PSEG (6.26%) / RE (0.26%)
			AEC (1.66%) / AEP (14.16%) /
			APS (5.73%) / ATSI (7.88%) /
			BGE (4.22%) / ComEd
			(13.31%) / Dayton (2.11%) /
	Advance n0784 (Replace		DEOK (3.29%) / DL (1.75%) /
b0512.19	Chalk Point 230 kV		DPL (2.50%) / Dominion
00512.19	breaker (6A) with 80 kA		(12.86%) / EKPC (1.87%) /
	breaker)		JCPL (3.74%) / ME (1.90%) /
			NEPTUNE* (0.44%) / PECO
			(5.34%) / PENELEC (1.89%) /
			PEPCO (3.99%) / PPL (4.84%)
			/ PSEG (6.26%) / RE (0.26%)

Required T	ransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
			AEC (1.66%) / AEP (14.16%) /
			APS (5.73%) / ATSI (7.88%) /
			BGE (4.22%) / ComEd
			(13.31%) / Dayton (2.11%) /
	Advance n0785 (Replace		DEOK (3.29%) / DL (1.75%) /
b0512.20	Chalk Point 230 kV		DPL (2.50%) / Dominion
00312.20	breaker (6B) with 80 kA		(12.86%) / EKPC (1.87%) /
	breaker		JCPL (3.74%) / ME (1.90%) /
			NEPTUNE* (0.44%) / PECO
			(5.34%) / PENELEC (1.89%) /
			PEPCO (3.99%) / PPL (4.84%)
			/ PSEG (6.26%) / RE (0.26%)
			AEC (1.66%) / AEP (14.16%) /
			APS (5.73%) / ATSI (7.88%) /
			BGE (4.22%) / ComEd
			(13.31%) / Dayton (2.11%) /
	Advance n0786 (Replace		DEOK (3.29%) / DL (1.75%) /
b0512.21	Chalk Point 230 kV		DPL (2.50%) / Dominion
00312.21	breaker (7B) with 80 kA		(12.86%) / EKPC (1.87%) /
	breaker)		JCPL (3.74%) / ME (1.90%) /
			NEPTUNE* (0.44%) / PECO
			(5.34%) / PENELEC (1.89%) /
			PEPCO (3.99%) / PPL (4.84%)
			/ PSEG (6.26%) / RE (0.26%)

Required T	ransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b0512.22	Advance n0787 (Replace Chalk Point 230 kV breaker (8A) with 80 kA breaker)		AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%)
b0512.23	Advance n0788 (Replace Chalk Point 230 kV breaker (8B) with 80 kA breaker)		AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%)

Required T	ransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b0512.24	Advance n0789 (Replace Chalk Point 230 kV breaker (7A) with 80 kA breaker)		AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO 5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%)
b0512.25	Advance n0790 (Replace Chalk Point 230 Kv breaker (1C) with 80 kA breaker)		AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO 5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%)

Required T	ransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b0512.26	Advance n0791 (Replace Chalk Point 230 Kv breaker (4C) with 80 kA breaker)	]	AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%)
b0512.27	Advance n0792 (Replace Chalk Point 230 Kv breaker (5C) with 80 kA breaker)		AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%)

Required T	ransmission Enhancements A	Annual Revenue Requirement Responsible Customer(s)
b0512.28	Advance n0793 (Replace Chalk Point 230 Kv breaker (6C) with 80 kA breaker)	AEC (1.66%) / AEP (14.16%) /         APS (5.73%) / ATSI (7.88%) /         BGE (4.22%) / ComEd (13.31%)         / Dayton (2.11%) / DEOK         (3.29%) / DL (1.75%) / DPL         (2.50%) / Dominion (12.86%) /         EKPC (1.87%) / JCPL (3.74%) /         ME (1.90%) / NEPTUNE*         (0.44%) / PECO (5.34%) /         PENELEC (1.89%) / PEPCO         (3.99%) / PPL (4.84%) / PSEG
b0512.29	Advance n0794 (Replace Chalk Point 230 Kv breaker (7C) with 80 kA breaker)	(6.26%) / RE (0.26%)         AEC (1.66%) / AEP (14.16%) /         APS (5.73%) / ATSI (7.88%) /         BGE (4.22%) / ComEd (13.31%)         / Dayton (2.11%) / DEOK         (3.29%) / DL (1.75%) / DPL         (2.50%) / Dominion (12.86%) /         EKPC (1.87%) / JCPL (3.74%) /         ME (1.90%) / NEPTUNE*         (0.44%) / PECO (5.34%) /         PENELEC (1.89%) / PEPCO         (3.99%) / PPL (4.84%) / PSEG         (6.26%) / RE (0.26%)
b0526	Build two Ritchie – Benning Station A 230 kV lines	AEC (0.77%) / BGE (16.76%) / DPL (1.22%) / JCPL (1.39%) / ME (0.59%) / Neptune* (0.13%) / PECO (2.10%) / PEPCO (74.86%) / PSEG (2.10%) / RE (0.08%)

Required T	ransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b0561	Install 300 MVAR capacitor at Dickerson Station "D" 230 kV substation		AEC (8.64%) / APS (1.70%) / DPL (12.33%) / JCPL (18.30%) / ME (1.56%) / Neptune* (1.78%) / PECO (21.94%) / PPL (6.45%) / PSEG (26.32%) / RE (0.98%)
b0562	Install 500 MVAR capacitor at Brighton 230 kV substation		AEC (8.64%) / APS (1.70%) / DPL (12.33%) / JCPL (18.30%) / ME (1.56%) / Neptune* (1.78%) / PECO (21.94%) / PPL (6.45%) / PSEG (26.32%) / RE (0.98%)
b0637	Replace 13 Oak Grove 230 kV breakers		PEPCO (100%)
b0638	Replace 13 Oak Grove 230 kV breakers		PEPCO (100%)
b0639	Replace 13 Oak Grove 230 kV breakers		PEPCO (100%)
b0640	Replace 13 Oak Grove 230 kV breakers		PEPCO (100%)
b0641	Replace 13 Oak Grove 230 kV breakers		PEPCO (100%)
b0642	Replace 13 Oak Grove 230 kV breakers		PEPCO (100%)
b0643	Replace 13 Oak Grove 230 kV breakers		PEPCO (100%)
b0644	Replace 13 Oak Grove 230 kV breakers		PEPCO (100%)
b0645	Replace 13 Oak Grove 230 kV breakers		PEPCO (100%)
b0646	Replace 13 Oak Grove 230 kV breakers		PEPCO (100%)
b0647	Replace 13 Oak Grove 230 kV breakers		PEPCO (100%)
b0648	Replace 13 Oak Grove 230 kV breakers		PEPCO (100%)
b0649	Replace 13 Oak Grove 230 kV breakers		PEPCO (100%)

Required		Annual Revenue Requirement	Responsible Customer(s)
	Expand Benning 230 kV		
	station, add a new 250		
b0701	MVA 230/69 kV		
00701	transformer at Benning		
	Station 'A', new 115 kV		BGE (30.57%) / PEPCO
	Benning switching station		(69.43%)
	Add a second 50 MVAR		
b0702	230 kV shunt reactor at		
00702	the Benning 230 kV		
	substation		PEPCO (100%)
1.0720	Upgrade terminal		
b0720	equipment on both lines		PEPCO (100%)
	Upgrade Oak Grove –		
b0721	Ritchie 23061 230 kV		
	line		PEPCO (100%)
	Upgrade Oak Grove –		
b0722	Ritchie 23058 230 kV		
	line		PEPCO (100%)
	Upgrade Oak Grove –		
b0723	Ritchie 23059 230 kV		
	line		PEPCO (100%)
	Upgrade Oak Grove –		
b0724	Ritchie 23060 230 kV		
	line		PEPCO (100%)
	Add slow oil circulation		
	to the four Bells Mill		
	Road – Bethesda 138 kV		
	lines, add slow oil		
	circulation to the two		
1.0720	Buzzard Point –		
b0730	Southwest 138 kV lines;		
	increasing the thermal		
	ratings of these six lines		
	allows for greater		
	adjustment of the O Street		
	phase shifters		PEPCO (100%)
* Nontun	e Regional Transmission Sv		

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Implement an SPS to automatically shed load on the 34 kV Bells Mill Road bus for this N-2 condition. The SPS will be in effect for 2013 and 2014 until a third Bells Mill 230/34 kV is placed in-service in 2015PEPCO (100%)b0746Upgrade circuit for 3,000 amps using the ACCRAEC (0.73%) / BGE (31.05%) / DPL (1.45%) / PEPCO
on the 34 kV Bells Mill Road bus for this N-2 condition. The SPS will be in effect for 2013 and 2014 until a third Bells Mill 230/34 kV is placed in-service in 2015PEPCO (100%)b0746Upgrade circuit for 3,000 amps using the ACCRAEC (0.73%) / BGE (31.05%) / DPL (1.45%) / PEPCO (2.46%) / PEPCO
b0731Road bus for this N-2 condition. The SPS will be in effect for 2013 and 2014 until a third Bells Mill 230/34 kV is placed in-service in 2015PEPCO (100%)b0746Upgrade circuit for 3,000 amps using the ACCRAEC (0.73%) / BGE (31.05%) / DPL (1.45%) / PECO (2.46%) / PEPCO
b0731condition. The SPS will be in effect for 2013 and 2014 until a third Bells Mill 230/34 kV is placed in-service in 2015PEPCO (100%)b0746Upgrade circuit for 3,000 amps using the ACCRAEC (0.73%) / BGE (31.05%) / DPL (1.45%) / PECO (2.46%) / PEPCO
be in effect for 2013 and 2014 until a third Bells Mill 230/34 kV is placed in-service in 2015PEPCO (100%)b0746Upgrade circuit for 3,000 amps using the ACCRAEC (0.73%) / BGE (31.05%) / DPL (1.45%) / PECO (2.46%) / PEPCO
2014 until a third Bells Mill 230/34 kV is placed in-service in 2015PEPCO (100%)b0746Upgrade circuit for 3,000 amps using the ACCRAEC (0.73%) / BGE (31.05%) / DPL (1.45%) / PECO (2.46%) / PEPCO
Mill 230/34 kV is placed in-service in 2015         PEPCO (100%)           b0746         Upgrade circuit for 3,000 amps using the ACCR         AEC (0.73%) / BGE (31.05%) / DPL (1.45%) / PECO (2.46%) / PEPCO
in-service in 2015         PEPCO (100%)           b0746         Upgrade circuit for 3,000 amps using the ACCR         AEC (0.73%) / BGE (31.05%) / DPL (1.45%) / PECO (2.46%) / PEPCO
b0746         Upgrade circuit for 3,000 amps using the ACCR         AEC (0.73%) / BGE (31.05%) / DPL (1.45%) / PECO (2.46%) / PEPCO
b0746Upgrade circuit for 3,000 amps using the ACCR(31.05%) / DPL (1.45%) / PECO (2.46%) / PEPCO
amps using the ACCR PECO (2.46%) / PEPCO
amps using the ACCR PECO (2.46%) / PEPCO
(62.88%) / PPL (1.43%)
Upgrade terminal
equipment on both lines:
b0747 Quince Orchard - Bells
Mill 230 kV (030) and
(028) PEPCO (100%)
Advance n0259 (Replace
b0802 Dickerson Station H
Circuit Breaker 412A) PEPCO (100%)
Advance n0260 (Replace
b0803 Dickerson Station H
Circuit Breaker 42A) PEPCO (100%)
Advance n0261 (Replace
b0804 Dickerson Station H
Circuit Breaker 42C) PEPCO (100%)
Advance n0262 (Replace
b0805 Dickerson Station H
Circuit Breaker 43A) PEPCO (100%)
Advance n0264 (Replace
b0806 Dickerson Station H
Circuit Breaker 44A) PEPCO (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

riequiter i		iuai Revenue Requitement - Responsible Customer(s)
	Advance n0267 (Replace	
b0809	Dickerson Station H	
	Circuit Breaker 45B)	PEPCO (100%)
	Advance n0270 (Replace	
b0810	Dickerson Station H	
	Circuit Breaker 47A)	PEPCO (100%)
	Advance n0726 (Replace	
b0811	Dickerson Station H	
	Circuit Breaker SPARE )	PEPCO (100%)
	Replace Chalk Point 230	
b0845	kV breaker (1A) with 80	
	kA breaker	PEPCO (100%)
	Replace Chalk Point 230	
b0846	kV breaker (1B) with 80	
	kA breaker	PEPCO (100%)
	Replace Chalk Point 230	
b0847	kV breaker (2A) with 80	
00017	kA breaker	PEPCO (100%)
	Replace Chalk Point 230	
b0848	kV breaker (2B) with 80	
00040	kA breaker	PEPCO (100%)
	Replace Chalk Point 230	
b0849	kV breaker (2C) with 80	
00077	kA breaker	PEPCO (100%)
	Replace Chalk Point 230	11100(10070)
b0850	kV breaker (3A) with 80	
00050	kA breaker	PEPCO (100%)
		1 Ei CO (100%)
b0851	Replace Chalk Point 230	
00031	kV breaker (3B) with 80 kA breaker	
		PEPCO (100%)
1.0950	Replace Chalk Point 230	
b0852	kV breaker (3C) with 80	
	kA breaker	PEPCO (100%)
1.00.72	Replace Chalk Point 230	
b0853	kV breaker (4A) with 80	
	kA breaker	PEPCO (100%)
	Replace Chalk Point 230	
b0854	kV breaker (4B) with 80	
	kA breaker	PEPCO (100%)
	Replace Chalk Point 230	
b0855	kV breaker (5A) with 80	
	kA breaker	PEPCO (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required'	Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
10050	Replace Chalk Point 230		
b0856	kV breaker (5B) with 80		$\mathbf{PEPCO}(1000/)$
	kA breaker		PEPCO (100%)
10057	Replace Chalk Point 230		
b0857	kV breaker (6A) with 80		$\mathbf{PEPCO}(1000/)$
	kA breaker		PEPCO (100%)
1.0050	Replace Chalk Point 230		
b0858	kV breaker (6B) with 80		
	kA breaker		PEPCO (100%)
10050	Replace Chalk Point 230		
b0859	kV breaker (7B) with 80		
	kA breaker		PEPCO (100%)
	Replace Chalk Point 230		
b0860	kV breaker (8A) with 80		
	kA breaker		PEPCO (100%)
	Replace Chalk Point 230		
b0861	kV breaker (8B) with 80		
	kA breaker		PEPCO (100%)
	Replace Chalk Point 230		
b0862	kV breaker (7A) with 80		
	kA breaker		PEPCO (100%)
	Replace Chalk Point 230		
b0863	kV breaker (1C) with 80		
	kA breaker		PEPCO (100%)
b1104	Replace Burtonsville 230		
01104	kV breaker '1C'		PEPCO (100%)
b1105	Replace Burtonsville 230		
01105	kV breaker '2C'		PEPCO (100%)
b1106	Replace Burtonsville 230		
01100	kV breaker '3C'		PEPCO (100%)
b1107	Replace Burtonsville 230		
01107	kV breaker '4C'		PEPCO (100%)
	Convert the 138 kV line		
	from Buzzard 138 -		
	Ritchie 851 to a 230 kV		
L1105	line and Remove 230/138		
b1125	kV Transformer at Ritchie		
	and install a spare 230/138		
	kV transformer at Buzzard		APS (4.74%) / PEPCO
	Pt		(95.26%)
	Upgrade the 230 kV line		
b1126	from Buzzard 016 –		APS (4.74%) / PEPCO
	Ritchie 059		(95.26%)

Required '	Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1592	Reconductor the Oak Grove – Bowie 230 kV circuit and upgrade terminal equipments at Oak Grove and Bowie 230 kV substations		AEC (2.40%) / APS (3.83%) / BGE (65.87%) / DPL (4.44%) / JCPL (3.94%) / ME (2.16%) / Neptune* (0.39%) / PECO (8.37%) / PPL (2.84%) / PSEG (5.54%) / RE (0.22%)
b1593	Reconductor the Bowie - Burtonsville 230 kV circuit and upgrade terminal equipments at Bowie and Burtonsville 230 kV substations		AEC (2.40%) / APS (3.83%) / BGE (65.87%) / DPL (4.44%) / JCPL (3.94%) / ME (2.16%) / Neptune* (0.39%) / PECO (8.37%) / PPL (2.84%) / PSEG (5.54%) / RE (0.22%)
b1594	Reconductor the Oak Grove – Bowie 230 kV '23042' circuit and upgrade terminal equipments at Oak Grove and Bowie 230 kV substations		AEC (2.39%) / APS (3.85%) / BGE (65.87%) / DPL (4.45%) / JCPL (3.94%) / ME (2.16%) / Neptune* (0.39%) / PECO (8.35%) / PPL (2.84%) / PSEG (5.54%) / RE (0.22%)
b1595	Reconductor the Bowie – Burtonsville 230 kV '23042' circuit and upgrade terminal equipments at Oak Grove and Burtonsville 230 kV substations		AEC (2.39%) / APS (3.85%) / BGE (65.87%) / DPL (4.45%) / JCPL (3.94%) / ME (2.16%) / Neptune* (0.39%) / PECO (8.35%) / PPL (2.84%) / PSEG (5.54%) / RE (0.22%)
b1596	Reconductor the Dickerson station "H" – Quince Orchard 230 kV '23032' circuit and upgrade terminal equipments at Dickerson station "H" and Quince Orchard 230 kV substations		AEC (0.80%) / BGE (33.68%) / DPL (2.09%) / PECO (3.07%) / PEPCO (60.36%)

Required 7	<b>Fransmission Enhancements</b>	Annual Revenue Requirement	Responsible Customer(s)
	Reconductor the Oak		
	Grove - Aquasco 230 kV		
1 1 5 0 7	'23062' circuit and		
b1597	upgrade terminal		AEC (1.44%) / BGE
	equipments at Oak Grove		(48.60%) / DPL (2.52%) /
	and Aquasco 230 kV		PECO (5.00%) / PEPCO
	substations		(42.44%)
	Reconductor feeder 23032		BGE (33.05%) / DPL
b2008	and 23034 to high temp.		(1.38%) / PECO (1.35%) /
	conductor (10 miles)		PEPCO (64.22%) /
	Reconductor the		
	Morgantown - V3-017		
b2136	230 kV '23086' circuit and		
02130	replace terminal		
	equipments at		
	Morgantown		PEPCO (100%)
	Reconductor the		
	Morgantown - Talbert 230		
b2137	kV '23085' circuit and		
	replace terminal		
	equipment at Morgantown		PEPCO (100%)
	Replace terminal		
b2138	equipments at Hawkins		
	230 kV substation		PEPCO (100%)

#### **SCHEDULE 12 – APPENDIX**

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

Required 7	<b>Fransmission Enhancements</b>	Annual Revenue Requirement	Responsible Customer(s)
	Convert the Bergen-		
	Leonia 138 Kv circuit to		
b0025	230 kV circuit.		PSEG (100%)
	Add 150 MVAR capacitor		
b0090	at Camden 230 kV		PSEG (100%)
	Add 150 MVAR capacitor		
b0121	at Aldene 230 kV		PSEG (100%)
	Bypass the Essex 138 kV		
b0122	series reactors		PSEG (100%)
	Add Special Protection		
	Scheme at Bridgewater to		
	automatically open 230		
	kV breaker for outage of		
	Branchburg – Deans 500		
	kV and Deans 500/230 kV		
b0125	#1 transformer		PSEG (100%)
	Replace wavetrap on		
	Branchburg – Flagtown		
b0126	230 kV		PSEG (100%)
	Replace terminal		
	equipment to increase		
	Brunswick – Adams –		
	Bennetts Lane 230 kV to		
b0127	conductor rating		PSEG (100%)
	Replace wavetrap on		
	Flagtown – Somerville		
b0129	230 kV		PSEG (100%)
	Replace all derated		
	Branchburg 500/230 kV		AEC (1.36%) / JCPL
b0130	transformers		(47.76%) / PSEG (50.88%)
	Upgrade or Retension		
	PSEG portion of		
	Kittatinny – Newton 230		JCPL (51.11%) / PSEG
b0134	kVcircuit		(45.96%) / RE (2.93%)

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

Required Transmission Enhancements

Annual Revenue Requirement

Responsible Customer(s)

r	Decilitarian Essenaria Aldana	
	Build new Essex – Aldene	
	230 kV cable connected	
10115	through a phase angle	PSEG (21.78%) / JCPL
b0145	regulator at Essex	(73.45%) /RE (4.77%)
	Add 100MVAR capacitor	PSEG (100%)
	at West Orange 138kV	
b0157	substation	
	Close the Sunnymeade	PSEG (100%)
b0158	"C" and "F" bus tie	
	Make the Bayonne reactor	PSEG (100%)
b0159	permanent installation	
	Relocate the X-2250	PSEG (100%)
	circuit from Hudson 1-6	
b0160	bus to Hudson 7-12 bus	
	Install 230/138kV	PSEG (99.80%) / RE
	transformer at Metuchen	(0.20%)
b0161	substation	
	Upgrade the Edison –	PSEG (100%)
	Meadow Rd 138kV "Q"	
b0162	circuit	
	Upgrade the Edison –	PSEG (100%)
	Meadow Rd 138kV "R"	
b0163	circuit	
	Build a new 230 kV	
	section from Branchburg	
1.01.00	– Flagtown and move the	
b0169	Flagtown – Somerville	AEC (1.76%) / JCPL
	230 kV circuit to the new	(26.50%) / Neptune*
	section	(10.85%) / PSEG (60.89%)
	Reconductor the	
1.0170	Flagtown-Somerville-	JCLP (42.95%) / Neptune*
b0170	Bridgewater 230 kV	(17.90%) / PSEG (38.36%)
	circuit with 1590 ACSS	RE (0.79%)

Required Transmission Enhancements	
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Annual Revenue Requirement

Responsible Customer(s)

b0172.2	Replace wave trap at Branchburg 500kV substation	AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) /
		PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%)
b0184	Replace Hudson 230kV circuit breakers #1-2	PSEG (100%)
b0185	Replace Deans 230kV circuit breakers #9-10	PSEG (100%)
b0186	Replace Essex 230kV circuit breaker #5-6	PSEG (100%)
	Install 230/138 kV transformer at Bergen	PENELEC (16.52%) / PSEG (80.29%) / RE (3.19%)
b1082	substation	

Required T	ransmission Enhancements	Annual Revenue Requir	rement Responsible Customer(s)
b0201	Branchburg substation: replace wave trap on Branchburg – Readington 230 kV circuit		PSEG (100%)
b0213.1	Replace New Freedom 230 kV breaker BS2-6		PSEG (100%)
b0213.3	Replace New Freedom 230 kV breaker BS2-8		PSEG (100%)
b0274	Replace both 230/138 kV transformers at Roseland		PSEG (100%)
b0275	Upgrade the two 138 kV circuits between Roseland and West Orange		PSEG (100%)
b0278	Install 228 MVAR capacitor at Roseland 230 kV substation		PSEG (100%)
b0290	Install 400 MVAR capacitor in the Branchburg 500 kV vicinity		AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%)
b0358	Reconductor the PSEG portion of Buckingham – Pleasant Valley 230 kV, replace wave trap and metering transformer		PSEG (100%)

Required T	ransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b0368	Reconductor Tosco – G22_MTX 230 kV circuit with 1033 bundled ACSS		PSEG (100%)
b0371	Make the Metuchen 138 kV bus solid and upgrade 6 breakers at the Metuchen substation		PSEG (100%)
b0372	Make the Athenia 138 kV bus solid and upgrade 2 breakers at the Athenia substation		PSEG (100%)
b0395	Replace Hudson 230 kV breaker BS4-5		PSEG (100%)
b0396	Replace Hudson 230 kV breaker BS1-6		PSEG (100%)
b0397	Replace Hudson 230 kV breaker BS3-4		PSEG (100%)
b0398	Replace Hudson 230 kV breaker BS5-6		PSEG (100%)
b0401.1	Replace Roseland 230 kV breaker BS6-7		PSEG (100%)
b0401.2	Replace Roseland 138 kV breaker O-1315		PSEG (100%)
b0401.3	Replace Roseland 138 kV breaker S-1319		PSEG (100%)
b0401.4	Replace Roseland 138 kV breaker T-1320		PSEG (100%)
b0401.5	Replace Roseland 138 kV breaker G-1307		PSEG (100%)
b0401.6	Replace Roseland 138 kV breaker P-1316		PSEG (100%)
b0401.7	Replace Roseland 138 kV breaker 220-4		PSEG (100%)

Required T	ransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
	Replace W. Orange 138		
b0401.8	kV breaker 132-4		PSEG (100%)
b0411	Install 4 th 500/230 kV transformer at New Freedom		AEC (47.01%) / JCPL (7.04%) / Neptune* (0.28%) / PECO (23.36%) / PSEG (22.31%)
b0423	ReconductorReadington(2555)-Branchburg(4962)230kVw/1590ACSS		PSEG (100%)
b0424	ReplaceReadingtonwavetraponReadington(2555) -Roseland(5017)230 kV circuit		PSEG (100%)
b0425	Reconductor Linden (4996) – Tosco (5190) 230 kV circuit w/1590 ACSS (Assumes operating at 220 degrees C)		PSEG (100%)
	Reconductor Tosco (5190) – G22_MTX5 (90220) 230 kV circuit w/1590 ACSS (Assumes operation at 220		
b0426	degrees C)		PSEG (100%)
b0427	Reconductor Athenia (4954) – Saddle Brook (5020) 230 kV circuit river section		PSEG (100%)
b0428	ReplaceRoselandwavetraponRoseland(5019)–WestCaldwell"G" (5089)138 kV circuit		PSEG (100%)
b0429	Reconductor Kittatinny (2553) – Newton (2535) 230 kV circuit w/1590 ACSS		JCPL (42.63%) / Neptune* (3.65%) / PSEG (51.45%) / RE (2.27%)
b0439	Spare Deans 500/230 kV transformer		PSEG (100%)
b0446.1	Upgrade Bayway 138 kV breaker #2-3		PSEG (100%)
b0446.2	Upgrade Bayway 138 kV breaker #3-4		PSEG (100%)

Required T	ransmission Enhancements	Annual Revenue Requiren	nent Responsible Customer(s)
	Upgrade Bayway 138 kV		
b0446.3	breaker #6-7		PSEG (100%)
	Upgrade the breaker		
	associated with TX 132-5		
b0446.4	on Linden 138 kV		PSEG (100%)
	Install 138 kV breaker at		
b0470	Roseland and close the		
	Roseland 138 kV buses		PSEG (100%)
	Replace the wave traps at		
	both Lawrence and		
b0471	Pleasant Valley on the		
	Lawrence – Pleasant		
	Vallen 230 kV circuit		PSEG (100%)
	Increase the emergency		
b0472	rating of Saddle Brook -		
00472	Athenia 230 kV by 25% by		
	adding forced cooling		PSEG (96.40%) / RE (3.60%)
	Move the 150 MVAR		
	mobile capacitor from		
b0473	Aldene 230 kV to		
	Lawrence 230 kV		
	substation		PSEG (100%)
1			AEC (1.66%) / AEP (14.16%) /
			APS (5.73%) / ATSI (7.88%) /
			BGE (4.22%) / ComEd (13.31%)
	Build new 500 kV		/ Dayton (2.11%) / DEOK
	transmission facilities from		(3.29%) / DL (1.75%) / DPL
b0489	Pennsylvania – New Jersey border at Bushkill to Roseland		(2.50%) / Dominion (12.86%) /
00707			EKPC (1.87%) / JCPL (3.74%) /
			ME (1.90%) / NEPTUNE*
			(0.44%) / PECO (5.34%) /
			PENELEC (1.89%) / PEPCO
			(3.99%) / PPL (4.84%) / PSEG
			(6.26%) / RE (0.26%)†

* Neptune Regional Transmission System, LLC

[†]Cost allocations associated with Regional Facilities and Necessary Lower Voltage Facilities associated with the project

††Cost allocations associated with below 500 kV elements of the project

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Required T	ransmission Enhancements	Annual Revenue Requirement	t Responsible Customer(s)
b489.1	Replace Athenia 230 kV breaker 31H		PSEG (100%)
b489.2	Replace Bergen 230 kV breaker 10H		PSEG (100%)
b489.3	Replace Saddlebrook 230 kV breaker 21P		PSEG (100%)
b0489.4	Install two Roseland 500/230 kV transformers as part of the Susquehanna – Roseland 500 kV project		AEC (5.14%) / ComEd (0.29%) / Dayton (0.03%) / DPL (1.78%) / JCPL (33.04%) / Neptune* (6.38%) / PECO (10.14%) / PENELEC (0.57%) / PSEG (41.10%) / RE (1.53%) ††
b0489.5	Replace Roseland 230 kV breaker '42H' with 80 kA		AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%)

Public	Service	Electric	and	Gas	Company	(cont.)	
Public	Service	Electric	and	Gas	Company	(cont.)	

Required T	ransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
			AEC (1.66%) / AEP (14.16%)
			/ APS (5.73%) / ATSI
			(7.88%) / BGE (4.22%) /
			ComEd (13.31%) / Dayton
			(2.11%) / DEOK (3.29%) /
	Deplace Decelord 220 kV		DL (1.75%) / DPL (2.50%) /
b0489.6	Replace Roseland 230 kV breaker '51H' with 80 kA		Dominion (12.86%) / EKPC
	breaker 51H with 80 kA		(1.87%) / JCPL (3.74%) / ME
			(1.90%) / NEPTUNE*
			(0.44%) / PECO (5.34%) /
			PENELEC (1.89%) / PEPCO
			(3.99%) / PPL (4.84%) /
			PSEG (6.26%) / RE (0.26%)
			AEC (1.66%) / AEP (14.16%)
			/ APS (5.73%) / ATSI
			(7.88%) / BGE (4.22%) /
			ComEd (13.31%) / Dayton
			(2.11%) / DEOK (3.29%) /
			DL (1.75%) / DPL (2.50%) /
b0489.7	Replace Roseland 230 kV breaker '71H' with 80 kA		Dominion (12.86%) / EKPC
	breaker /IH with 80 kA		(1.87%) / JCPL (3.74%) / ME
			(1.90%) / NEPTUNE*
			(0.44%) / PECO (5.34%) /
			PENELEC (1.89%) / PEPCO
			(3.99%) / PPL (4.84%) /
			PSEG (6.26%) / RE (0.26%)

Required T	ransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b0489.8	Replace Roseland 230 kV breaker '31H' with 80 kA		AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%)

Required Transmission Enhancements		Annual Revenue Requireme	ent Responsible Customer(s)
b0489.9	Replace Roseland 230 kV breaker '11H' with 80 kA		AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%)
b0489.10	Replace Roseland 230 kV breaker '21H'		AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%)

Required Tra	ansmission Enhancements	Annual Revenue Requireme	ent Responsible Customer(s)
b0489.11	Replace Roseland 230 kV breaker '32H'		AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%)
b0489.12	Replace Roseland 230 kV breaker '12H'		AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%)

Required Tra	ansmission Enhancements	Annual Revenue Requirement	nt Responsible Customer(s)
b0489.13	Replace Roseland 230 kV breaker '52H'		AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%)
b0489.14	Replace Roseland 230 kV breaker '41H'		AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%)

Required Transmission Enhancements		Annual Revenue Requirement Responsible Customer(s)
b0489.15	Replace Roseland 230 kV breaker '72H'	AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%)
b0498	Loop the 5021 circuit into New Freedom 500 kV substation	AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%)

Required Tr	ransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b0498.1	Upgrade the 20H circuit breaker		PSEG (100%)
b0498.2	Upgrade the 22H circuit breaker		PSEG (100%)
b0498.3	Upgrade the 30H circuit breaker		PSEG (100%)
b0498.4	Upgrade the 32H circuit breaker		PSEG (100%)
b0498.5	Upgrade the 40H circuit breaker		PSEG (100%)
b0498.6	Upgrade the 42H circuit breaker		PSEG (100%)
b0512	MAPP Project – install new 500 kV transmission from Possum Point to Calvert Cliffs and install a DC line from Calvert Cliffs to Vienna and a DC line from Calvert Cliffs to Indian River	APS ( B) (13.3 DEOI DP (12. JCPL NEP (5.349 PEPC	(1.66%) / AEP (14.16%) / (5.73%) / ATSI (7.88%) / GE (4.22%) / ComEd 31%) / Dayton (2.11%) / K (3.29%) / DL (1.75%) / PL (2.50%) / Dominion 86%) / EKPC (1.87%) / L (3.74%) / ME (1.90%) / TUNE* (0.44%) / PECO %) / PENELEC (1.89%) / O (3.99%) / PPL (4.84%) EG (6.26%) / RE (0.26%)
b0565	Install 100 MVAR capacitor at Cox's Corner 230 kV substation Regional Transmission System		PSEG (100%)

Required 7	Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b0578	Replace Essex 138 kV breaker 4LM (C1355 line to ECRRF)		PSEG (100%)
b0579	Replace Essex 138 kV breaker 1LM (220-1 TX)		PSEG (100%)
b0580	Replace Essex 138 kV breaker 1BM (BS1-3 tie)		PSEG (100%)
b0581	Replace Essex 138 kV breaker 2BM (BS3-4 tie)		PSEG (100%)
b0582	Replace Linden 138 kV breaker 3 (132-7 TX)		PSEG (100%)
b0592	Replace Metuchen 138 kV breaker '2-2 Transfer'		PSEG (100%)
b0664	Reconductor with 2x1033 ACSS conductor		JCPL (36.35%) / NEPTUNE* (18.80%) / PSEG (43.24%) / RE (1.61%)
b0665	Reconductor with 2x1033 ACSS conductor		JCPL (36.35%) / NEPTUNE* (18.80%) / PSEG (43.24%) / RE (1.61%)
b0668	Reconductor with 2x1033 ACSS conductor		JCPL (39.41%) / NEPTUNE* (20.38%) / PSEG (38.76%) / RE (1.45%)
b0671	Replace terminal equipment at both ends of line		PSEG (100%)
b0743	Add a bus tie breaker at Roseland 138 kV		PSEG (100%)
b0812	Increase operating temperature on line for one year to get 925E MVA rating		PSEG (100%)
b0813	Reconductor Hudson – South Waterfront 230 kV circuit	(	BGE (1.25%) / JCPL (9.92%) / NEPTUNE* 0.87%) / PEPCO (1.11%) / PSEG (83.73%) / RE (3.12%)

Required T	ransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b0814	New Essex – Kearney 138 kV circuit and Kearney 138 kV bus tie		JCPL (23.49%) / NEPTUNE* (1.61%) /
			PENELEC (5.37%) / PSEG (67.03%) / RE (2.50%)
b0814.1	Replace Kearny 138 kV breaker '1-SHT' with 80 kA breaker		JCPL (23.49%) / NEPTUNE* (1.61%) /
			PENELEC (5.37%) / PSEG
			(67.03%) / RE (2.50%) JCPL (23.49%) /
b0814.2	Replace Kearny 138 kV breaker '15HF' with 80 kA breaker		NEPTUNE* (1.61%) /
			PENELEC (5.37%) / PSEG (67.03%) / RE (2.50%)
b0814.3	Replace Kearny 138 kV breaker '14HF' with 80 kA breaker		JCPL (23.49%) /
			NEPTUNE* (1.61%) / PENELEC (5.37%) / PSEG
			(67.03%) / RE (2.50%)
100144	Replace Kearny 138 kV breaker '10HF' with 80 kA breaker		JCPL (23.49%) / NEPTUNE* (1.61%) /
b0814.4			PENELEC (5.37%) / PSEG
	Replace Kearny 138 kV breaker '2HT' with 80 kA breaker		(67.03%) / RE (2.50%) JCPL (23.49%) /
b0814.5			NEPTUNE* (1.61%) /
			PENELEC (5.37%) / PSEG (67.03%) / RE (2.50%)
b0814.6	Replace Kearny 138 kV breaker '22HF' with 80 kA breaker Replace Kearny 138 kV		JCPL (23.49%) / NEPTUNE* (1.61%) /
			PENELEC (5.37%) / PSEG
			(67.03%) / RE (2.50%) JCPL (23.49%) /
b0814.7	breaker '4HT' with 80 kA		NEPTUNE* (1.61%) /
			PENELEC (5.37%) / PSEG (67.03%) / RE (2.50%)
b0814.8	Replace Kearny 138 kV breaker '25HF' with 80 kA breaker		JCPL (23.49%) /
			NEPTUNE* (1.61%) / PENELEC (5.37%) / PSEG
			(67.03%) / RE (2.50%)
b0814.9	Replace Essex 138 kV breaker '2LM' with 63 kA breaker and 2.5 cycle contact parting time		JCPL (23.49%) / NEPTUNE* (1.61%) /
			PENELEC (5.37%) / PSEG
			(67.03%) / RE (2.50%)

Required Tra	ansmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
	Replace Essex 138 kV breaker '1BT' with 63 kA		JCPL (23.49%) / NEPTUNE* (1.61%) /
b0814.10	breaker and 2.5 cycle		PENELEC (5.37%) /
	contact parting time		PSEG (67.03%) / RE
			(2.50%)
	Replace Essex 138 kV		JCPL (23.49%) /
	breaker '2PM' with 63 kA		NEPTUNE* (1.61%) /
b0814.11	breaker and 2.5 cycle contact parting time		PENELEC (5.37%) /
			PSEG (67.03%) / RE
			(2.50%)
	Replace Marion 138 kV breaker '2HM' with 63 kA		JCPL (23.49%) /
			NEPTUNE* (1.61%) /
b0814.12	breaker		PENELEC (5.37%) /
			PSEG (67.03%) / RE
			(2.50%)
	Replace Marion 138 kV		JCPL (23.49%) /
	breaker '2LM' with 63 kA		NEPTUNE* (1.61%) /
b0814.13	breaker		PENELEC (5.37%) /
	breaker		PSEG (67.03%) / RE
			(2.50%)
	Replace Marion 138 kV breaker '1LM' with 63 kA breaker		JCPL (23.49%) /
			NEPTUNE* (1.61%) /
b0814.14			PENELEC (5.37%) /
			PSEG (67.03%) / RE
			(2.50%)
	Replace Marion 138 kV breaker '6PM' with 63 kA breaker		JCPL (23.49%) /
			NEPTUNE* (1.61%) /
b0814.15			PENELEC (5.37%) /
			PSEG (67.03%) / RE
			(2.50%)
	Replace Marion 138 kV breaker '3PM' with 63 kA breaker		JCPL (23.49%) /
			NEPTUNE* (1.61%) /
b0814.16			PENELEC (5.37%) /
			PSEG (67.03%) / RE
			(2.50%)
b0814.17	Replace Marion 138 kV breaker '4LM' with 63 kA breaker		JCPL (23.49%) /
			NEPTUNE* (1.61%) /
			PENELEC (5.37%) /
			PSEG (67.03%) / RE
			(2.50%)

Required Tra	ansmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b0814.18	Replace Marion 138 kV breaker '3LM' with 63 kA breaker		JCPL (23.49%) / NEPTUNE* (1.61%) / PENELEC (5.37%) / PSEG (67.03%) / RE (2.50%)
b0814.19	Replace Marion 138 kV breaker '1HM' with 63 kA breaker		JCPL (23.49%) / NEPTUNE* (1.61%) / PENELEC (5.37%) / PSEG (67.03%) / RE (2.50%)
b0814.20	Replace Marion 138 kV breaker '2PM3' with 63 kA breaker		JCPL (23.49%) / NEPTUNE* (1.61%) / PENELEC (5.37%) / PSEG (67.03%) / RE (2.50%)
b0814.21	Replace Marion 138 kV breaker '2PM1' with 63 kA breaker		JCPL (23.49%) / NEPTUNE* (1.61%) / PENELEC (5.37%) / PSEG (67.03%) / RE (2.50%)
b0814.22	Replace ECRR 138 kV breaker '903'		JCPL (23.49%) / NEPTUNE* (1.61%) / PENELEC (5.37%) / PSEG (67.03%) / RE (2.50%)
b0814.23	Replace Foundry 138 kV breaker '21P'		JCPL (23.49%) / NEPTUNE* (1.61%) / PENELEC (5.37%) / PSEG (67.03%) / RE (2.50%)
b0814.24	Change the contact parting time on Essex 138 kV breaker '3LM' to 2.5 cycles		JCPL (23.49%) / NEPTUNE* (1.61%) / PENELEC (5.37%) / PSEG (67.03%) / RE (2.50%)
b0814.25	Change the contact parting time on Essex 138 kV breaker '2BM' to 2.5 cycles		JCPL (23.49%) / NEPTUNE* (1.61%) / PENELEC (5.37%) / PSEG (67.03%) / RE (2.50%)

Required Tra	ansmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b0814.26	Change the contact parting time on Essex 138 kV breaker '1BM' to 2.5 cycles		JCPL (23.49%) / NEPTUNE* (1.61%) / PENELEC (5.37%) / PSEG (67.03%) / RE (2.50%)
b0814.27	Change the contact parting time on Essex 138 kV breaker '3PM' to 2.5 cycles		JCPL (23.49%) / NEPTUNE* (1.61%) / PENELEC (5.37%) / PSEG (67.03%) / RE (2.50%)
b0814.28	Change the contact parting time on Essex 138 kV breaker '4LM' to 2.5 cycles		JCPL (23.49%) / NEPTUNE* (1.61%) / PENELEC (5.37%) / PSEG (67.03%) / RE (2.50%)
b0814.29	Change the contact parting time on Essex 138 kV breaker '1PM' to 2.5 cycles		JCPL (23.49%) / NEPTUNE* (1.61%) / PENELEC (5.37%) / PSEG (67.03%) / RE (2.50%)
b0814.30	Change the contact parting time on Essex 138 kV breaker '1LM' to 2.5 cycles		JCPL (23.49%) / NEPTUNE* (1.61%) / PENELEC (5.37%) / PSEG (67.03%) / RE (2.50%)

Required T	ransmission Enhancements	Annual Revenue Requirement	t Responsible Customer(s)
b0829	Build Branchburg to Roseland 500 kV circuit as part of Branchburg – Hudson		AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) /
	500 kV project		NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%)
b0829.6	Replace Branchburg 500 kV breaker 91X		AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%)
b0829.9	Replace Branchburg 230 kV breaker 102H		PSEG (100%)

Required Tra	ansmission Enhancements	Annual Revenue Requirement	t Responsible Customer(s)
b0829.11	Replace Branchburg 230 kV breaker 32H		PSEG (100%)
b0829.12	Replace Branchburg 230 kV breaker 52H		PSEG (100%)
b0830	Build Roseland - Hudson 500 kV circuit as part of Branchburg – Hudson 500 kV project		AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%)
b0830.1	Replace Roseland 230 kV breaker '82H' with 80 kA		PSEG (100%
b0830.2	Replace Roseland 230 kV breaker '91H' with 80 kA		PSEG (100%)
b0830.3	Replace Roseland 230 kV breaker '22H' with 80 kA		PSEG (100%)

Required T	<b>Transmission Enhancements</b>	Annual Revenue Requirer	nent Responsible Customer(s)
	Replace 138/13 kV		
	transformers with 230/13		
b0831	kV units as part of		ComEd (2.57%) / Dayton
	Branchburg – Hudson 500		(0.09%) / PENELEC (2.82%) /
	kV project		PSEG (90.97%) / RE (3.55%)
			AEC (1.66%) / AEP (14.16%) /
			APS (5.73%) / ATSI (7.88%) /
			BGE (4.22%) / ComEd (13.31%)
			/ Dayton (2.11%) / DEOK
	Build Hudson 500 kV		(3.29%) / DL (1.75%) / DPL
b0832	switching station as part of		(2.50%) / Dominion (12.86%) /
00032	Branchburg – Hudson 500		EKPC (1.87%) / JCPL (3.74%) /
	kV project		ME (1.90%) / NEPTUNE*
			(0.44%) / PECO (5.34%) /
			PENELEC (1.89%) / PEPCO
			(3.99%) / PPL (4.84%) / PSEG
			(6.26%) / RE (0.26%)
			AEC (1.66%) / AEP (14.16%) /
			APS (5.73%) / ATSI (7.88%) /
			BGE (4.22%) / ComEd (13.31%)
			/ Dayton (2.11%) / DEOK
	Build Roseland 500 kV		(3.29%) / DL (1.75%) / DPL
b0833	switching station as part of		(2.50%) / Dominion (12.86%) /
00033	Branchburg – Hudson 500		EKPC (1.87%) / JCPL (3.74%) /
	kV project		ME (1.90%) / NEPTUNE*
			(0.44%) / PECO (5.34%) /
			PENELEC (1.89%) / PEPCO
			(3.99%) / PPL (4.84%) / PSEG
			(6.26%) / RE (0.26%)

Required 7	Fransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b0834	Convert the E-1305/F- 1306 to one 230 kV circuit as part of Branchburg – Hudson 500 kV project		ComEd (2.57%) / Dayton (0.09%) / PENELEC (2.82%) / PSEG (90.97%) / RE (3.55%)
b0835	Build Hudson 230 kV transmission lines as part of Roseland – Hudson 500 kV project as part of Branchburg – Hudson 500 kV project		ComEd (2.57%) / Dayton (0.09%) / PENELEC (2.82%) / PSEG (90.97%) / RE (3.55%)
b0836	Install transformation at new Hudson 500 kV switching station and perform Hudson 230 kV and 345 kV station work as part of Branchburg – Hudson 500 kV project		ComEd (2.57%) / Dayton (0.09%) / PENELEC (2.82%) / PSEG (90.97%) / RE (3.55%)
b0882	Replace Hudson 230 kV breaker 1HA with 80 kA		PSEG (100%)
b0883	Replace Hudson 230 kV breaker 2HA with 80 kA		PSEG (100%)
b0884	Replace Hudson 230 kV breaker 3HB with 80 kA		PSEG (100%)
b0885	Replace Hudson 230 kV breaker 4HA with 80 kA		PSEG (100%)
b0886	Replace Hudson 230 kV breaker 4HB with 80 kA		PSEG (100%)
b0889	Replace Bergen 230 kV breaker '21H'		PSEG (100%)
b0890	Upgrade New Freedom 230 kV breaker '21H'		PSEG (100%)
b0891	Upgrade New Freedom 230 kV breaker '31H'		PSEG (100%)
b0899	Replace ECRR 138 kV breaker 901		PSEG (100%)
b0900	Replace ECRR 138 kV breaker 902		PSEG (100%)

Required T	ransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1013	Replace Linden 138 kV breaker '7PB'		PSEG (100%)
b1017	Reconductor South Mahwah Waldwick 345 kV J-3410 circuit	1 -	JCPL (29.27%) / NEPTUNE* (2.76%) / PSEG (65.42%) / RE (2.55%)
b1018	Reconductor South Mahwah Waldwick 345 kV K-3411 circuit	1 -	JCPL (29.44%) / NEPTUNE* (2.76%) / PSEG (65.25%) / RE (2.55%)
b1019.1	Replace wave trap, line disconnect and ground switc at Roseland on the F-2206 circuit	h	PSEG (100%)
b1019.2	Replace wave trap, line disconnect and ground switc at Roseland on the B-2258 circuit	h	PSEG (100%)
b1019.3	Replace 1-2 and 2-3 section disconnect and ground switches at Cedar Grove on the F-2206 circuit		PSEG (100%)
b1019.4	Replace 1-2 and 2-3 section disconnect and ground switches at Cedar Grove on the B-2258 circuit		PSEG (100%)
b1019.5	Replace wave trap, line disconnect and ground switc at Cedar Grove on the F-220 circuit		PSEG (100%)
b1019.6	Replace line disconnect and ground switch at Cedar Grov on the K-2263 circuit		PSEG (100%)

Required Tra	ansmission Enhancements Ann	nual Revenue Requirement	Responsible Customer(s)
	Replace 2-4 and 4-5 section		
b1019.7	disconnect and ground		
01019.7	switches at Clifton on the B-		
	2258 circuit		PSEG (100%)
	Replace 1-2 and 2-3 section		
b1019.8	disconnect and ground		
01017.0	switches at Clifton on the K-		
	2263 circuit		PSEG (100%)
	Replace line, ground, 230 kV		
b1019.9	main bus disconnects at		
01019.9	Athenia on the B-2258		
	circuit		PSEG (100%)
	Replace wave trap, line,		
	ground 230 kV breaker		
b1019.10	disconnect and 230 kV main		
	bus disconnects at Athenia		
	on the K-2263 circuit		PSEG (100%)

ransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
Replace Bergen 138 kV breaker '30P' with 80 kA		PSEG (100%)
Replace Bergen 138 kV breaker '80P' with 80 kA		PSEG (100%)
Replace Bergen 138 kV breaker '70P' with 80 kA		PSEG (100%)
Replace Bergen 138 kV breaker '90P' with 63 kA		PSEG (100%)
Replace Bergen 138 kV breaker '50P' with 63 kA		PSEG (100%)
Replace Bergen 230 kV breaker '12H' with 80 kA		PSEG (100%)
Replace Bergen 230 kV breaker '21H' with 80 kA		PSEG (100%)
Replace Bergen 230 kV breaker '11H' with 80 kA		PSEG (100%)
Replace Bergen 230 kV breaker '20H' with 80 kA		PSEG (100%)
Re-configure the Bayway 138 kV substation and install three new 138 kV breakers		PSEG (100%)
Build a new 230 kV substation by tapping the Aldene – Essex circuit and install three 230/26 kV transformers, and serve some of the Newark area load from the new station		PSEG (100%)
Build a new 138 kV circuit from Bayonne to Marion		PSEG (100%)
Re-configure the Cedar Grove substation with breaker and half scheme and build a new 69 kV circuit from Cedar Grove to Hinchman		PSEG (100%)
	Replace Bergen 138 kV breaker '30P' with 80 kA Replace Bergen 138 kV breaker '80P' with 80 kA Replace Bergen 138 kV breaker '70P' with 80 kA Replace Bergen 138 kV breaker '90P' with 63 kA Replace Bergen 138 kV breaker '50P' with 63 kA Replace Bergen 230 kV breaker '12H' with 80 kA Replace Bergen 230 kV breaker '21H' with 80 kA Replace Bergen 230 kV breaker '11H' with 80 kA Replace Bergen 230 kV breaker '11H' with 80 kA Replace Bergen 230 kV breaker '20H' with 80 kA Resconfigure the Bayway 138 kV substation and install three new 138 kV breakers Build a new 230 kV substation by tapping the Aldene – Essex circuit and install three 230/26 kV transformers, and serve some of the Newark area load from the new station Build a new 138 kV circuit from Bayonne to Marion Re-configure the Cedar Grove substation with breaker and half scheme and build a new 69 kV	Replace Bergen 138 kV breaker '30P' with 80 kAReplace Bergen 138 kV breaker '80P' with 80 kAReplace Bergen 138 kV breaker '70P' with 80 kAReplace Bergen 138 kV breaker '90P' with 63 kAReplace Bergen 138 kV breaker '50P' with 63 kAReplace Bergen 138 kV breaker '50P' with 63 kAReplace Bergen 230 kV breaker '12H' with 80 kAReplace Bergen 230 kV breaker '21H' with 80 kAReplace Bergen 230 kV breaker '11H' with 80 kAReplace Bergen 230 kV breaker '20H' with 80 kAReplace Bergen 230 kV breaker '20H' with 80 kARe-configure the Bayway 138 kV substation and install three new 138 kV breakersBuild a new 230 kV substation by tapping the Aldene – Essex circuit and install three 230/26 kV transformers, and serve some of the Newark area load from the new stationBuild a new 138 kV circuit from Bayonne to MarionRe-configure the Cedar Grove substation with breaker and half scheme and build a new 69 kV circuit from Cedar Grove

Required Tra	ansmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1154	Convert the West Orange 138 kV substation, the two Roseland – West Orange 138 kV circuits, and the Roseland – Sewaren 138 kV circuit from 138 kV to 230 kV		PSEG (96.18%) / RE (3.82%)
b1155	Build a new 230 kV circuit from Branchburg to Middlesex Sw. Rack. Buil a new 230 kV substation at Middlesex	d	JCPL (4.61%) / PSEG (91.75%) / RE (3.64%)
b1155.3	Replace Branchburg 230 kV breaker '81H' with 63 kA		PSEG (100%)
b1155.4	Replace Branchburg 230 kV breaker '72H' with 63 kA		PSEG (100%)
b1155.5	Replace Branchburg 230 kV breaker '61H' with 63 kA		PSEG (100%)
b1155.6	Replace Branchburg 230 kV breaker '41H' with 63 kA		PSEG (100%)
b1156	Convert the Burlington, Camden, and Cuthbert Blvd 138 kV substations, the 138 kV circuits from Burlington to Camden, and the 138 kV circuit from Camden to Cuthbert Blvd. from 138 kV to 230 kV	8 n 7	PSEG (96.18%) / RE (3.82%)
b1156.13	Replace Camden 230 kV breaker '22H' with 80 kA		PSEG (100%)
b1156.14	Replace Camden 230 kV breaker '32H' with 80 kA		PSEG (100%)
b1156.15	Replace Camden 230 kV breaker '21H' with 80 kA		PSEG (100%)

Required Tra	ansmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1156.16	Replace New Freedom 230 kV breaker '50H' with 63 kA		PSEG (100%)
b1156.17	Replace New Freedom 230 kV breaker '41H' with 63 kA		PSEG (100%)
b1156.18	Replace New Freedom 230 kV breaker '51H' with 63 kA		PSEG (100%)
b1156.19	Rebuild Camden 230 kV to 80 kA		PSEG (100%)
b1156.20	Rebuild Burlington 230 kV to 80 kA		PSEG (100%)
b1197.1	Reconductor the PSEG portion of the Burlington - Croydon circuit with 1590 ACSS		PSEG (100%)
b1228	Re-configure the Lawrence 230 kV substation to breaker and half		PSEG (96.18%) / RE (3.82%)
b1255	Build a new 69 kV substation (Ridge Road) and build new 69 kV circuits from Montgomery – Ridge Road – Penns Neck/Dow Jones		PSEG (96.18%) / RE (3.82%)
b1304.1	Convert the existing 'D1304' and 'G1307' 138 kV circuits between Roseland – Kearny – Hudson to 230 kV operation		AEC (0.28%) / BGE (1.18%) / ComEd (2.83%) / Dayton (0.16%) / JCPL (1.43%) / Neptune (0.09%) / PENELEC (3.63%) / PEPCO (1.27%) / PSEG (85.73%) / RE (3.40%)

Required Tra	ansmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1304.2	Expand existing Bergen 230 kV substation and reconfigure the Athenia 230 kV substation to breaker and a half scheme		AEC (0.28%) / BGE (1.18%) / ComEd (2.83%) / Dayton (0.16%) / JCPL (1.43%) / Neptune (0.09%) / PENELEC (3.63%) / PEPCO (1.27%) / PSEG (85.73%) / RE (3.40%)
b1304.3	Build second 230 kV underground cable from Bergen to Athenia		AEC (0.28%) / BGE (1.18%) / ComEd (2.83%) / Dayton (0.16%) / JCPL (1.43%) / Neptune (0.09%) / PENELEC (3.63%) / PEPCO (1.27%) / PSEG (85.73%) / RE (3.40%)
b1304.4	Build second 230 kV underground cable from Hudson to South Waterfront		AEC (0.28%) / BGE (1.18%) / ComEd (2.83%) / Dayton (0.16%) / JCPL (1.43%) / Neptune (0.09%) / PENELEC (3.63%) / PEPCO (1.27%) / PSEG (85.73%) / RE (3.40%)

Required Tra	ansmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1304.5	Replace Athenia 230 kV breaker '21H' with 80 kA		PSEG (100%)
b1304.6	Replace Athenia 230 kV breaker '41H' with 80 kA		PSEG (100%)
b1304.7	Replace South Waterfront 230 kV breaker '12H' with 80 kA		PSEG (100%)
b1304.8	Replace South Waterfront 230 kV breaker '22H' with 80 kA		PSEG (100%)
b1304.9	Replace South Waterfront 230 kV breaker '32H' with 80 kA		PSEG (100%)
b1304.10	Replace South Waterfront 230 kV breaker '52H' with 80 kA		PSEG (100%)
b1304.11	Replace South Waterfront 230 kV breaker '62H' with 80 kA		PSEG (100%)
b1304.12	Replace South Waterfront 230 kV breaker '72H' with 80 kA		PSEG (100%)
b1304.13	Replace South Waterfront 230 kV breaker '82H' with 80 kA		PSEG (100%)
b1304.14	Replace Essex 230 kV breaker '20H' with 80 kA		PSEG (100%)

Required Tra	ansmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1304.15	Replace Essex 230 kV breaker '21H' with 80 kA		PSEG (100%)
b1304.16	Replace Essex 230 kV breaker '10H' with 80 kA		PSEG (100%)
b1304.17	Replace Essex 230 kV breaker '11H' with 80 kA		PSEG (100%)
b1304.18	Replace Essex 230 kV breaker '11HL' with 80 kA		PSEG (100%)
b1304.19	Replace Newport R 230 kV breaker '23H' with 63 kA		PSEG (100%)
b1304.20	Rebuild Athenia 230 kV substation to 80 kA		PSEG (100%)
b1304.21	Rebuild Bergen 230 kV substation to 80 kA		PSEG (100%)
b1398	Build two new parallel underground circuits from Gloucester to Camden		JCPL (13.03%) / NEPTUNE (1.20%) / PECO (51.93%) / PEPCO (0.58%) / PSEG (31.99%) / RE (1.27%)
b1398.1	Install shunt reactor at Gloucester to offset cable charging		JCPL (13.03%) / NEPTUNE (1.20%) / PECO (51.93%) / PEPCO (0.58%) / PSEG (31.99%) / RE (1.27%)
b1398.2	Reconfigure the Cuthbert station to breaker and a half scheme		JCPL (13.03%) / NEPTUNE (1.20%) / PECO (51.93%) / PEPCO (0.58%) / PSEG (31.99%) / RE (1.27%)
b1398.3	Build a second 230 kV parallel overhead circuit from Mickelton – Gloucester		JCPL (13.03%) / NEPTUNE (1.20%) / PECO (51.93%) / PEPCO (0.58%) / PSEG (31.99%) / RE (1.27%)

Required Tra	ansmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1398.4	Reconductor the existing Mickleton – Gloucester 230 kV circuit (PSEG portion)		JCPL (13.03%) / NEPTUNE (1.20%) / PECO (51.93%) / PEPCO (0.58%) / PSEG (31.99%) / RE (1.27%)
b1398.7	Reconductor the Camden – Richmond 230 kV circuit (PSEG portion) and upgrade terminal equipments at Camden substations		JCPL (13.03%) / NEPTUNE (1.20%) / PECO (51.93%) / PEPCO (0.58%) / PSEG (31.99%) / RE (1.27%)
b1398.15	Replace Gloucester 230 kV breaker '21H' with 63 kA		PSEG (100%)
b1398.16	Replace Gloucester 230 kV breaker '51H' with 63 kA		PSEG (100%)
b1398.17	Replace Gloucester 230 kV breaker '56H' with 63 kA		PSEG (100%)
b1398.18	Replace Gloucester 230 kV breaker '26H' with 63 kA		PSEG (100%)
b1398.19	Replace Gloucester 230 kV breaker '71H' with 63 kA		PSEG (100%)
b1399	Convert the 138 kV path from Aldene – Springfield Rd. – West Orange to 230 kV		PSEG (96.18%) / RE (3.82%)
b1400	Install 230 kV circuit breakers at Bennetts Ln. "F" and "X" buses		PSEG (100%)

Required Transmission Enhancements		Annual Revenue Requirement	Responsible Customer(s)
		AE	EC (1.66%) / AEP (14.16%) /
		AI	PS (5.73%) / ATSI (7.88%) /
			BGE (4.22%) / ComEd
			13.31%) / Dayton (2.11%) /
		DI	EOK (3.29%) / DL (1.75%) /
b1410	Replace Salem 500 kV		DPL (2.50%) / Dominion
01410	breaker '11X'	(	12.86%) / EKPC (1.87%) /
		JC	CPL (3.74%) / ME (1.90%) /
		N	EPTUNE* (0.44%) / PECO
		(5.	34%) / PENELEC (1.89%) /
		PE	PCO (3.99%) / PPL (4.84%)
		/ H	PSEG (6.26%) / RE (0.26%)
		AE	EC (1.66%) / AEP (14.16%) /
		AI	PS (5.73%) / ATSI (7.88%) /
			BGE (4.22%) / ComEd
	Replace Salem 500 kV breaker '12X'		13.31%) / Dayton (2.11%) /
		DI	EOK (3.29%) / DL (1.75%) /
b1411			DPL (2.50%) / Dominion
01411		(	12.86%) / EKPC (1.87%) /
		JC	CPL (3.74%) / ME (1.90%) /
		N	EPTUNE* (0.44%) / PECO
		(5.	34%) / PENELEC (1.89%) /
		PE	PCO (3.99%) / PPL (4.84%)
		/ H	PSEG (6.26%) / RE (0.26%)

Required T	ransmission Enhancements	Annual Revenue Requirement Responsible Customer(s)
		AEC (1.66%) / AEP (14.16%)
		/ APS (5.73%) / ATSI
		(7.88%) / BGE (4.22%) /
		ComEd (13.31%) / Dayton
		(2.11%) / DEOK (3.29%) /
	Replace Salem 500 kV	DL (1.75%) / DPL (2.50%) /
b1412	breaker '20X'	Dominion (12.86%) / EKPC
	breaker 20X	(1.87%) / JCPL (3.74%) / ME
		(1.90%) / NEPTUNE*
		(0.44%) / PECO (5.34%) /
		PENELEC (1.89%) / PEPCO
		(3.99%) / PPL (4.84%) /
		PSEG (6.26%) / RE (0.26%)
	Replace Salem 500 kV breaker '21X'	AEC (1.66%) / AEP (14.16%)
		/ APS (5.73%) / ATSI
		(7.88%) / BGE (4.22%) /
		ComEd (13.31%) / Dayton
		(2.11%) / DEOK (3.29%) /
		DL (1.75%) / DPL (2.50%) /
b1413		Dominion (12.86%) / EKPC
		(1.87%) / JCPL (3.74%) / ME
		(1.90%) / NEPTUNE*
		(0.44%) / PECO (5.34%) /
		PENELEC (1.89%) / PEPCO
		(3.99%) / PPL (4.84%) /
		PSEG (6.26%) / RE (0.26%)

Required T	ransmission Enhancements	Annual Revenue Requireme	ent Responsible Customer(s)
b1414	Replace Salem 500 kV breaker '31X'		AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%)
b1415	Replace Salem 500 kV breaker '32X'		AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%)

<b>Public Service Electric and</b>	Gas	Company	(cont.)
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Required T	ransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1539	Replace Tosco 230 kV breaker 'CB1' with 63 kA		PSEG (100%)
b1540	Replace Tosco 230 kV breaker 'CB2' with 63 kA		PSEG (100%)
b1541	Open the Hudson 230 kV bus tie		PSEG (100%)
b1588	Reconductor the Eagle Point - Gloucester 230 kV circuit #1 and #2 with higher conductor rating		JCPL (10.48%) / Neptune* (1.00%) / PECO (31.30%) / PSEG (55.03%) / RE (2.19%)
b1589	Re-configure the Kearny 230 kV substation and loop the P-2216-1 (Essex - NJT Meadows) 230 kV circuit		ATSI (10.02%) / PENELEC (9.74%) / PSEG (77.16%) / RE (3.08%)
b1590	Upgrade the PSEG portion of the Camden Richmond 230 kV circuit to six wire conductor and replace terminal equipment at Camden		BGE (3.06%) / ME (0.83%) / PECO (91.70%) / PEPCO (1.94%) / PPL (2.47%)
b1749	Advance n1237 (Replace Essex 230 kV breaker '22H' with 80kA)		PSEG (100%)
b1750	Advance n0666.5 (Replace Hudson 230 kV breaker '1HB' with 80 kA (without TRV cap, so actually 63 kA))		PSEG (100%)
b1751	Advance n0666.3 (Replace Hudson 230 kV breaker '2HA' with 80 kA (without TRV cap, so actually 63 kA))		PSEG (100%)

Required T	ransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
	Advance n0666.10		
	(Replace Hudson 230 kV		
b1752	breaker '2HB' with 80 kA		
	(without TRV cap, so		
	actually 63 kA))		PSEG (100%)
	Marion 138 kV breaker		
	'7PM' - delay the relay		
b1753	time to increase the		
	contact parting time to 2.5		
	cycles		PSEG (100%)
	Marion 138 kV breaker		
	'3PM' - delay the relay		
b1754	time to increase the		
	contact parting time to 2.5		
	cycles		PSEG (100%)
	Marion 138 kV breaker		
	'6PM' - delay the relay		
b1755	time to increase the		
	contact parting time to 2.5		
	cycles		PSEG (100%)
	Build a second 230 kV		AEC (4.97%) / JCPL
b1787	circuit from Cox's Corner		(44.34%) / NEPTUNE*
01/0/	- Lumberton		(0.53%) / PSEG
	- Lumberton		(48.23%) / RE (1.93%)
	Install a reactor along the		
b2034	Kearny - Essex 138 kV		
	line		PSEG (100%)
1 2025	Replace Sewaren 138 kV		
b2035	breaker '11P'		PSEG (100%)
	Replace Sewaren 138 kV		
b2036	breaker '21P'		$\mathbf{D}\mathbf{C}\mathbf{C}\left(1000\right)$
			PSEG (100%)
b2037	Replace PVSC 138 kV		
	breaker '452'		PSEG (100%)
1 2029	Replace PVSC 138 kV		
b2038	breaker '552'		PSEG (100%)
		1	

Required T	ransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2039	Replace Bayonne 138 kV breaker '11P'		PSEG (100%)
b2139	Reconductor the Mickleton - Gloucester 230 kV parallel circuits with double bundle conductor		PSEG (61.11%) / PECO (36.45%) / RE (2.44%)
b2146	Re-configure the Brunswick 230 kV and 69 kV substations		PSEG (96.16%) / RE (3.84%)
b2151	Construct Jackson Rd. 69 kV substation and loop the Cedar Grove - Hinchmans Ave into Jackson Rd. and construct Hawthorne 69 kV substation and build 69 kV circuit from Hinchmans Ave - Hawthorne - Fair Lawn		PSEG (100%)
b2159	Reconfigure the Linden, Bayway, North Ave, and Passaic Valley S.C. 138 kV substations. Construct and loop new 138 kV circuit to new airport station		PSEG (96.16%) / RE (3.84%)

#### **SCHEDULE 12 – APPENDIX**

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

Required	Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b0216	Install -100/+525 MVAR dynamic reactive device at Black Oak	As specified under the procedures detailed in Attachment H-18B, Section 1.b	AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%)
b0218	Install third Wylie Ridge 500/345kV transformer	As specified under the procedures detailed in Attachment H-18B, Section 1.b	AEC (11.83%) / DPL (19.40%) / Dominion (13.81%) / JCPL (15.56%) / PECO (39.40%)
b0220	Upgrade coolers on Wylie Ridge 500/345 kV #7		AEC (11.83%) / DPL (19.40%) / Dominion (13.81%) / JCPL (15.56%) / PECO (39.40%)
b0229	Install fourth Bedington 500/138 kV		APS (50.98%) / BGE (13.42%) / DPL (2.03%) / Dominion (14.50%) / ME (1.43%) / PEPCO (17.64%)
b0230	Install fourth Meadowbrook 500/138 kV	As specified under the procedures detailed in Attachment H-18B, Section 1.b	APS (79.16%) / BGE (3.61%) / DPL (0.86%) / Dominion (11.75%) / ME (0.67%) / PEPCO (3.95%)

Required	Transmission Enhancements	Annual Revenue Requirement	t Responsible Customer(s)
b0238	Reconductor Doubs – Dickerson and Doubs – Aqueduct 1200 MVA	As specified under the procedures detailed in Attachment H-18B, Section 1.b	BGE (16.66%) / Dominion (33.66%) / PEPCO (49.68%)
b0240	Open the Black Oak #3 500/138 kV transformer for the loss of Hatfield – Back Oak 500 kV line		APS (100%)
b0245	Replacement of the existing 954 ACSR conductor on the Bedington – Nipetown 138 kV line with high temperature/low sag conductor		APS (100%)
b0246	Rebuild of the Double Tollgate – Old Chapel 138 kV line with 954 ACSR conductor	As specified under the procedures detailed in Attachment H-18B, Section 1.b	APS (100%)
b0273	OpenbothNorthShenandoah#3transformerandStrasburg– Edinburgh138 kV line for the lossofMountStorm–Meadowbrook572kV		APS (100%)
b0322	Convert Lime Kiln substation to 230 kV operation		APS (100%)
b0323	Replace the North Shenandoah 138/115 kV transformer	As specified under the procedures detailed in Attachment H-18B, Section 1.b	APS (100%)

* Neptune Regional Transmission System, LLC

[†]Cost allocations associated with Regional Facilities and Necessary Lower Voltage Facilities associated with the project

††Cost allocations associated with below 500 kV elements of the project

Required In	ansmission Enhancements	Annual Revenue Requiremen	t Responsible Customer(s)
b0328.2	Build new Meadow Brook – Loudoun 500 kV circuit (20 of 50 miles)	As specified under the procedures detailed in Attachment H-18B, Section 1.b	AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%)
b0343	Replace Doubs 500/230 kV transformer #2	As specified under the procedures detailed in Attachment H-18B, Section 1.b	AEC (1.85%) / BGE (21.49%) / DPL (3.91%) / Dominion (28.86%) / ME (2.97%) / PECO (5.73%) / PEPCO (35.19%)
b0344	Replace Doubs 500/230 kV transformer #3	As specified under the procedures detailed in Attachment H-18B, Section 1.b	AEC (1.86%) / BGE (21.50%) / DPL (3.91%) / Dominion (28.82%) / ME (2.97%) / PECO (5.74%) / PEPCO (35.20%)
b0345	Replace Doubs 500/230 kV transformer #4	As specified under the procedures detailed in Attachment H-18B, Section 1.b	AEC (1.85%) / BGE (21.49%) / DPL (3.90%) / Dominion (28.83%) / ME (2.98%) / PECO (5.75%) / PEPCO (35.20%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required T	ransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b0347.1	Build new Mt. Storm – 502 Junction 500 kV circuit	As specified under the procedures detailed in Attachment H-18B, Section 1.b	AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE*
			(0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%)
b0347.2	Build new Mt. Storm – Meadow Brook 500 kV circuit	As specified under the procedures detailed in Attachment H-18B, Section 1.b	AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required T	ransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
			AEC (1.66%) / AEP (14.16%) /
			APS (5.73%) / ATSI (7.88%) /
			BGE (4.22%) / ComEd (13.31%)
			/ Dayton (2.11%) / DEOK
		As specified under the	(3.29%) / DL (1.75%) / DPL
b0347.3	Build new 502 Junction	procedures detailed in	(2.50%) / Dominion (12.86%) /
00347.3	500 kV substation	Attachment H-18B,	EKPC (1.87%) / JCPL (3.74%) /
		Section 1.b	ME (1.90%) / NEPTUNE*
			(0.44%) / PECO (5.34%) /
			PENELEC (1.89%) / PEPCO
			(3.99%) / PPL (4.84%) / PSEG
			(6.26%) / RE (0.26%)
			AEC (1.66%) / AEP (14.16%) /
			APS (5.73%) / ATSI (7.88%) /
			BGE (4.22%) / ComEd (13.31%)
			/ Dayton (2.11%) / DEOK
		As specified under the	(3.29%) / DL (1.75%) / DPL
b0347.4	Upgrade Meadow Brook	procedures detailed in	(2.50%) / Dominion (12.86%) /
00347.4	500 kV substation	Attachment H-18B,	EKPC (1.87%) / JCPL (3.74%) /
		Section 1.b	ME (1.90%) / NEPTUNE*
			(0.44%) / PECO (5.34%) /
			PENELEC (1.89%) / PEPCO
			(3.99%) / PPL (4.84%) / PSEG
			(6.26%) / RE (0.26%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required I	ransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
			AEC (1.66%) / AEP (14.16%) /
			APS (5.73%) / ATSI (7.88%) /
			BGE (4.22%) / ComEd (13.31%)
			/ Dayton (2.11%) / DEOK
			(3.29%) / DL (1.75%) / DPL
b0347.5	Replace Harrison 500		(2.50%) / Dominion (12.86%) /
00347.3	kV breaker HL-3		EKPC (1.87%) / JCPL (3.74%) /
			ME (1.90%) / NEPTUNE*
			(0.44%) / PECO (5.34%) /
			PENELEC (1.89%) / PEPCO
			(3.99%) / PPL (4.84%) / PSEG
			(6.26%) / RE (0.26%)
			AEC (1.66%) / AEP (14.16%) /
			APS (5.73%) / ATSI (7.88%) /
			BGE (4.22%) / ComEd (13.31%)
			/ Dayton (2.11%) / DEOK
			(3.29%) / DL (1.75%) / DPL
b0347.6	Upgrade (per ABB		(2.50%) / Dominion (12.86%) /
00347.0	inspection) breaker HL-6		EKPC (1.87%) / JCPL (3.74%) /
			ME (1.90%) / NEPTUNE*
			(0.44%) / PECO (5.34%) /
			PENELEC (1.89%) / PEPCO
			(3.99%) / PPL (4.84%) / PSEG
			(6.26%) / RE (0.26%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required I	ransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
			AEC (1.66%) / AEP (14.16%) /
			APS (5.73%) / ATSI (7.88%) /
			BGE (4.22%) / ComEd (13.31%)
			/ Dayton (2.11%) / DEOK
			(3.29%) / DL (1.75%) / DPL
b0347.7	Upgrade (per ABB		(2.50%) / Dominion (12.86%) /
00347.7	inspection) breaker HL-7		EKPC (1.87%) / JCPL (3.74%) /
			ME (1.90%) / NEPTUNE*
			(0.44%) / PECO (5.34%) /
			PENELEC (1.89%) / PEPCO
			(3.99%) / PPL (4.84%) / PSEG
			(6.26%) / RE (0.26%)
			AEC (1.66%) / AEP (14.16%) /
			APS (5.73%) / ATSI (7.88%) /
			BGE (4.22%) / ComEd (13.31%)
			/ Dayton (2.11%) / DEOK
			(3.29%) / DL (1.75%) / DPL
b0347.8	Upgrade (per ABB		(2.50%) / Dominion (12.86%) /
00347.0	inspection) breaker HL-8		EKPC (1.87%) / JCPL (3.74%) /
			ME (1.90%) / NEPTUNE*
			(0.44%) / PECO (5.34%) /
			PENELEC (1.89%) / PEPCO
			(3.99%) / PPL (4.84%) / PSEG
			(6.26%) / RE (0.26%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required The		Allinual Revenue Requirement	Responsible Customer(s)
			AEC (1.66%) / AEP (14.16%) /
			APS (5.73%) / ATSI (7.88%) /
			BGE (4.22%) / ComEd (13.31%)
			/ Dayton (2.11%) / DEOK
	Ungrada (par ADD		(3.29%) / DL (1.75%) / DPL
b0347.9	Upgrade (per ABB inspection) breaker HL-		(2.50%) / Dominion (12.86%) /
00347.9	10		EKPC (1.87%) / JCPL (3.74%) /
	10	ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%)	
			(0.44%) / PECO (5.34%) /
			PENELEC (1.89%) / PEPCO
			(3.99%) / PPL (4.84%) / PSEG
			(6.26%) / RE (0.26%)
			AEC (1.66%) / AEP (14.16%) /
			APS (5.73%) / ATSI (7.88%) /
			BGE (4.22%) / ComEd (13.31%)
			/ Dayton (2.11%) / DEOK
	Upgrade (per ABB		(3.29%) / DL (1.75%) / DPL
b0347.10	Inspection) Hatfield 500		(2.50%) / Dominion (12.86%) /
00347.10	kV breakers HFL-1		EKPC (1.87%) / JCPL (3.74%) /
	KV DIEakers III L-1		ME (1.90%) / NEPTUNE*
			(0.44%) / PECO (5.34%) /
			PENELEC (1.89%) / PEPCO
			(3.99%) / PPL (4.84%) / PSEG
			(6.26%) / RE (0.26%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required Transmission Enhancements		Annual Revenue Requirement Responsible Customer(s)
		AEC (1.66%) / AEP (14.16%) /
		APS (5.73%) / ATSI (7.88%) /
		BGE (4.22%) / ComEd (13.31%)
		/ Dayton (2.11%) / DEOK
	Upgrade (per ABB	(3.29%) / DL (1.75%) / DPL
b0347.11	Inspection) Hatfield	(2.50%) / Dominion (12.86%) /
00347.11	500 kV breakers HFL-3	EKPC (1.87%) / JCPL (3.74%) /
	JOO KV DIEakers III L-J	ME (1.90%) / NEPTUNE*
		(0.44%) / PECO (5.34%) /
		PENELEC (1.89%) / PEPCO
		(3.99%) / PPL (4.84%) / PSEG
		(6.26%) / RE (0.26%)
		AEC (1.66%) / AEP (14.16%) /
		APS (5.73%) / ATSI (7.88%) /
		<ul> <li>B EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%)</li> <li>AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE*</li> </ul>
		/ Dayton (2.11%) / DEOK
	Upgrade (per ABB	(3.29%) / DL (1.75%) / DPL
b0347.12	Inspection) Hatfield	(2.50%) / Dominion (12.86%) /
00347.12	500 kV breakers HFL-4	EKPC (1.87%) / JCPL (3.74%) /
	300 KV Dieakers HFL-4	ME (1.90%) / NEPTUNE*
		(0.44%) / PECO (5.34%) /
		PENELEC (1.89%) / PEPCO
		(3.99%) / PPL (4.84%) / PSEG
		(6.26%) / RE (0.26%)

Required Transmission Enhancements		Annual Revenue Requirement Responsible Customer(s)
		AEC (1.66%) / AEP (14.16%) /
		APS (5.73%) / ATSI (7.88%) /
		BGE (4.22%) / ComEd (13.31%)
		/ Dayton (2.11%) / DEOK
	Upgrade (per ABB	(3.29%) / DL (1.75%) / DPL
b0347.13	Inspection) Hatfield	(2.50%) / Dominion (12.86%) /
00347.13	500 kV breakers HFL-6	EKPC (1.87%) / JCPL (3.74%) /
	500 KV bleakers III L-0	ME (1.90%) / NEPTUNE*
		(0.44%) / PECO (5.34%) /
		PENELEC (1.89%) / PEPCO
		(3.99%) / PPL (4.84%) / PSEG
		(6.26%) / RE (0.26%)
		AEC (1.66%) / AEP (14.16%) /
		APS (5.73%) / ATSI (7.88%) /
		BGE (4.22%) / ComEd (13.31%)
		/ Dayton (2.11%) / DEOK
	Upgrade (per ABB	(3.29%) / DL (1.75%) / DPL
b0347.14	Inspection) Hatfield	(2.50%) / Dominion (12.86%) /
00347.14	500 kV breakers HFL-7	EKPC (1.87%) / JCPL (3.74%) /
	300 KV breakers HFL-7	ME (1.90%) / NEPTUNE*
		(0.44%) / PECO (5.34%) /
		PENELEC (1.89%) / PEPCO
		(3.99%) / PPL (4.84%) / PSEG
		(6.26%) / RE (0.26%)

Required Transmission Enhancements		Annual Revenue Requirement Responsible Customer(s)
		AEC (1.66%) / AEP (14.16%) /
		APS (5.73%) / ATSI (7.88%) /
		BGE (4.22%) / ComEd (13.31%)
		/ Dayton (2.11%) / DEOK
	Upgrade (per ABB	(3.29%) / DL (1.75%) / DPL
b0347.15	Inspection) Hatfield	(2.50%) / Dominion (12.86%) /
00347.13	500 kV breakers HFL-9	EKPC (1.87%) / JCPL (3.74%) /
	JUU KV UICAKCIS III L-3	ME (1.90%) / NEPTUNE*
		(0.44%) / PECO (5.34%) /
		PENELEC (1.89%) / PEPCO
		(3.99%) / PPL (4.84%) / PSEG
		(6.26%) / RE (0.26%)
		AEC (1.66%) / AEP (14.16%) /
		/ Dayton (2.11%) / DEOK
	Upgrade (per ABB	(3.29%) / DL (1.75%) / DPL
b0347.16	inspection) Harrison	(2.50%) / Dominion (12.86%) /
00347.10	500 kV breaker 'HL-3'	(2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) /
	500 KV bleaker HL-5	ME (1.90%) / NEPTUNE*
		(0.44%) / PECO (5.34%) /
		PENELEC (1.89%) / PEPCO
		(3.99%) / PPL (4.84%) / PSEG
		(6.26%) / RE (0.26%)

Required Tra	ansmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
	Replace Meadow Brook 138 kV breaker 'MD-10'		AEC (1.66%) / AEP (14.16%) /
			APS (5.73%) / ATSI (7.88%) /
			BGE (4.22%) / ComEd (13.31%)
			/ Dayton (2.11%) / DEOK
			(3.29%) / DL (1.75%) / DPL
b0347.17			(2.50%) / Dominion (12.86%) /
00347.17			EKPC (1.87%) / JCPL (3.74%) /
			ME (1.90%) / NEPTUNE*
			(0.44%) / PECO (5.34%) /
			PENELEC (1.89%) / PEPCO
			(3.99%) / PPL (4.84%) / PSEG
			(6.26%) / RE (0.26%)
	Replace Meadow Brook 138 kV breaker 'MD-11'		AEC (1.66%) / AEP (14.16%) /
			APS (5.73%) / ATSI (7.88%) /
			BGE (4.22%) / ComEd (13.31%)
			/ Dayton (2.11%) / DEOK
			(3.29%) / DL (1.75%) / DPL
h0247 19			(2.50%) / Dominion (12.86%) /
b0347.18			EKPC (1.87%) / JCPL (3.74%) /
			ME (1.90%) / NEPTUNE*
			(0.44%) / PECO (5.34%) /
			PENELEC (1.89%) / PEPCO
			(3.99%) / PPL (4.84%) / PSEG
			(6.26%) / RE (0.26%)

Required Th	ansmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
			AEC (1.66%) / AEP (14.16%) /
	Replace Meadow Brook 138 kV breaker 'MD-12'		APS (5.73%) / ATSI (7.88%) /
			BGE (4.22%) / ComEd (13.31%)
			/ Dayton (2.11%) / DEOK
			(3.29%) / DL (1.75%) / DPL
b0347.19			(2.50%) / Dominion (12.86%) /
00347.19			EKPC (1.87%) / JCPL (3.74%) /
			ME (1.90%) / NEPTUNE*
			(0.44%) / PECO (5.34%) /
			PENELEC (1.89%) / PEPCO
			(3.99%) / PPL (4.84%) / PSEG
			(6.26%) / RE (0.26%)
	Replace Meadow Brook 138 kV breaker 'MD-13'		AEC (1.66%) / AEP (14.16%) /
			APS (5.73%) / ATSI (7.88%) /
			BGE (4.22%) / ComEd (13.31%)
			/ Dayton (2.11%) / DEOK
			(3.29%) / DL (1.75%) / DPL
b0347.20			(2.50%) / Dominion (12.86%) /
			EKPC (1.87%) / JCPL (3.74%) /
			ME (1.90%) / NEPTUNE*
			(0.44%) / PECO (5.34%) /
			PENELEC (1.89%) / PEPCO
			(3.99%) / PPL (4.84%) / PSEG
			(6.26%) / RE (0.26%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required Th	ansmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
			AEC (1.66%) / AEP (14.16%) /
	Replace Meadow Brook 138 kV breaker 'MD-14'		APS (5.73%) / ATSI (7.88%) /
			BGE (4.22%) / ComEd (13.31%)
			/ Dayton (2.11%) / DEOK
			(3.29%) / DL (1.75%) / DPL
b0347.21			(2.50%) / Dominion (12.86%) /
00347.21			EKPC (1.87%) / JCPL (3.74%) /
			ME (1.90%) / NEPTUNE*
			(0.44%) / PECO (5.34%) /
			PENELEC (1.89%) / PEPCO
			(3.99%) / PPL (4.84%) / PSEG
			(6.26%) / RE (0.26%)
	Replace Meadow Brook 138 kV breaker 'MD-15'		AEC (1.66%) / AEP (14.16%) /
			APS (5.73%) / ATSI (7.88%) /
			BGE (4.22%) / ComEd (13.31%)
			/ Dayton (2.11%) / DEOK
			(3.29%) / DL (1.75%) / DPL
b0347.22			(2.50%) / Dominion (12.86%) /
			EKPC (1.87%) / JCPL (3.74%) /
			ME (1.90%) / NEPTUNE*
			(0.44%) / PECO (5.34%) /
			PENELEC (1.89%) / PEPCO
			(3.99%) / PPL (4.84%) / PSEG
			(6.26%) / RE (0.26%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required Transmission Enhancements		Annual Revenue Requirement	Responsible Customer(s)
	Replace Meadow Brook 138 kV breaker 'MD-16'		AEC (1.66%) / AEP (14.16%) /
			APS (5.73%) / ATSI (7.88%) /
			BGE (4.22%) / ComEd (13.31%)
			/ Dayton (2.11%) / DEOK
			(3.29%) / DL (1.75%) / DPL
b0347.23			(2.50%) / Dominion (12.86%) /
00347.23			EKPC (1.87%) / JCPL (3.74%) /
			ME (1.90%) / NEPTUNE*
			(0.44%) / PECO (5.34%) /
			PENELEC (1.89%) / PEPCO
			(3.99%) / PPL (4.84%) / PSEG
			(6.26%) / RE (0.26%)
	Replace Meadow Brook 138 kV breaker 'MD-17'		AEC (1.66%) / AEP (14.16%) /
			APS (5.73%) / ATSI (7.88%) /
			BGE (4.22%) / ComEd (13.31%)
			/ Dayton (2.11%) / DEOK
			(3.29%) / DL (1.75%) / DPL
h0247.24			(2.50%) / Dominion (12.86%) /
b0347.24			EKPC (1.87%) / JCPL (3.74%) /
			ME (1.90%) / NEPTUNE*
			(0.44%) / PECO (5.34%) /
			PENELEC (1.89%) / PEPCO
			(3.99%) / PPL (4.84%) / PSEG
			(6.26%) / RE (0.26%)

Required The	ansmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
			AEC (1.66%) / AEP (14.16%) /
	Replace Meadow Brook 138 kV breaker 'MD-18'		APS (5.73%) / ATSI (7.88%) /
			BGE (4.22%) / ComEd (13.31%)
			/ Dayton (2.11%) / DEOK
			(3.29%) / DL (1.75%) / DPL
			(2.50%) / Dominion (12.86%) /
b0347.25			EKPC (1.87%) / JCPL (3.74%) /
			ME (1.90%) / NEPTUNE*
			(0.44%) / PECO (5.34%) /
			PENELEC (1.89%) / PEPCO
			(3.99%) / PPL (4.84%) / PSEG
			(6.26%) / RE (0.26%)
	Replace Meadow Brook 138 kV breaker 'MD-22#1 CAP'		AEC (1.66%) / AEP (14.16%) /
			APS (5.73%) / ATSI (7.88%) /
			BGE (4.22%) / ComEd (13.31%)
			/ Dayton (2.11%) / DEOK
			(3.29%) / DL (1.75%) / DPL
b0347.26			(2.50%) / Dominion (12.86%) /
00347.20			EKPC (1.87%) / JCPL (3.74%) /
			ME (1.90%) / NEPTUNE*
			(0.44%) / PECO (5.34%) /
			PENELEC (1.89%) / PEPCO
			(3.99%) / PPL (4.84%) / PSEG
			(6.26%) / RE (0.26%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)			
		AEC (1.66%) / AEP (14.16%) /	
		APS (5.73%) / ATSI (7.88%) /	
		BGE (4.22%) / ComEd (13.31%) /	
	Replace Meadow	Dayton (2.11%) / DEOK (3.29%) /	
		DL (1.75%) / DPL (2.50%) /	
b0347.27	Brook 138 kV breaker	Dominion (12.86%) / EKPC	
00347.27	'MD-4'	(1.87%) / JCPL (3.74%) / ME	
	NID-4	(1.90%) / NEPTUNE* (0.44%) /	
		PECO (5.34%) / PENELEC	
		(1.89%) / PEPCO (3.99%) / PPL	
		(4.84%) / PSEG (6.26%) / RE	
		(0.26%)	
		AEC (1.66%) / AEP (14.16%) /	
		APS (5.73%) / ATSI (7.88%) /	
	Replace Meadow Brook 138 kV breaker 'MD-5'	BGE (4.22%) / ComEd (13.31%) /	
		Dayton (2.11%) / DEOK (3.29%) /	
		DL (1.75%) / DPL (2.50%) /	
b0347.28		Dominion (12.86%) / EKPC	
00347.20		(1.87%) / JCPL (3.74%) / ME	
		(1.90%) / NEPTUNE* (0.44%) /	
		PECO (5.34%) / PENELEC	
		(1.89%) / PEPCO (3.99%) / PPL	
		(4.84%) / PSEG (6.26%) / RE	
		(0.26%)	
	Replace Meadowbrook 138 kV breaker 'MD-6'	AEC (1.66%) / AEP (14.16%) /	
		APS (5.73%) / ATSI (7.88%) /	
		BGE (4.22%) / ComEd (13.31%) /	
		Dayton (2.11%) / DEOK (3.29%) /	
		DL (1.75%) / DPL (2.50%) /	
		Dominion (12.86%) / EKPC	
b0347.29		(1.87%) / JCPL (3.74%) / ME	
		(1.90%) / NEPTUNE* (0.44%) /	
		PECO (5.34%) / PENELEC	
		(1.89%) / PEPCO (3.99%) / PPL	
		(4.84%) / PSEG (6.26%) / RE	
		(0.26%)	

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required Tra	ansmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
			AEC (1.66%) / AEP (14.16%) /
			APS (5.73%) / ATSI (7.88%) /
			BGE (4.22%) / ComEd (13.31%)
			/ Dayton (2.11%) / DEOK
			(3.29%) / DL (1.75%) / DPL
b0347.30	Replace Meadowbrook		(2.50%) / Dominion (12.86%) /
00347.30	138 kV breaker 'MD-7'		EKPC (1.87%) / JCPL (3.74%) /
			ME (1.90%) / NEPTUNE*
			(0.44%) / PECO (5.34%) /
			PENELEC (1.89%) / PEPCO
			(3.99%) / PPL (4.84%) / PSEG
			(6.26%) / RE (0.26%)
			AEC (1.66%) / AEP (14.16%) /
			APS (5.73%) / ATSI (7.88%) /
			BGE (4.22%) / ComEd (13.31%)
			/ Dayton (2.11%) / DEOK
			(3.29%) / DL (1.75%) / DPL
b0347.31	Replace Meadowbrook		(2.50%) / Dominion (12.86%) /
00347.31	138 kV breaker 'MD-8'		EKPC (1.87%) / JCPL (3.74%) /
			ME (1.90%) / NEPTUNE*
			(0.44%) / PECO (5.34%) /
			PENELEC (1.89%) / PEPCO
			(3.99%) / PPL (4.84%) / PSEG
			(6.26%) / RE (0.26%)

Required Tra	ansmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
			AEC (1.66%) / AEP (14.16%) /
			APS (5.73%) / ATSI (7.88%) /
			BGE (4.22%) / ComEd (13.31%)
			/ Dayton (2.11%) / DEOK
			(3.29%) / DL (1.75%) / DPL
b0347.32	Replace Meadowbrook		(2.50%) / Dominion (12.86%) /
00011102	138 kV breaker 'MD-9'		EKPC (1.87%) / JCPL (3.74%) /
			ME (1.90%) / NEPTUNE*
			(0.44%) / PECO (5.34%) /
			PENELEC (1.89%) / PEPCO
			(3.99%) / PPL (4.84%) / PSEG
			(6.26%) / RE (0.26%)
1.02.47.22	Replace Meadow Brook		
b0347.33	138kV breaker 'MD-1'		A DS (1000()
			APS (100%)
	Replace Meadow Brook		
b0347.34	138kV breaker 'MD-2'		
			APS (100%)
	Upgrade Stonewall –		
b0348	Inwood 138 kV with		
	954 ACSR conductor		APS (100%)
	Convert Doubs –		AEC (1.82%) / APS (76.84%) /
	Monocacy 138 kV		DPL (2.64%) / JCPL (4.53%) /
b0373	facilities to 230 kV		ME (9.15%) / Neptune* (0.42%)
	operation		/ PPL (4.60%)
			AEC (1.66%) / AEP (14.16%) /
			APS (5.73%) / ATSI (7.88%) /
			BGE (4.22%) / ComEd (13.31%)
			/ Dayton (2.11%) / DEOK
	Replace terminal		(3.29%) / DL (1.75%) / DPL
b0393	equipment at Harrison		(2.50%) / Dominion (12.86%) /
	500 kV and Belmont		EKPC (1.87%) / JCPL (3.74%) /
	500 kV		ME (1.90%) / NEPTUNE*
			(0.44%) / PECO (5.34%) /
			PENELEC (1.89%) / PEPCO
			(3.99%) / PPL (4.84%) / PSEG
			(6.26%) / RE (0.26%)

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

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

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

Required	Transmission Enhancements	Annual Revenue Requiremen	t Responsible Customer(s)
b0418	Install a breaker failure auto-restoration scheme at Cabot 500 kV for the failure of the #6 breaker		AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%)
b0419	Install a breaker failure auto-restoration scheme at Bedington 500 kV for the failure of the #1 and #2 breakers		AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%)
b0420	Operating Procedure to open the Black Oak 500/138 kV transformer #3 for the loss of Hatfield – Ronco 500 kV and the Hatfield #3 Generation		APS (100%)
b0445	Upgrade substation equipment and reconductor the Tidd – Mahans Lane – Weirton 138kV circuit with 954 ACSR		APS (100%)

Required T	ransmission Enhancements	Annual Revenue Requiremer	nt Responsible Customer(s)
b0460	RaiselimitingstructuresonAlbright- Bethelboro138 kV toraisethe rating to175MVAnormal214MVAemergency		APS (100%)
b0491	Construct an Amos to Welton Spring to WV state line 765 kV circuit (APS equipment)	As specified under the procedures detailed in Attachment H-19B	AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%)
b0492	Construct a Welton Spring to Kemptown 765 kV line (APS equipment)	As specified under the procedures detailed in Attachment H-19B	AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%)
b0492.3	Replace Eastalco 230 kV breaker D-26		APS (100%)
b0492.4	Replace Eastalco 230 kV breaker D-28		APS (100%)

Required Tr	ansmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b0492.5	Replace Eastalco 230 kV breaker D-31		APS (100%)
b0495	Replace existing Kammer 765/500 kV transformer with a new larger transformer		AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%)
b0533	Reconductor the Powell Mountain – Sutton 138 kV line		APS (100%)
b0534	Install a 28.61 MVAR capacitor on Sutton 138 kV		APS (100%)
b0535	Install a 44 MVAR capacitor on Dutch Fork 138 kV		APS (100%)
b0536	Replace Doubs circuit breaker DJ1		APS (100%)
b0537	Replace Doubs circuit breaker DJ7		APS (100%)
b0538	Replace Doubs circuit breaker DJ10		APS (100%)
b0572.1	Reconductor Albright – Mettiki – Williams – Parsons – Loughs Lane 138 kV with 954 ACSR		APS (100%)

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	Reconductor Albright –		
b0572.2	Mettiki – Williams –		
	Parsons – Loughs Lane		
	138 kV with 954 ACSR		APS (100%)
	Reconfigure circuits in		
b0573	Butler – Cabot 138 kV		
	area		APS (100%)
			EC (1.66%) / AEP (14.16%) /
			PS (5.73%) / ATSI (7.88%) /
			E (4.22%) / ComEd (13.31%)
			/ Dayton (2.11%) / DEOK
		(.	3.29%) / DL (1.75%) / DPL
b0577	Replace Fort Martin 500	(2.	.50%) / Dominion (12.86%) /
00377	kV breaker FL-1	EK	CPC (1.87%) / JCPL (3.74%) /
			ME (1.90%) / NEPTUNE*
			(0.44%) / PECO (5.34%) /
		P	ENELEC (1.89%) / PEPCO
		(3.	.99%) / PPL (4.84%) / PSEG
			(6.26%) / RE (0.26%)
	Install 33 MVAR 138		
b0584	kV capacitor at		
	Necessity 138 kV		APS (100%)
	Increase Cecil 138 kV		
	capacitor size to 44		
	MVAR, replace five 138		
b0585	kV breakers at Cecil due		
00383	to increased short circuit		
	fault duty as a result of		
	the addition of the Prexy		
	substation		APS (100%)
	Increase Whiteley 138		
b0586	kV capacitor size to 44		
	MVAR		APS (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

		difidal Revenue Requirement	
b0587	Reconductor AP portion of Tidd – Carnegie 138 kV and Carnegie – Weirton 138 kV with 954 ACSR		APS (100%)
b0588	Install a 40.8 MVAR 138 kV capacitor at Grassy Falls		APS (100%)
b0589	Replace five 138 kV breakers at Cecil		APS (100%)
b0590	Replace#1and#2breakersatCharleroi138 kV		APS (100%)
b0591	Install a 25.2 MVAR capacitor at Seneca Caverns 138 kV		APS (100%)
b0673	Rebuild Elko – Carbon Center Junction using 230 kV construction		APS (100%)
b0674	Construct new Osage – Whiteley 138 kV circuit		APS (97.69%) / DL (0.96%) / PENELEC (1.09%) / PSEG (0.25%) / RE (0.01%)
b0674.1	Replace the Osage 138 kV breaker 'CollinsF126'		APS (100%)
b0675.1	Convert Monocacy - Walkersville 138 kV to 230 kV		AEC (1.02%) / APS (82.01%) / DPL (0.85%) / JCPL (1.75%) / ME (6.38%) / NEPTUNE* (0.15%) / PECO (3.09%) / PPL (2.24%) / PSEG (2.42%) / RE (0.09%)
b0675.2	Convert Walkersville - Catoctin 138 kV to 230 kV		AEC (1.02%) / APS (82.01%) / DPL (0.85%) / JCPL (1.75%) / ME (6.38%) / NEPTUNE* (0.15%) / PECO (3.09%) / PPL (2.24%) / PSEG (2.42%) / RE (0.09%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

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			AEC (1.02%) / APS (82.01%) /
	Convert Ringgold -		DPL (0.85%) / JCPL (1.75%) /
b0675.3	Catoctin 138 kV to 230		ME (6.38%) / NEPTUNE*
00075.5	kV		(0.15%) / PECO (3.09%) / PPL
			(2.24%) / PSEG (2.42%) / RE
			(0.09%)
			AEC (1.02%) / APS (82.01%) /
	Convert Catoctin -		DPL (0.85%) / JCPL (1.75%) /
b0675.4	Carroll 138 kV to 230		ME (6.38%) / NEPTUNE*
00075.4	kV		(0.15%) / PECO (3.09%) / PPL
			(2.24%) / PSEG (2.42%) / RE
			(0.09%)
			AEC (1.02%) / APS (82.01%) /
	Convert portion of		DPL (0.85%) / JCPL (1.75%) /
b0675.5	Ringgold Substation		ME (6.38%) / NEPTUNE*
00075.5	from 138 kV to 230 kV		(0.15%) / PECO (3.09%) / PPL
			(2.24%) / PSEG (2.42%) / RE
			(0.09%)
			AEC (1.02%) / APS (82.01%) /
	Convert Catoctin		DPL (0.85%) / JCPL (1.75%) /
b0675.6	Substation from 138 kV to 230 kV		ME (6.38%) / NEPTUNE*
00075.0			(0.15%) / PECO (3.09%) / PPL
			(2.24%) / PSEG (2.42%) / RE
			(0.09%)
			AEC (1.02%) / APS (82.01%) /
	Convert portion of		DPL (0.85%) / JCPL (1.75%) /
b0675.7	Carroll Substation from		ME (6.38%) / NEPTUNE*
00075.7	138 kV to 230 kV		(0.15%) / PECO (3.09%) / PPL
			(2.24%) / PSEG (2.42%) / RE
			(0.09%)
			AEC (1.02%) / APS (82.01%) /
	Convert Monocacy		DPL (0.85%) / JCPL (1.75%) /
b0675.8	Substation from 138 kV		ME (6.38%) / NEPTUNE*
00073.8	to 230 kV		(0.15%) / PECO (3.09%) / PPL
			(2.24%) / PSEG (2.42%) / RE
			(0.09%)
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Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

tequineu II		miliau revenue requientement	Responsible Customer(s)
			AEC (1.02%) / APS (82.01%)
	Convert Walkersville		/ DPL (0.85%) / JCPL (1.75%)
b0675.9	Substation from 138 kV		/ ME (6.38%) / NEPTUNE*
00075.9	to 230 kV		(0.15%) / PECO (3.09%) / PPL
			(2.24%) / PSEG (2.42%) / RE
			(0.09%)
			AEC (0.64%) / APS (86.77%)
	Reconductor Doubs -		/ DPL (0.53%) / JCPL (1.93%)
b0676.1	Lime Kiln (#207) 230kV		/ ME (4.05%) / NEPTUNE*
00070.1	Line Kill $(#207)$ 230K V		(0.18%) / PECO (1.93%) /
			PENELEC (0.93%) / PSEG
			(2.92%) / RE (0.12%)
			AEC (0.64%) / APS (86.77%)
	Reconductor Doubs -		/ DPL (0.53%) / JCPL (1.93%)
b0676.2	Lime Kiln (#231) 230kV		/ ME (4.05%) / NEPTUNE*
00070.2	Line Kin $(\pi 231)$ 230K V		(0.18%) / PECO (1.93%) /
			PENELEC (0.93%) / PSEG
			(2.92%) / RE (0.12%)
	Reconductor Double		
b0677	Toll Gate – Riverton		
	with 954 ACSR		APS (100%)
	Reconductor Glen Falls -		
b0678	Oak Mound 138kV with		
	954 ACSR		APS (100%)
	Reconductor Grand		
b0679	Point – Letterkenny with		
	954 ACSR		APS (100%)
	Reconductor Greene –		
b0680	Letterkenny with 954		
	ACSR		APS (100%)
1.0701	Replace 600/5 CT's at		
b0681	Franklin 138 kV		ADS (1000())
			APS (100%)
b0682	Replace 600/5 CT's at		
00082	Whiteley 138 kV		APS (100%)
			ALD (10070)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

<b>_</b>		1 1 V
b0684	Reconductor Guilford – South Chambersburg with 954 ACSR	APS (100%)
b0685	Replace Ringgold 230/138 kV #3 with larger transformer	APS (72.06%) / JCPL (4.18%) / ME (6.80%) / NEPTUNE* (0.38%) / PECO (4.06%) / PENELEC (5.89%) / PSEG (6.38%) / RE (0.25%)
b0704	Install a third Cabot 500/138 kV transformer	APS (74.36%) / DL (2.73%) PENELEC (22.91%)
b0797	Advance n0321 (Replace Doubs Circuit Breaker DJ2)	APS(100%)
b0798	Advance n0322 (Replace Doubs Circuit Breaker DJ3)	APS(100%)
b0799	Advance n0323 (Replace Doubs Circuit Breaker DJ6)	APS(100%)
b0800	Advance n0327 (Replace Doubs Circuit Breaker DJ16)	APS(100%)
b0941	Replace Opequon 138 kV breaker 'BUSTIE'	APS(100%)
b0942	Replace Butler 138 kV breaker '#1 BANK'	APS(100%)
b0943	Replace Butler 138 kV breaker '#2 BANK'	APS(100%)
b0944	Replace Yukon 138 kV breaker 'Y-8'	APS(100%)
b0945	Replace Yukon 138 kV breaker 'Y-3'	APS(100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

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

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

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

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

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

b0986	Replace Armstrong 138 kV breaker 'RESERVE	
00700	BUS'	APS(100%)
b0987	Replace Yukon 138 kV breaker 'Y-16'	APS(100%)
b0988	Replace Springdale 138 kV breaker '138T'	APS(100%)
b0989	Replace Edgelawn 138 kV breaker 'GOFF RUN #632'	APS(100%)
b0990	Change reclosing on Cabot 138 kV breaker 'C-9'	APS(100%)
b0991	Change reclosing on Belmont 138 kV breaker 'B-7'	APS(100%)
b0992	Change reclosing on Belmont 138 kV breaker 'B-12'	APS(100%)
b0993	Change reclosing on Belmont 138 kV breaker 'B-9'	APS(100%)
b0994	Change reclosing on Belmont 138 kV breaker 'B-19'	APS(100%)
b0995	Change reclosing on Belmont 138 kV breaker 'B-21'	APS(100%)
b0996	Change reclosing on Willow Island 138 kV breaker 'FAIRVIEW #84'	APS(100%)
b0997	Change reclosing on Cabot 138 kV breaker 'C-4'	APS(100%)
b0998	Change reclosing on Cabot 138 kV breaker 'C-1'	APS(100%)

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

required i		Annual Revenue Requirement	Responsible Edistonier(5)
	Construct Braddock 138		
	kV breaker station that		
	connects the Charleroi -		
	Gordon 138 kV line,		
b1023.4	Washington - Franklin		
	138 kV line and the		
	Washington - Vanceville		
	138 kV line including a		
	66 MVAR capacitor		APS (100%)
	Increase the size of the		
b1027	shunt capacitors at Enon		
	138 kV		APS (100%)
	Raise three structures on		
b1028	the Osage - Collins Ferry		
01020	138 kV line to increase		
	the line rating		APS (100%)
	Reconductor the		
	Edgewater – Vasco Tap;		
b1128	Edgewater – Loyalhanna		
	138 kV lines with 954		
	ACSR		APS (100%)
	Reconductor the East		
b1129	Waynesboro – Ringgold		
0112)	138 kV line with 954		
	ACSR		APS (100%)
	Upgrade Double Tollgate		
b1131	– Meadowbrook MDT		
	Terminal Equipment		APS (100%)
	Upgrade Double		
b1132	Tollgate-Meadowbrook		
01102	MBG terminal		
	equipment		APS (100%)
b1133	Upgrade terminal		
	equipment at Springdale		APS (100%)
	Reconductor the		
	Bartonville –		
b1135	Meadowbrook 138 kV		
	line with high		
	temperature conductor		APS (100%)

b1137	Reconductor the Eastgate – Luxor 138 kV; Eastgate – Sony 138 kV	APS (78.77%) / PENELEC (14.11%) / PSEG (6.85%) / RE
	line with 954 ACSR	(14.11%)/13EG (0.85%)/ KE (0.27%)
b1138	Reconductor the King Farm – Sony 138 kV line with 954 ACSR	APS (100%)
b1139	Reconductor the Yukon – Waltz Mills 138 kV line with high temperature conductor	APS (100%)
b1140	Reconductor the Bracken Junction – Luxor 138 kV line with 954 ACSR	APS (100%)
b1141	Reconductor the Sewickley – Waltz Mills Tap 138 kV line with high temperature conductor	APS (100%)
b1142	ReconductortheBartonsville-Stephenson138Stonewall-Stephenson138kVLinewith954ACSR	APS (100%)
b1143	Reconductor the Youngwood – Yukon 138 kV line with high temperature conductor	APS (89.92%) / PENELEC (10.08%)
b1144	Reconductor the Bull Creek Junction – Cabot 138 kV line with high temperature conductor	APS (100%)

		initiali Revenue Requirement	(~)
b1145	Reconductor the Lawson Junction – Cabot 138 kV		
01145	line with high		
	temperature conductor		APS (100%)
	Replace Layton -		
11140	Smithton #61 138 kV		
b1146	line structures to increase		
	line rating		APS (100%)
	Replace Smith – Yukon		
b1147	138 kV line structures to		
	increase line rating		APS (100%)
	Reconductor the		
b1148	Loyalhanna – Luxor 138		
	kV line with 954 ACSR		APS (100%)
	Reconductor the Luxor –		
1 4 4 4 9	Stony Springs Junction		
b1149	138  kV line with 954		
	ACSR		APS (100%)
	Upgrade terminal		
b1150	equipment at Social Hall		APS (100%)
	Reconductor the		
	Greenwood – Redbud		
b1151	138 kV line with 954		
	ACSR		APS (100%)
	Reconductor Grand Point		
b1152	– South Chambersburg		APS (100%)
	Replace Peters 138 kV		
b1159	breaker 'Bethel P OCB'		APS (100%)
	Replace Peters 138 kV		
b1160	breaker 'Cecil OCB'		APS (100%)
	Replace Peters 138 kV		/ II D (100/0)
b1161	breaker 'Union JctOCB'		APS (100%)
	Replace Double Toll		/ I D (10070)
b1162	Gate 138 kV breaker		
01102	'DRB-2'		APS (100%)
	Replace Double Toll		
b1163	Gate 138 kV breaker		
01105	'DT 138 kV OCB'		APS (100%)
	DI IJOKV UCD		Ar 5 (100%)

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b1164	Replace Cecil 138 kV breaker 'Enlow OCB'	APS (100%)
b1165	Replace Cecil 138 kV	
	breaker 'South Fayette'	APS (100%)
b1166	Replace Wylie Ridge 138 kV breaker 'W-9'	APS (100%)
b1167	Replace Reid 138 kV breaker 'RI-2'	APS (100%)
b1171.1	Install the second Black Oak 500/138 kV transformer, two 138 kV breaker, and related substation work	BGE (20.76%) / DPL (3.14%) / Dominion (39.55%) / ME (2.71%) / PECO (3.36%) / PEPCO (30.48%)
b1171.3	Install six 500 kV breakers and remove BOL1 500 kV breaker at Black Oak	AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%)
b1200	Reconductor Double Toll Gate – Greenwood 138 kV with 954 ACSR conductor	APS (100%)
b1221.1	Convert Carbon Center from 138 kV to a 230 kV ring bus	APS (100%)
b1221.2	Construct Bear Run 230 kV substation with 230/138 kV transformer	APS (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

	Loop Carbon Center	
b1221.3	Junction – Williamette	
	line into Bear Run	APS (100%)
	Carbon Center – Carbon	
	Center Junction &	
b1221.4	Carbon Center Junction	
	– Bear Run conversion	
	from 138 kV to 230 kV	APS (100%)
	Reconductor Willow-	
b1230	Eureka & Eurkea-St	
	Mary 138 kV lines	APS (100%)
		AEC (1.40%) / APS (75.74%) /
	Reconductor Nipetown –	DPL (1.92%) / JCPL (2.92%) /
b1232	Reid 138 kV with 1033	ME (6.10%) / Neptune (0.27%)
	ACCR	/ PECO (4.40%) / PENELEC
		(3.26%) / PPL (3.99%)
	Upgrade terminal	
b1233.1	equipment at	
	Washington	APS (100%)
	Replace structures	
b1234	between Ridgeway and	
	Paper city	APS (100%)
	Reconductor the Albright	
b1235	– Black Oak AFA 138	APS (30.25%) / BGE (16.10%)
01255	kV line with 795	/ Dominion (30.51%) / PEPCO
	ACSS/TW	(23.14%)
	Upgrade terminal	
	equipment at Albright,	
	replace bus and line side	
b1237	breaker disconnects and	
	leads, replace breaker	
	risers, upgrade RTU and	
	line	APS (100%)
	Install a 138 kV 44	
b1238	MVAR capacitor at	
	Edgelawn substation	APS (100%)

Install a 138 kV 44b1239Install a 138 kV 44b1239MVAR capacitor at Ridgeway substationInstall a 138 kV 44b1240MVAR capacitor at Elko SubstationVpgradeterminal equipmentequipmentatb1241Washington substation on on the GEPlastics/DuPont terminal b1242APS (100%)Replacestructures bt1242b1242Replace structuresb1243apacitor at Potter Substationb1243Replace Butler 138 kV breaker '1-2 BUS 138'b1261Replace Butler 138 kV breaker '1-2 BUS 138'	
Ridgeway substationAPS (100%)Install a 138 kV 44Install a 138 kV 44b1240MVAR capacitor at Elko SubstationAPS (100%)Upgradeterminal equipmentAPS (100%)b1241Washington substation on on the EPlastics/DuPont terminalAPS (100%)B1242Replace structures between Collins and West RunAPS (100%)Install a 138 kV b1243APS (100%)Install a 138 kV b1243APS (100%)b1261Replace Butler 138 kV breaker '1-2 BUS 138'APS (100%)	
Install a 138 kV 44b1240MVAR capacitor at Elko SubstationUpgrade terminal equipment atb1241Upgrade terminal equipment atb1241Washington substation on the GE Plastics/DuPont terminalb1242Replace structures between Collins Ferry and West Runb1243Install a 138 kV capacitor at Potter Substationb1241Replace Butler 138 kV breaker '1-2 BUS 138'b1261Replace Butler 138 kV breaker '1-2 BUS 138'	
b1240MVAR capacitor at Elko SubstationAPS (100%)Upgradeterminal equipmentAPS (100%)b1241Upgradeterminal equipmentAPS (100%)ontheGE Plastics/DuPont terminalAPS (100%)b1242Replacestructures between Collins Ferry and West RunAPS (100%)b1243Installa138kV capacitorb1243ReplaceButler 138APS (100%)b1261Replace Butler 138 kV breaker '1-2 BUS 138'APS (100%)	
SubstationAPS (100%)Upgradeterminalequipmentatb1241Washington substationontheontheGEPlastics/DuPont terminalAPS (100%)b1242Replacestructuresb1242between Collins Ferryand West RunAPS (100%)Installa 138 kVcapacitorat PotterSubstationAPS (100%)b1261Replace Butler 138 kV breaker '1-2 BUS 138'APS (100%)	
Upgradeterminal equipmentb1241Upgradeterminalb1241Washingtonsubstation onontheGEPlastics/DuPont terminalAPS (100%)b1242Between Collins Ferry and West RunAPS (100%)b1243Installa138kV capacitorAPS (100%)b1261ReplaceButler138kV breaker '1-2 BUS 138'APS (100%)	
Index equipmentat equipmentb1241Washington substation on on theGE GE Plastics/DuPont terminalb1242Replace between Collins between Collins Ferry and West RunAPS (100%)b1243Install capacitor SubstationAPS (100%)b1243Replace SubstationAPS (100%)b1261Replace Butler 138 kV breaker '1-2 BUS 138'APS (100%)	
b1241Washingtonsubstation GE Plastics/DuPont terminalAPS (100%)Replacestructures betweenAPS (100%)b1242betweenCollinsFerry and West RunInstalla138kV capacitorb1243capacitoratPotter Substationb1261ReplaceButler138kV breaker '1-2BUSAPS (100%)	
ontheGEPlastics/DuPont terminalAPS (100%)B1242Replacestructuresb1242between Collins Ferry and West RunAPS (100%)Installa138kVcapacitoratPotter SubstationAPS (100%)b1261ReplaceButler 138kV breaker '1-2 BUS 138'APS (100%)	
Plastics/DuPont terminalAPS (100%)Replacestructuresb1242between Collins Ferry and West RunAPS (100%)Installa138kVcapacitoratPotter SubstationAPS (100%)b1261ReplaceButler138kV breaker '1-2 BUS 138'	
b1242Replace between Collins Ferry and West RunAPS (100%)Installa138kV capacitorb1243Installa138kV capacitorb1243ExpansionAPS (100%)b1261ReplaceButler138kV breaker '1-2BUS 138'APS (100%)	
b1242between Collins Ferry and West RunAPS (100%)b1243Install a 138 kV capacitor at Potter SubstationAPS (100%)b1261Replace Butler 138 kV breaker '1-2 BUS 138'APS (100%)	
and West RunAPS (100%)Install a 138 kVcapacitor at Potterb1243Substationb1261Replace Butler 138 kV breaker '1-2 BUS 138'	
Install a 138 kV capacitor at Potter SubstationInstall a 138 kV Potter APS (100%)b1261Replace Butler 138 kV breaker '1-2 BUS 138'APS (100%)	
b1243capacitor SubstationPotter PotterAPS (100%)b1261Replace Butler 138 kV breaker '1-2 BUS 138'APS (100%)	
SubstationAPS (100%)b1261Replace Butler 138 kV breaker '1-2 BUS 138'APS (100%)	
b1261Replace Butler 138 kV breaker '1-2 BUS 138'APS (100%)	
b1261         breaker '1-2 BUS 138'         APS (100%)	
b1383 transformer at 502 APS (93.27%) / DL (5	.39%)/
Junction PENELEC (1.349	
Reconductor	
approximately 2.17 miles	
b1384 of Bedington –	
Shepherdstown 138 kV	
with 954 ACSR         APS (100%)	
Reconductor Halfway –	
b1385 Paramount 138 kV with	
1033 ACCR APS (100%)	
Reconductor Double	
b1386 Tollgate – Meadow Durale 128 bV alt 2 milt	200() /
Brook 138 kV ckt 2 with APS (93.33%) / BGE (3 1022 ACCP	,
1033 ACCR     PEPCO (3.28%)       Reconductor     Double	)
b1387 Tollgate – Meadow APS (93.33%) / BGE (3	3 30%) /
Brook 138 kV PEPCO (3.28%)	
Reconductor Feagans	/
b1388 Mill – Millville 138 kV	
with 954 ACSR APS (100%)	

Required 7	Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1389	Reconductor Bens Run – St. Mary's 138 kV with 954 ACSR		AEP (12.40%) / APS (17.80%) / DL (69.80%)
b1390	Replace Bus Tie Breaker at Opequon		APS (100%)
b1391	Replace Line Trap at Gore		APS (100%)
b1392	Replace structure on Belmont – Trissler 138 kV line		APS (100%)
b1393	ReplacestructuresKingwood –Pruntytown138 kV line		APS (100%)
b1395	UpgradeTerminalEquipment at Kittanning		APS (100%)
b1401	Change reclosing on Pruntytown 138 kV breaker 'P-16' to 1 shot at 15 seconds		APS (100%)
b1402	Change reclosing on Rivesville 138 kV breaker 'Pruntytown #34' to 1 shot at 15 seconds		APS (100%)
b1403	Change reclosing on Yukon 138 kV breaker 'Y21 Shepler' to 1 shot at 15 seconds		APS (100%)
b1404	Replace the Kiski Valley 138 kV breaker 'Vandergrift' with a 40 kA breaker		APS (100%)
b1405	Change reclosing on Armstrong 138 kV breaker 'GARETTRJCT' at 1 shot at 15 seconds		APS (100%)

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b1406	Change reclosing on Armstrong 138 kV breaker 'KITTANNING' to 1 shot at 15 seconds		APS (100%)
b1407	Change reclosing on Armstrong 138 kV breaker 'BURMA' to 1 shot at 15 seconds		APS (100%)
b1408	Replace the Weirton 138 kV breaker 'Tidd 224' with a 40 kA breaker		APS (100%)
b1409	Replace the Cabot 138 kV breaker 'C9 Kiski Valley' with a 40 kA breaker		APS (100%)
b1507.2	Terminal Equipment upgrade at Doubs substation		AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / DD (1.75%) / DPL (2.50%) / DD (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%)

Required II	ansmission Ennancements	Annual Revenue Requirement	Responsible Customer(s)
			AEC (1.66%) / AEP (14.16%) /
			APS (5.73%) / ATSI (7.88%) /
			BGE (4.22%) / ComEd
	Mt. Storm – Doubs		(13.31%) / Dayton (2.11%) /
	transmission line rebuild		DEOK (3.29%) / DL (1.75%) /
b1507.3	in Maryland – Total line		DPL (2.50%) / Dominion
01507.5	mileage for APS is 2.71		(12.86%) / EKPC (1.87%) /
	U		JCPL (3.74%) / ME (1.90%) /
	miles		NEPTUNE* (0.44%) / PECO
			(5.34%) / PENELEC (1.89%) /
			PEPCO (3.99%) / PPL (4.84%)
			/ PSEG (6.26%) / RE (0.26%)
b1510	Install 59.4 MVAR		
01510	capacitor at Waverly		APS (100%)
b1672	Install a 230 kV breaker		
01072	at Carbon Center		APS (100%)
h0520	Replace Doubs circuit		
b0539	breaker DJ11		APS (100%)
b0540	Replace Doubs circuit		
00340	breaker DJ12		APS (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required T	Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b0541	Replace Doubs circuit breaker DJ13		APS (100%)
b0542	Replace Doubs circuit breaker DJ20		APS (100%)
b0543	Replace Doubs circuit breaker DJ21		APS (100%)
b0544	Remove instantaneous reclose from Eastalco circuit breaker D-26		APS (100%)
b0545	Remove instantaneous reclose from Eastalco circuit breaker D-28		APS (100%)
b0559	Install 200 MVAR capacitor at Meadow Brook 500 kV substation		AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / DD (1.75%) / DPL (2.50%) / DOminion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%)
b0560	Install 250 MVAR capacitor at Kemptown 500 kV substation		AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / DD (1.75%) / DPL (2.50%) / DOminion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%)

ansmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
Build a 300 MVAR Switched Shunt at Doubs 500 kV and increase (~50 MVAR) in size the existing Switched Shunt at Doubs 500 kV		AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%)
Install a new 600 MVAR SVC at Meadowbrook 500kV		AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%)
Replace relaying at the Mt. Airy substation on		
the Carroll - Mt. Airy 230 kV line		
	Build a 300 MVAR Switched Shunt at Doubs 500 kV and increase (~50 MVAR) in size the existing Switched Shunt at Doubs 500 kV Install a new 600 MVAR SVC at Meadowbrook 500kV	Build a 300 MVAR Switched Shunt at Doubs 500 kV and increase (~50 MVAR) in size the existing Switched Shunt at Doubs 500 kV Install a new 600 MVAR SVC at Meadowbrook 500kV

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

Required Tr	ransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
	Replace the 1200 A		
	wave trap, line risers,		
b1822	breaker risers with 1600		
01022	A capacity terminal		
	equipment at Reid 138		
	kV SS		APS (100%)
	Replace the 800 A wave		
b1823	trap with a 1200 A wave		
01025	trap at Millville 138 kV		
	substation		APS (100%)
	Reconductor Grant Point		
	- Guilford 138kV line		
b1824	approximately 8 miles of		
	556 ACSR with 795		
	ACSR		APS (100%)
	Replace the 800 Amp		
b1825	line trap at Butler 138		
01020	kV Sub on the Cabot		
	East 138 kV line		APS (100%)
	Change the CT ratio at		
b1826	Double Toll Gate 138		
	kV SS on MDT line		APS (100%)
1 4 9 9 7	Change the CT ratio at		
b1827	Double Toll Gate 138		
	kV SS on MBG line		APS (100%)
	Reconductor the		
1 1000 1	Bartonville – Stephenson		
b1828.1	3.03 mile 138 kV line of		
	556 ACSR with 795		A DG (100%)
	ACSR		APS (100%)

Required Tr	ransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
	Reconductor the		
	Stonewall – Stephensor		
b1828.2	2.08 mile 138 kV line of		
	556 ACSR with 795		
	ACSR		APS (100%)
	Replace the existing 138		
	kV 556.5 ACSR		
	substation conductor		
b1829	risers with 954 ACSR at		
01022	the Redbud 138 kV		
	substation, including bu		
	not limited to the line		
	side disconnect leads		APS (100%)
	Replace 1200 A wave		
	trap and 1024 ACAR		
	breaker risers at Halfway		
b1830	138 kV substation, and		
	replace 1024 ACAR		
	breaker risers at		
	Paramount 138 kV		A DS (1000()
	substation		APS (100%)
	Replace the 1200 A line		
	side and bus side		
	disconnect switches with		
1,1022	1600 A switches, replace		
b1832	bus side, line side, and		
	disconnect leads at Lime		
	Kiln SS on the Doubs		
	Lime Kiln 1 (207) 230 kV line terminal	,	ADS(1000%)
	Replace the 1200 A line		APS (100%)
	side and bus side		
	disconnect switches with		
	1600 A switches, replace		
b1833	bus side, line side, and		
01033	disconnect leads at Lime		
	Kiln SS on the Doubs		
	Lime Kiln 2 (231) 230		
	kV line terminal	,	APS (100%)
	R, mie terminui		

Required Tr	ransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
	Reconductor 14.3 miles	5	
	of 556 ACSR with 795		
	ACSR from Old Chapel		
	to Millville 138 kV and		
b1835	upgrade line risers at Old		APS (37.68%) / Dominion
	Chapel 138 kV and		(34.46%) / PEPCO (13.69%) /
	Millville 138 kV and		BGE (11.45%) / ME (2.01%) /
	replace 1200 A wave		PENELEC (0.53%) / DL
	trap at Millville 138 kV		(0.18%)
	Replace 1200 A wave		
b1836	trap with 1600 A wave		
	trap at Reid 138 kV SS		APS (100%)
	Replace 750 CU breaker		
	risers with 795 ACSR at		
	Marlowe 138 kV and		
b1837	replace 1200 A wave	•	
	traps with 1600 A wave		
	traps at Marlowe 138 kV		
	and Bedington 138 kV		APS (100%)
	Replace the 1200 A		
	Bedington 138 kV line		
	air switch and the 1200		
b1838	A 138 kV bus tie air		
	switch at Nipetown 138		
	kV with 1600 A		
	switches		APS (100%)
	Install additional 33		
	MVAR capacitors at		
b1839	Grand Point 138 kV SS		
	and Guildford 138 kV		
	SS	stom LLC	APS (100%)

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

Required 7	Fransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
	Raise structures between		
	Lake Lynn and West		
b1988	Run to eliminate the		
01700	clearance de-rates on the		
	West Run – Lake Lynn		
	138 kV line		APS (100%)
	Raise structures between		
	Collins Ferry and West		
b1989	Run to eliminate the		
01707	clearance de-rates on the		
	Collins Ferry - West Run		
	138 kV line		APS (100%)
	Replace Weirt 138 kV		
b2095	breaker 'S-		
02075	TORONTO226' with		
	63kA rated breaker		APS (100%)
	Revise the reclosing of		
b2096	Weirt 138 kV breaker		
	'2&5 XFMR'		APS (100%)
	Replace Ridgeley 138		
b2097	kV breaker '#2 XFMR		
	OCB'		APS (100%)
	Revise the reclosing of		
b2098	Ridgeley 138 kV breaker		
02070	'AR3' with 40kA rated		
	breaker		APS (100%)
	Revise the reclosing of		
b2099	Ridgeley 138 kV breaker		
	'RC1'		APS (100%)
	Replace Ridgeley 138		
b2100	kV breaker 'WC4' with		
	40kA rated breaker		APS (100%)
	Replace Ridgeley 138		
b2101	kV breaker '1 XFMR		
02101	OCB' with 40kA rated		
	breaker		APS (100%)
	Replace Armstrong 138		
h2102	kV breaker		
b2102	'GARETTRJCT' with		
	40kA rated breaker		APS (100%)

Required 7	Fransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2103	Replace Armstrong 138 kV breaker 'BURMA'		
	with 40kA rated breaker		APS (100%)
	Replace Armstrong 138 kV breaker		
b2104	'KITTANNING' with		
	40kA rated breaker		APS (100%)
	Replace Armstrong 138		AI 5 (10070)
	kV breaker		
b2105	'KISSINGERJCT' with		
	40kA rated breaker		APS (100%)
	Replace Wylie Ridge		
b2106	345 kV breaker 'WK-1'		
	with 63kA rated breaker		APS (100%)
	Replace Wylie Ridge		
b2107	345 kV breaker 'WK-2'		
	with 63kA rated breaker		APS (100%)
	Replace Wylie Ridge		
b2108	345 kV breaker 'WK-3'		
	with 63kA rated breaker		APS (100%)
	Replace Wylie Ridge		
b2109	345 kV breaker 'WK-4'		
	with 63kA rated breaker		APS (100%)
10110	Replace Wylie Ridge		
b2110	345 kV breaker 'WK-6'		
	with 63kA rated breaker		APS (100%)
b2111	Replace Wylie Ridge 138 kV breaker 'WK-7'		
02111	with 63kA rated breaker		APS (100%)
	Replace Wylie Ridge		AI 5 (100%)
b2112	345 kV breaker 'WK-5'		APS (100%)
	Replace Weirton 138 kV		1115 (10070)
b2113	breaker 'NO 6 XFMR'		
	with 63kA rated breaker		APS (100%)
	Replace Armstrong 138		
L0114	kV breaker 'Bus-Tie'		
b2114	(Status On-Hold pending		
	retirement)		APS (100%)

Required T	ransmission Enhancements A	Annual Revenue Requirement	Responsible Customer(s)
10104 1	Add a new 138 kV line		
b2124.1	exit		APS (100%)
	Construct a 138 kV ring		
b2124.2	bus and install a 138/69		
	kV autotransformer		APS (100%)
	Add new 138 kV line exit		
b2124.3	and install a 138/25 kV		
	transformer		APS (100%)
h0104 4	Construct approximately		
b2124.4	5.5 miles of 138 kV line		APS (100%)
	Convert approximately		
b2124.5	7.5 miles of 69 kV to 138		
	kV		APS (100%)
	Install a 75 MVAR 230		
b2156	kV capacitor at		
	Shingletown Substation		APS (100%)
	Replace 800A wave trap		
b2165	at Stonewall with a 1200		
	A wave trap		APS (100%)
	Reconductor the Millville		
	– Sleepy Hollow 138kV		
	4.25 miles of 556 ACSR		
b2166	with 795 ACSR, upgrade		
02100	line risers at Sleepy		
	Hollow, and change 1200		
	A CT tap at Millville to		
	800		APS (100%)
	For Grassy Falls 138kV		
	Capacitor bank adjust		
	turn-on voltage to 1.0pu		
	with a high limit of		
b2168	1.04pu, For Crupperneck		
02100	and Powell Mountain		
	138kV Capacitor Banks		
	adjust turn-on voltage to		
	1.01pu with a high limit		
	of 1.035pu		APS (100%)

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

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

## SCHEDULE 12 – APPENDIX (15) Commonwealth Edison Company and Commonwealth Edison Company of Indiana, Inc.

Required	Transmission Enhancements	Annual Revenue Requirement	nt Responsible Customer(s)
	Reconductor Wolfs -		
	Oswego 138kV with 636		
b0164	ACSS		ComEd (100%)
	Build new West Loop 138		
b0236.1	kV substation		ComEd (100%)
	Install two new 345 kV		
	circuits from Crawford and		
	Taylor to West Loop and		
	two new 345/138 kV auto-		
b0236.2	transformers at West Loop.		ComEd (100%)
	Upgrade line 0108 – LaSalle		
	County – Mazon 138 kV		
	with 3.4 miles of 664.8		
b0299	ACSS		ComEd (100%)
	Increase capacity of Wolfs –		
b0301	Oswego 138 kV line 14304		ComEd (100%)
00301	Dixon – McGirr 138kV –		Collied (10070)
	Replace small piece of conductor on line 10714 and		
b0302			$C_{am}E_{1}^{(1000/)}$
00302	Sandwich		ComEd (100%)
	Install 345 kV CB and		
10202	change Elwood 345 kV BT		$C_{am}E_{1}(1000/)$
b0303	to normally closed		ComEd (100%)
	Reconductor line 11106		
1.020.4	Electric Junction – North		$C_{am}E_{1}^{(1000)}$
b0304	Aurora tap 4 miles		ComEd (100%)
	Normally open East		
1.0205	Frankfort 138 kV red-blue		
b0305	bus tie		ComEd (100%)
	Reconductor line Electric		
10005	Junction – North Aurora		
b0306	(11104 0.3 miles)		ComEd (100%)
			AEC (0.60%) / BGE (1.32%) /
			omEd (86.01%) / Dayton (0.73%)
			/ DL (1.01%) / DPL (0.87%) /
		D	ominion (2.46%) / JCPL (1.41%)
			/ Neptune* (0.14%) / PECO
	Install a second Byron –		1.79%) / PEPCO (1.20%) / PSEG
b0377	Wempletown 345 kV circuit		(2.37%) / RE (0.09%)

Required 7	Fransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b0379	Reconductor 10301 & 10302 Lisle – Lombard 138 kV circuits		ComEd (100%)
b0380	Reconductor 17713 from Burnham – Wildwood and 7611 from Wildwood to the Beverly tap		ComEd (100%)
b0394	Reconductor 2.8 miles of Wolfs – Frontenac 138 kV line 14310		ComEd (100%)
b0461	Install a 115.2 MVAR capacitor at Will County 138 kV		ComEd (100%)
b0462	Install a 57.6 MVAR capacitor at Joliet 138 kV		ComEd (100%)
b0463	Install a 115.2 MVAR capacitor at East Frankfort 138 kV		ComEd (100%)
b0464	Increase capacity of 138 kV line 14304 between Oswego TDC 592 to Montgomery TSS 106		ComEd (100%)
b0465	Install a 115.2 MVAR capacitor at Libertyville 138 kV		ComEd (100%)
b0466	Install a 115.2 MVAR capacitor at Prospect Heights 138 kV		ComEd (100%)
b0510	Install two 115.3 MVAR capacitors at Elmhurst 138 kV		ComEd (100%)
b0511	Reconductor the Pleasant Valley – Woodstock 138 kV line		ComEd (100%)
b0546	Install a 20 MVAR capacitor at Shorewood substation		ComEd (100%)
b0547	Install a 15 MVAR capacitor at Wilmington substation		ComEd (100%)

Required Tr	ransmission Enhancements	Annual Revenue Requirement	t Responsible Customer(s)
	Install a second East		
b0569.1	Frankfort 345/138 kV		
	autotransformer		ComEd (100%)
	Reconductor County Club		
b0569.2	Hills – Matteson 138 kV		
	circuit		ComEd (100%)
	Replace existing baseline		
	upgrade to install a 2 nd		
b0661	Wolfs 345/138 kV		
	transformer by installing		
	345/138 kV transformer at		
	Plano 'Red'		ComEd (100%)
	Add a breaker to Aptakisic		
b0662	138 kV to split the line in two for the 11708		
			$C_{2} = E_{1}^{2} (1000/)$
	contingency Reconductor East Frankfort		ComEd (100%)
b0663	- Goodings Grove 345 kV		
00005	'Red' line 11602		ComEd (100%)
	Install a 115.2 MVAR		ComEd (100%)
b0686	switched capacitor at East		
00000	Frankfort 138 kV 'Red'		ComEd (100%)
	Install a 115.2 MVAR		Comild (100%)
b0687	switched capacitor at Plano		
00007	138 kV 'Red'		ComEd (100%)
	Install a 115.2 MVAR		
b0688	switched capacitor at Plano		
00000	138 kV 'Blue'		ComEd (100%)
	Install a 115.2 MVAR		
b0689	switched capacitor at		
	McCook 138 kV 'Red'		ComEd (100%)
	Install a 115.2 MVAR		× ,
b0690	switched capacitor at		
	McCook 138 kV 'Blue'		ComEd (100%)
	Install a 115.2 MVAR		
b0691	switched capacitor at Wayne		
	138 kV 'Blue'		ComEd (100%)
	Install a 115.2 MVAR		
b0692	switched capacitor at Wayne		
	138 kV 'Red'		ComEd (100%)
	Install a 115.2 MVAR		
b0693	switched capacitor at		
	Crawford 138 kV 'Blue'		ComEd (100%)

Required T	ransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b0694	Install a 115.2 MVAR switched capacitor at Crawford 138 kV 'Red'		ComEd (100%)
b0695	Add a 300 MVAR SVC at Elmhurst 138 kV 'Red'		ComEd (100%)
b0696	Add a 300 MVAR SVC at Elmhurst 138 kV 'Blue'		ComEd (100%)
b0697	Reconductor 0902 Frankfort – New Lenox 138 kV circuit		ComEd (100%)
b0698	Increase capacity of 0902 East Frankfort TSS 66 – Davis Creek TSS 86 Tap 138 kV ~ 1.5 miles		ComEd (100%)
b0699	Install a second 345/138 kV transformer at Plano 'Red'		ComEd (100%)
b0700	Install a third 345/138 kV transformer at Goodings Grove 'Red'		ComEd (100%)
b0738	Install a 115.2 MVAR switched capacitor at Bedford Park 138 kV 'Red'		ComEd (100%)
b0739	Install a 115.2 MVAR switched capacitor at Bedford Park 138 kV 'Blue'		ComEd (100%)
b0740	Install a 57.6 MVAR switched capacitor at Wolfs 138 kV		ComEd (100%)
b0740.2	Increase the size of the Wolfs 138 kV Blue cap from 57.6 to 115.2 MVAR		ComEd (100%)
b0741	Reconductor Waukegan – Gurnee 138 kV line 1607		ComEd (100%)
b0742	Reconductor Waukegan – Gurnee 138 kV line 1603		ComEd (100%)
b1054	Change relay settings on Byron - Wempletown 345 kV to bring relay trip setting up to 115% of Rate C		ComEd (100%)
b1097	Add a 138 kV bus tie CB and two other 138 kV CB's at Round Lake		ComEd (100%)
b1157	Replace the 345 kV bus tie CB 2-3 at Lisle		ComEd (100%)
b1158	Add a 57.6 MVAR capacitor at Prospect Heights 138 kV Blue		ComEd (100%)

Required T	ransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1256	Replace the State Line Station 7 138 kV breaker 'Bustie 742'		ComEd (100%)
b1257	Eliminate the J322 138 kV breaker 'L0906' and move customer to distribution system		ComEd (100%)
b1258	Revise the reclosing on the Elmhurst 138 kV bus B breaker '135 12008'		ComEd (100%)
b1259	Revise the reclosing on the Elmhurst 138 kV bus R breaker '135 13510'		ComEd (100%)
b1263	Move line 16703 termination from bus 4 to bus 3 at Electric Junction		ComEd (100%)
b1264	Replace 345 kV bus ties 1-2 and 1-9 at Plano to increase rating on line 16703		ComEd (100%)
b1265	Reconductor approximately 2 miles of Will County – Romeoville 138 kV portion of L1809 with ACSS conductor		ComEd (100%)
b1266	Normally close 345 kV BT 2-3 at TSS 103 Lisle, replace one 345 kV circuit breaker on BT 1-2 at TSS 103 Lisle		ComEd (100%)
b1266.1	Revise reclosing on Des Plaines 138 kV breaker '46 4610		ComEd (100%)
b1300	Reconductor the East Frankfort – Goodings Grove 345 kV 11601 line		ComEd (100%)
b1301	Upgrade both Garfield – Taylor 345 kV lines (17723 and 17724)		ComEd (100%)
b1511	Reconductor a section of L1811 & replace station conductor		ComEd (100%)
b1512	Reconductor 1.493 mi of L0902 with 477 ACSR cond.		ComEd (100%)
b1513	Reconductor a section of L0901		ComEd (100%)
b1514	Replace line trap on L1210 at Station 12 Dresden		ComEd (100%)
b1515	Reconductor a section of L0902		ComEd (100%)

Required T	ransmission Enhancements	Annual Revenue Requirement	t Responsible Customer(s)
b1516	Reconductor a section of L11102		ComEd (100%)
b1517	Replace circuit switcher 0303		ComEd (100%)
b1518	Install a 4th Lisle auto transformer		ComEd (100%)
b1519.1	New 345 kV transmission from Crawford to Fisk to Taylor		ComEd (100%)
b1519.2	Two 345/138 kV autotransformers at Fisk		ComEd (100%)
b1519.3	Two 138 kV 115.2 MVAR cap banks at Fisk		ComEd (100%)
b1579	Revise reclosing and upgrade relays at State Line 138 kV breaker '7 L0707'		ComEd (100%)
b1580	Revise reclosing and upgrade relays at State Line 138 kV breaker '7 L0761'		ComEd (100%)
b1581	Revise reclosing and upgrade relays at Cherry Valley 138 kV breaker '156 15622'		ComEd (100%)
b1582	Replace Lombard 138 kV breaker '120 12008'		ComEd (100%)
b1658	Replace Lombard 138kV breaker '120 10301' with 63kA breaker		ComEd (100%)
b1772	Reconductor approximately 16 miles from Nelson to Electric Junction 345 kV and replace associated terminal equipment. Same as n2092		ATSI (3.81%) / ComEd (94.60%) / Dayton (1.03%) / DL (0.56%)
b1773	Reconductor approximately 12.51 miles of East Frankfort - Crete 345 kV line 6607. Same as n2089 Regional Transmission System, LI		AEC (1.98%) / AEP (23.50%) / ATSI (37.29%) / Dayton (7.10%) / DL (6.68%) / DPL (2.81%) / JCPL (4.99%) / Neptune* (0.50%) / PECO (6.29%) / PSEG (8.52%) / RE (0.34%)

Required T	ransmission Enhancements	Annual Revenue Requirement Responsible Customer(s)
b1774	Reconductor approximately 11.75 miles of Crete - St. John 345 kV. Same as n2088	AEC (1.97%) / AEP (21.67%) / ATSI (36.70%) / BGE (2.96%) / Dayton (6.88%) / DL (6.63%) / DPL (2.81%) / JCPL (4.94%) / Neptune* (0.49%) / PECO (6.25%) / PSEG (8.37%) / RE (0.33%)
b1774.1	Reconductor approximately 1 mile of Crete - St. John 345 kV in NIPS/MISO. Same as n2088	AEC (1.97%) / AEP (21.67%) / ATSI (36.70%) / BGE (2.96%) / Dayton (6.88%) / DL (6.63%) / DPL (2.81%) / JCPL (4.94%) / Neptune* (0.49%) / PECO (6.25%) / PSEG (8.37%) / RE (0.33%)
b1775	Reconductor 10.7 miles of Marengo - Pleasant Valley 138 kV and replace associated terminal and protective equipment. Same as n2090	ComEd (100%)
b1776	Reconductor 0.157 miles of McGirr Road - H440; RT 138 kV line of 477 ACSR	ComEd (100%)
b1777	Reconductor approximately 11.5 miles and replace associated terminal equipment of Marengo; TB - Woodstock; B 138 kV line. Same as n2093	ComEd (100%)
b1778	Reconductor 7.181 miles of 477 ACSR and upgrade station conductor at TSS 186 Steward1	ComEd (100%)
b1779	Reconductor 5.242 miles of Kickapoo Creek - Marseilles Tap 138 kV line of 477 ACSR	ComEd (100%)
b1841	Install the 3rd 345/138 kV transformer at TSS 86 Davis Creek	ComEd (100%)
b1842	Reconductor 0.6 miles of 138 kV line 5104 from TSS 115 Bedford Park to Clearing Tap	ComEd (100%)
*NT	Regional Transmission System, LI	

Required T	ransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
	Replace 1200A line trap on 138		
b1843	kV line 7611 at TSS 76 Blue		
	Island 138 kV		ComEd (100%)
	Reconductor 2.1 miles of 138		
b1844	kV line 10301 from TSS 102		
	Lisle to York Tap with ACSS		ComEd (100%)
	Reconductor 2.4 miles of 138		
b1845	kV line 10302 from TSS 103		
	Lisle to York Tap with ACSS		ComEd (100%)
	Upgrade 900 kcmil ACSR		
b1846	station conductor on 138 kV		
01040	line 1803 at STA 18 Will		
	County		ComEd (100%)
h1017	Add 230 MVAR of capacitors		
b1847	at TSS 141 Pleasant Valley		ComEd (100%)
	Upgrade relays and wavetrap		
b1848	on 138 kV line 4605 at TSS 46		
	Des Plaines		ComEd (100%)
	Install 138 kV bus and 7 CBs at		
b1849	TSS 109 Aptakisic 138 kV		ComEd (100%)
	Upgrade 1113 ACSR station		Colline (10070)
b1850	conductor on 138 kV line 7910		
01050	at TSS 144 Wayne 138 kV		ComEd (100%)
	Reconductor station conductor		
b1851	on 138 kV line 7915 at TSS		
01001	144 Wayne 138 kV		ComEd (100%)
	Upgrade five 345 kV circuit		
	breakers (L1223, L11124,		
b1852.1	L14321, BT2-3 and BT3-4) at		
	Electric Junction		ComEd (100%)
	Modify reclosing on 138 kV		
b1852.2	line (L11103) at TSS 111		
	Electric Junction		ComEd (100%)
	Reconductor/rebuild the 138		
b1885	kV line 16914 for 1.3 miles		
	from Stewart to the H440 tap		ComEd (100%)
	Install a 345 kV normally		
b1886	closed bus tie CB at Kendall		
	County		ComEd (100%)
	Replace 7 138 kV breakers at		
b1903	Natoma 138 kV substation		ComEd (100%)
	Pagional Transmission System 11		COIIIEu (100%)

<b>Commonwealth Edison</b>	Company and	Commonwealth Edison	Company of I	ndiana Inc (cont)
Common wearen Eurson	Company and	Common wearun Eurson	Company of I	nulana, mc. (com.)

Required T	ransmission Enhancements	Annual Revenue Requireme	nt Responsible Customer(s)
	Reconductor 25 miles of 138		
b2119	kV line 10714 from Dixon to		
02119	McGirr Road and replace line		
	traps on each end		ComEd (100%)
	Install two 300 MVAR SVC's		
b2127	on the 138 kV red and blue		
02127	buses at Prospect Heights		
	substation		ComEd (100%)
	Reconductor 8.9 miles of 138		
	kV line 11323 from Waterman		
b2128	to Glidden, replace two spans		
02120	of conductor between		
	Haumesser Road, and		
	Waterman also on line 11323		ComEd (100%)
			AEP (4.13%) / APS (2.23%)
h01/1	Construct a new Byron to		/ ATSI (0.08%) / ComEd
b2141	Wayne 345 kV circuit		(92.99%) / Dayton (0.41%) /
			Dominion (0.16%)

#### **SCHEDULE 12 – APPENDIX**

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

Required	Transmission Enhancements	Annual Revenue Requirement	t Responsible Customer(s)
	Install a 765/138 kV		AEP (99.00%) / PEPCO
b0318	transformer at Amos		(1.00%)
	Replace entrance		
	conductors, wave traps, and		
	risers at the Tidd 345 kV		
	station on the Tidd – Canton		
b0324	Central 345 kV circuit		AEP (100%)
b0447	Replace Cook 345 kV		
00447	breaker M2		AEP (100%)
b0448	Replace Cook 345 kV		
00448	breaker N2		AEP (100%)
			AEC (1.66%) / AEP (14.16%) /
			APS (5.73%) / ATSI (7.88%) /
			BGE (4.22%) / ComEd
			(13.31%) / Dayton (2.11%) /
	Construct an Amos –	As specified under the	DEOK (3.29%) / DL (1.75%) /
b0490		As specified under the	DPL (2.50%) / Dominion
00490	Bedington 765 kV circuit	procedures detailed in Attachment H-19B	(12.86%) / EKPC (1.87%) /
	(AEP equipment)	Auachinent H-19B	JCPL (3.74%) / ME (1.90%) /
			NEPTUNE* (0.44%) / PECO
			(5.34%) / PENELEC (1.89%) /
			PEPCO (3.99%) / PPL (4.84%)
			/ PSEG (6.26%) / RE (0.26%)

Required T	ransmission Enhancements	Annual Revenue Requiremen	t Responsible Customer(s)
			AEC (1.66%) / AEP (14.16%) /
			APS (5.73%) / ATSI (7.88%) /
			BGE (4.22%) / ComEd
			(13.31%) / Dayton (2.11%) /
			DEOK (3.29%) / DL (1.75%) /
b0490.2	Replace Amos 138 kV		DPL (2.50%) / Dominion
00770.2	breaker 'B'		(12.86%) / EKPC (1.87%) /
			JCPL (3.74%) / ME (1.90%) /
			NEPTUNE* (0.44%) / PECO
			(5.34%) / PENELEC (1.89%) /
			PEPCO (3.99%) / PPL (4.84%)
			/ PSEG (6.26%) / RE (0.26%)
	Replace Amos 138 kV		AEC (1.66%) / AEP (14.16%) /
			APS (5.73%) / ATSI (7.88%) /
			BGE (4.22%) / ComEd
			(13.31%) / Dayton (2.11%) /
			DEOK (3.29%) / DL (1.75%) /
b0490.3			DPL (2.50%) / Dominion
00490.5	breaker 'B1'		(12.86%) / EKPC (1.87%) /
			JCPL (3.74%) / ME (1.90%) /
			NEPTUNE* (0.44%) / PECO
			(5.34%) / PENELEC (1.89%) /
			PEPCO (3.99%) / PPL (4.84%)
			/ PSEG (6.26%) / RE (0.26%)

Required T	ransmission Enhancements	Annual Revenue Requireme	nt Responsible Customer(s)
			AEC (1.66%) / AEP (14.16%) /
			APS (5.73%) / ATSI (7.88%) /
			BGE (4.22%) / ComEd (13.31%)
			/ Dayton (2.11%) / DEOK
			(3.29%) / DL (1.75%) / DPL
b0490.4	Replace Amos 138 kV		(2.50%) / Dominion (12.86%) /
00470.4	breaker 'C'		EKPC (1.87%) / JCPL (3.74%) /
			ME (1.90%) / NEPTUNE*
			(0.44%) / PECO (5.34%) /
			PENELEC (1.89%) / PEPCO
			(3.99%) / PPL (4.84%) / PSEG
			(6.26%) / RE (0.26%)
			AEC (1.66%) / AEP (14.16%) /
			APS (5.73%) / ATSI (7.88%) /
			BGE (4.22%) / ComEd (13.31%)
			/ Dayton (2.11%) / DEOK
			(3.29%) / DL (1.75%) / DPL
b0490.5	Replace Amos 138 kV		(2.50%) / Dominion (12.86%) /
00490.3	breaker 'C1'		EKPC (1.87%) / JCPL (3.74%) /
			ME (1.90%) / NEPTUNE*
			(0.44%) / PECO (5.34%) /
			PENELEC (1.89%) / PEPCO
			(3.99%) / PPL (4.84%) / PSEG
			(6.26%) / RE (0.26%)

Required T	ransmission Enhancements	Annual Revenue Requirement	t Responsible Customer(s)
			AEC (1.66%) / AEP (14.16%) /
			APS (5.73%) / ATSI (7.88%) /
			BGE (4.22%) / ComEd (13.31%)
			/ Dayton (2.11%) / DEOK
			(3.29%) / DL (1.75%) / DPL
b0490.6	Replace Amos 138 kV		(2.50%) / Dominion (12.86%) /
00490.0	breaker 'D'		EKPC (1.87%) / JCPL (3.74%) /
			ME (1.90%) / NEPTUNE*
			(0.44%) / PECO (5.34%) /
			PENELEC (1.89%) / PEPCO
			(3.99%) / PPL (4.84%) / PSEG
			(6.26%) / RE (0.26%)
			AEC (1.66%) / AEP (14.16%) /
			APS (5.73%) / ATSI (7.88%) /
			BGE (4.22%) / ComEd (13.31%)
			/ Dayton (2.11%) / DEOK
			(3.29%) / DL (1.75%) / DPL
b0490.7	Replace Amos 138 kV		(2.50%) / Dominion (12.86%) /
00490.7	breaker 'D2'		EKPC (1.87%) / JCPL (3.74%) /
			ME (1.90%) / NEPTUNE*
			(0.44%) / PECO (5.34%) /
			PENELEC (1.89%) / PEPCO
			(3.99%) / PPL (4.84%) / PSEG
			(6.26%) / RE (0.26%)

Required T	ransmission Enhancements	Annual Revenue Requirement	t Responsible Customer(s)
			AEC (1.66%) / AEP (14.16%) /
			APS (5.73%) / ATSI (7.88%) /
		]	BGE (4.22%) / ComEd (13.31%)
			/ Dayton (2.11%) / DEOK
			(3.29%) / DL (1.75%) / DPL
b0490.8	Replace Amos 138 kV		(2.50%) / Dominion (12.86%) /
00770.0	breaker 'E'	-	EKPC (1.87%) / JCPL (3.74%) /
			ME (1.90%) / NEPTUNE*
			(0.44%) / PECO (5.34%) /
			PENELEC (1.89%) / PEPCO
			(3.99%) / PPL (4.84%) / PSEG
			(6.26%) / RE (0.26%)
			AEC (1.66%) / AEP (14.16%) /
			APS (5.73%) / ATSI (7.88%) /
		]	BGE (4.22%) / ComEd (13.31%)
			/ Dayton (2.11%) / DEOK
			(3.29%) / DL (1.75%) / DPL
b0490.9	Replace Amos 138 kV		(2.50%) / Dominion (12.86%) /
00490.9	breaker 'E2'		EKPC (1.87%) / JCPL (3.74%) /
			ME (1.90%) / NEPTUNE*
			(0.44%) / PECO (5.34%) /
			PENELEC (1.89%) / PEPCO
			(3.99%) / PPL (4.84%) / PSEG
			(6.26%) / RE (0.26%)

Required	Transmission Enhancements	Annual Revenue Requireme	ent Responsible Customer(s)
b0504	Add two advanced technology circuit breakers at Hanging Rock 765 kV to improve operational performance		AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%)
b0570	Reconductor East Side Lima – Sterling 138 kV		AEP (41.99%) / ComEd (58.01%)
b0571	ReconductorWestMillersport–138 kV		AEP (73.83%) / ComEd (19.26%) / Dayton (6.91%)
b0748	Establish a new 69 kV circuit between the Canal Road and East Wooster stations, establish a new 69 kV circuit between the West Millersburg and Moreland Switch stations (via Shreve), add reactive support via cap banks		AEP (100%)
b0838	Hazard Area 138 kV and 69 kV Improvement Projects		AEP (100%)
b0839	Replace existing 450 MVA transformer at Twin Branch 345 / 138 kV with a 675 MVA transformer		AEP (99.73%) / Dayton (0.27%)

Required T	ransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b0840	String a second 138 kV circuit on the open tower position between Twin Branch and East Elkhart		AEP (100%)
b0840.1	Establish a new 138/69- 34.5kV Station to interconnect the existing 34.5kV network		AEP (100%)
b0917	Replace Baileysville 138 kV breaker 'P'		AEP (100%)
b0918	Replace Riverview 138 kV breaker '634'		AEP (100%)
b0919	Replace Torrey 138 kV breaker 'W'		AEP (100%)
b1032.1	Construct a new 345/138kV station on the Marquis-Bixby 345kV line near the intersection with Ross - Highland 69kV		AEP (89.97%) / Dayton (10.03%)
b1032.2	Constructtwo138kVoutlets toDelano138kVstationandtoCampSherman station		AEP (89.97%) / Dayton (10.03%)
b1032.3	Convert Ross - Circleville 69kV to 138kV		AEP (89.97%) / Dayton (10.03%)
b1032.4	Install 138/69kV transformer at new station and connect in the Ross - Highland 69kV line		AEP (89.97%) / Dayton (10.03%)
b1033	Add a third delivery point from AEP's East Danville Station to the City of Danville.		AEP (100%)

Required T	ransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1034.1	Establish new South Canton - West Canton 138kV line (replacing Torrey - West Canton) and Wagenhals – Wayview 138kV		AEP (96.01%) / APS (0.62%) / ComEd (0.19%) / Dayton (0.44%) / DL (0.13%) / PENELEC (2.61%)
b1034.2	Loop the existing South Canton - Wayview 138kV circuit in-and-out of West Canton		AEP (96.01%) / APS (0.62%) / ComEd (0.19%) / Dayton (0.44%) / DL (0.13%) / PENELEC (2.61%)
b1034.3	Install a 345/138kV 450 MVA transformer at Canton Central		AEP (96.01%) / APS (0.62%) / ComEd (0.19%) / Dayton (0.44%) / DL (0.13%) / PENELEC (2.61%)
b1034.4	Rebuild/reconductor the Sunnyside - Torrey 138kV line		AEP (96.01%) / APS (0.62%) / ComEd (0.19%) / Dayton (0.44%) / DL (0.13%) / PENELEC (2.61%)
b1034.5	Disconnect/eliminate the West Canton 138kV terminal at Torrey Station		AEP (96.01%) / APS (0.62%) / ComEd (0.19%) / Dayton (0.44%) / DL (0.13%) / PENELEC (2.61%)
b1034.6	Replace all 138kV circuit breakers at South Canton Station and operate the station in a breaker and a half configuration		AEP (96.01%) / APS (0.62%) / ComEd (0.19%) / Dayton (0.44%) / DL (0.13%) / PENELEC (2.61%)
b1034.7	Replace all obsolete 138kV circuit breakers at the Torrey and Wagenhals stations		AEP (96.01%) / APS (0.62%) / ComEd (0.19%) / Dayton (0.44%) / DL (0.13%) / PENELEC (2.61%)

Required T	ransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1034.8	Install additional 138kV circuit breakers at the West Canton, South Canton, Canton Central, and Wagenhals stations to accommodate the new circuits		AEP (96.01%) / APS (0.62%) / ComEd (0.19%) / Dayton (0.44%) / DL (0.13%) / PENELEC (2.61%)
b1035	Establish a third 345kV breaker string in the West Millersport Station. Construct a new West Millersport – Gahanna 138kV circuit. Miscellaneous improvements to 138kV transmission system.		AEP (100%)
b1036	Upgrade terminal equipment at Poston Station and update remote end relays		AEP (100%)
b1037	Sag check Bonsack– Cloverdale 138 kV, Cloverdale–Centerville 138kV, Centerville–Ivy Hill 138kV, Ivy Hill– Reusens 138kV, Bonsack– Reusens 138kV and Reusens–Monel– Gomingo–Joshua Falls 138 kV.		AEP (100%)
b1038	Check the Crooksville - Muskingum 138 kV sag and perform the required work to improve the emergency rating		AEP (100%)

Required T	Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
	Perform a sag study for the		
	Madison – Cross Street 138		
b1039	kV line and perform the		
	required work to improve		
	the emergency rating		AEP (100%)
	Rebuild an 0.065 mile		
	section of the New Carlisle		
b1040	– Olive 138 kV line and		
	change the 138 kV line		
	switches at New Carlisle		AEP (100%)
	Perform a sag study for the		
b1041	Moseley - Roanoke 138 kV		
01041	to increase the emergency		
	rating		AEP (100%)
	Perform sag studies to raise		
b1042	the emergency rating of		
	Amos – Poca 138kV		AEP (100%)
	Perform sag studies to raise		
b1043	the emergency rating of		
	Turner - Ruth 138kV		AEP (100%)
	Perform sag studies to raise		
b1044	the emergency rating of		
01044	Kenova – South Point		
	138kV		AEP (100%)
b1045	Perform sag studies of Tri		
01043	State - Darrah 138 kV		AEP (100%)
	Perform sag study of		
h1016	Scottsville – Bremo 138kV		
b1046	to raise the emergency		
	rating		AEP (100%)
	Perform sag study of Otter		
h1047	Switch - Altavista 138kV		
b1047	to raise the emergency		
	rating		AEP (100%)

Required 7	Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
	Reconductor the Bixby -		
b1048	Three C - Groves and		
01040	Bixby - Groves 138 kV		
	tower line		AEP (100%)
	Upgrade the risers at the		
	Riverside station to		
b1049	increase the rating of		
	Benton Harbor – Riverside		
	138kV		AEP (100%)
	Rebuilding and reconductor		
b1050	the Bixby – Pickerington		
	Road - West Lancaster 138		
	kV line		AEP (100%)
	Perform a sag study for the		
	Kenzie Creek – Pokagon		
b1051	138 kV line and perform		
	the required work to		
	improve the emergency		
	rating		AEP (100%)
	Unsix-wire the existing		
b1052	Hyatt - Sawmill 138 kV		
	line to form two Hyatt - Sawmill 138 kV circuits		A = D(1000%)
	Perform a sag study and		AEP (100%)
	remediation of 32 miles		
b1053	between Claytor and Matt		
	Funk.		AEP (100%)
	Add 28.8 MVAR 138 kV		
	capacitor bank at Huffman		
	and 43.2 MVAR 138 kV		
b1091	Bank at Jubal Early and		
	52.8 MVAR 138 kV Bank		
	at Progress Park Stations		AEP (100%)
N NT /			

Required 7	<b>Fransmission Enhancements</b>	Annual Revenue Requirement	Responsible Customer(s)
	Add 28.8 MVAR 138 kV		
	capacitor bank at Sullivan		
b1092	Gardens and 52.8 MVAR		
	138 kV Bank at Reedy		
	Creek Stations		AEP (100%)
	Add a 43.2 MVAR		
b1093	capacitor bank at the		
01095	Morgan Fork 138 kV		
	Station		AEP (100%)
	Add a 64.8 MVAR		
b1094	capacitor bank at the West		
	Huntington 138 kV Station		AEP (100%)
b1108	Replace Ohio Central 138		
01108	kV breaker 'C2'		AEP (100%)
<b>h</b> 1100	Replace Ohio Central 138		
b1109	kV breaker 'D1'		AEP (100%)
1 1 1 1 0	Replace Sporn A 138 kV		
b1110	breaker 'J'		AEP (100%)
1.1111	Replace Sporn A 138 kV		
b1111	breaker 'J2'		AEP (100%)
1 1 1 1 0	Replace Sporn A 138 kV		
b1112	breaker 'L'		AEP (100%)
1 1 1 1 0	Replace Sporn A 138 kV		
b1113	breaker 'L1'		AEP (100%)
1 1 1 1 1	Replace Sporn A 138 kV		
b1114	breaker 'L2'		AEP (100%)
1 1 1 1 7	Replace Sporn A 138 kV		
b1115	breaker 'N'		AEP (100%)
1 4 4 4 4	Replace Sporn A 138 kV		
b1116	breaker 'N2'		AEP (100%)
	Perform a sag study on		
b1227	Altavista – Leesville 138		
	kV circuit		AEP (100%)
	- Ry circuit		1121(100/0)

Required 7	<b>Fransmission Enhancements</b>	Annual Revenue Requirement	Responsible Customer(s)
	Replace the existing 138/69-		
	12 kV transformer at West		
b1231	Moulton Station with a		
	138/69 kV transformer and a	1	AEP (96.69%) / Dayton
	69/12 kV transformer		(3.31%)
b1375	Replace Roanoke 138 kV		
01375	breaker 'T'		AEP (100%)
b1376	Replace Roanoke 138 kV		
01370	breaker 'E'		AEP (100%)
b1377	Replace Roanoke 138 kV		
01377	breaker 'F'		AEP (100%)
1,1270	Replace Roanoke 138 kV		
b1378	breaker 'G'		AEP (100%)
1.1270	Replace Roanoke 138 kV		
b1379	breaker 'B'		AEP (100%)
1 1 2 0 0	Replace Roanoke 138 kV		
b1380	breaker 'A'		AEP (100%)
1,1201	Replace Olive 345 kV		
b1381	breaker 'E'		AEP (100%)
b1382	Replace Olive 345 kV		
01382	breaker 'R2'		AEP (100%)
	Perform a sag study on the		
b1416	Desoto – Deer Creek 138 kV		
01410	line to increase the		
	emergency rating		AEP (100%)
	Perform a sag study on the		
b1417	Delaware – Madison 138 kV		
01417	line to increase the		
	emergency rating		AEP (100%)
	Perform a sag study on the		
b1418	Rockhill – East Lima 138 kV	·	
01710	line to increase the		
	emergency rating		AEP (100%)

Required 7	Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
	Perform a sag study on the		
b1419	Findlay Center – Fostoria Ctl		
01419	138 kV line to increase the		
	emergency rating		AEP (100%)
	A sag study will be required		
	to increase the emergency		
	rating for this line.		
b1420	Depending on the outcome of	f	
	this study, more action may		
	be required in order to		
	increase the rating		AEP (100%)
	Perform a sag study on the		
11401	Sorenson – McKinley 138 kV	7	
b1421	line to increase the		
	emergency rating		AEP (100%)
	Perform a sag study on John		
	Amos – St. Albans 138 kV		
b1422	line to allow for operation up	,	
	to its conductor emergency		
	rating		AEP (100%)
	A sag study will be performe	d	
	on the Chemical – Capitol		
b1423	Hill 138 kV line to determine	2	
	if the emergency rating can b	e	
	utilized		AEP (100%)
	Perform a sag study for		
L1404	Benton Harbor – West Street		
b1424	– Hartford 138 kV line to		
	improve the emergency rating	g	AEP (100%)
	Perform a sag study for the		
	East Monument – East		
b1425	Danville 138 kV line to allow	V	
01425	for operation up to the		
	conductor's maximum		
	operating temperature		AEP (100%)

Required 7	Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
	Perform a sag study for the		
	Reusens – Graves 138 kV lin	e	
b1426	to allow for operation up to		
	the conductor's maximum		
	operating temperature		AEP (100%)
	Perform a sag study on Smith	1	
	Mountain – Leesville –		
b1427	Altavista – Otter 138 kV and		
	on Boones – Forest – New		
	London – JohnsMT – Otter		AEP (100%)
	Perform a sag study on Smith	1	
	Mountain – Candlers		
b1428	Mountain 138 kV and Joshua	L	
	Falls – Cloverdale 765 kV to		
	allow for operation up to		AEP (100%)
	Perform a sag study on		
	Fremont – Clinch River 138		
b1429	kV to allow for operation up		
	to its conductor emergency		
	ratings		AEP (100%)
	Install a new 138 kV circuit		
	breaker at Benton Harbor		
b1430	station and move the load		
	from Watervliet 34.5 kV		
	station to West street 138 kV		AEP (100%)
	Perform a sag study on the		
	Kenova – Tri State 138 kV		
b1432	line to allow for operation up		
	to their conductor emergency	,	
	rating		AEP (100%)
	Replace risers in the West		
	Huntington Station to		
b1433	increase the line ratings		
01455	which would eliminate the		
	overloads for the		
	contingencies listed		AEP (100%)

Required '	Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
	Perform a sag study on the		
	line from Desoto to Madison		
b1434	Replace bus and risers at		
	Daleville station and replace		
	bus and risers at Madison		AEP (100%)
	Replace the 2870 MCM		
b1435	ACSR riser at the Sporn		
	station		AEP (100%)
	Perform a sag study on the		
	Sorenson – Illinois Road 138		
b1436	kV line to increase the		
01450	emergency MOT for this line		
	Replace bus and risers at		
	Illinois Road		AEP (100%)
	Perform sag study on Rock		
	Cr. – Hummel Cr. 138 kV to		
	increase the emergency MOT		
b1437	for the line, replace bus and		
01457	risers at Huntington J., and		
	replace relays for Hummel		
	Cr. – Hunt – Soren. Line at		
	Soren		AEP (100%)
	Replacement of risers at		
	McKinley and Industrial Parl	ζ.	
	stations and performance of a	1 I	
b1438	sag study for the 4.53 miles of	of	
01458	795 ACSR section is		
	expected to improve the		
	Summer Emergency rating to	•	
	335 MVA		AEP (100%)
	By replacing the risers at		
	Lincoln both the Summar		
b1439	Normal and Summer		
	Emergency ratings will		
	improve to 268 MVA		AEP (100%)

Required '	Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
	By replacing the breakers at		
b1440	Lincoln the Summer		
01440	Emergency rating will		
	improve to 251 MVA		AEP (100%)
	Replacement of risers at		
	South Side and performance		
	of a sag study for the 1.91		
b1441	miles of 795 ACSR section i	S	
	expected to improve the		
	Summer Emergency rating to	)	
	335 MVA		AEP (100%)
	Replacement of 954 ACSR		
	conductor with 1033 ACSR		
b1442	and performance of a sag		
01112	study for the 4.54 miles of 2-		
	636 ACSR section is		
	expected		AEP (100%)
	Station work at Thelma and		
b1443	Busseyville Stations will be		
	performed to replace bus and		
	risers		AEP (100%)
	Perform electrical clearance		
	studies on Clinch River –		
b1444	Clinchfield 139 kV line		
	(a.k.a. sag studies) to		
	determine if the emergency		
	ratings can be utilized		AEP (100%)
	Perform a sag study on the		
1-1445	Addison (Buckeye CO-OP) -	-	
b1445	Thinever and North Crown		
	City – Thivener 138 kV sag		AED (100%)
* NI 4	study and switch		AEP (100%)

Required '	Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
	Perform a sag study on the Parkersburg (Allegheny		
b1446	Power) – Belpre (AEP) 138		
	kV		AEP (100%)
b1447	Dexter – Elliot tap 138 kV		
01447	sag check		AEP (100%)
b1448	Dexter – Meigs 138 kV		
01440	Electrical Clearance Study		AEP (100%)
b1449	Meigs tap – Rutland 138 kV		
01447	sag check		AEP (100%)
	Muskingum – North		
b1450	Muskingum 138 kV sag		
	check		AEP (100%)
b1451	North Newark – Sharp Road		
	138 kV sag check		AEP (100%)
b1452	North Zanesville – Zanesville	2	
	138 kV sag check		AEP (100%)
1 1 4 5 0	North Zanesville – Powelson		
b1453	and Ohio Central – Powelson		
	138 kV sag check		AEP (100%)
	Perform an electrical		
	clearance study on the Ross - Delano – Scioto Trail 138 kV		
b1454	line to determine if the		
	emergency rating can be		
	utilized		AEP (100%)
	Perform a sag check on the		
	Sunny – Canton Central –		
1 4 4 5 5	Wagenhals 138 kV line to		
b1455	determine if all circuits can b	e	
	operated at their summer		
	emergency rating		AEP (100%)

Required'	Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1456	The Tidd – West Bellaire 345 kV circuit has been de-rated to its normal rating and woul need an electrical clearance study to determine if the emergency rating can be utilized		AEP (100%)
b1457	The Tiltonsville – Windsor 138 kV circuit has been derated to its normal rating and would need an electrical clearance study to determine if the emergency rating could be utilized	1	AEP (100%)
b1458	Install three new 345 kV breakers at Bixby to separate the Marquis 345 kV line and transformer #2. Operate Circleville – Harrison 138 kV and Harrison – Zuber 138 kV up to conductor emergency ratings	7	AEP (100%)
b1459	Several circuits have been de rated to their normal conductor ratings and could benefit from electrical clearance studies to determin if the emergency rating could be utilized	e	AEP (100%)
b1460	Replace 2156 & 2874 risers		AEP (100%)
b1461	Replace meter, metering CTs and associated equipment at the Paden City feeder		AEP (100%)
b1462	Replace relays at both South Cadiz 138 kV and Tidd 138 kV		AEP (100%)

Required T	Transmission Enhancements	Annual Revenue Requirement Responsible Customer(s)
b1463	Reconductor the Bexley –	
01403	Groves 138 kV circuit	AEP (100%)
b1464	Corner 138 kV upgrades	AEP (100%)
b1465.1	Add a 3rd 2250 MVA 765/345 kV transformer at Sullivan station	AEC (0.71%) / AEP (75.17%) / APS (1.25%) / BGE (1.81%) / ComEd (5.92%) / Dayton (0.86%) / DL (1.23%) / DPL (0.95%) / Dominion (3.90%) / JCPL (1.58%) / NEPTUNE (0.15%) / PECO (2.08%) / PEPCO (1.66%) / PSEG (2.63% / RE (0.10%)
b1465.2	Replace the 100 MVAR 765 kV shunt reactor bank on Rockport – Jefferson 765 kV line with a 300 MVAR bank at Rockport Station	AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31% / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%)

$b1465.4 \begin{tabular}{ c c c c c c c c c c c c c c c c c c c$	100	ransmission Ennancements A	nnual Revenue Requirement Responsible Customer(s)
$b1465.3 \begin{array}{ c c c c c c c c c c c c c c c c c c c$			AEC (1.66%) / AEP (14.16%) /
b1465.3       Transpose the Rockport – Sullivan 765 kV line and the Rockport – Jefferson 765 kV line       () Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE*         (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%)         AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK         b1465.4       Make switching improvements at Sullivan and Jefferson 765 kV stations			
b1465.3       Transpose the Rockport – Sullivan 765 kV line and the Rockport – Jefferson 765 kV line       (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%)         b1465.4       Make switching improvements at Sullivan and Jefferson 765 kV stations       AEC (1.66%) / AEP (14.16%) / APS (5.73%) / DPL (2.50%) / Dention (12.86%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL			BGE (4.22%) / ComEd (13.31%)
b1465.3       Sullivan 765 kV line and the Rockport – Jefferson 765 kV line       (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE*         b1465.4       (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%)         b1465.4       Make switching improvements at Sullivan and Jefferson 765 kV stations         b1465.4       Make switching improvements at Sullivan and Jefferson 765 kV stations			/ Dayton (2.11%) / DEOK
b1465.3       Rockport – Jefferson 765 kV line       EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%)         AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE*		Transpose the Rockport –	(3.29%) / DL (1.75%) / DPL
Bit Acckport – Jefferson 765       EKPC (1.87%) / JCPL (3.74%) /         kV line       ME (1.90%) / NEPTUNE*         (0.44%) / PECO (5.34%) /       PENELEC (1.89%) / PEPCO         (3.99%) / PPL (4.84%) / PSEG       (6.26%) / RE (0.26%)         AEC (1.66%) / AEP (14.16%) /       APS (5.73%) / ATSI (7.88%) /         BGE (4.22%) / ComEd (13.31%)       / Dayton (2.11%) / DEOK         (3.29%) / DL (1.75%) / DPL       (2.50%) / DL (1.75%) / DPL         improvements at Sullivan       (2.50%) / Dominion (12.86%) /         and Jefferson 765 kV       EKPC (1.87%) / JCPL (3.74%) /         stations       ME (1.90%) / NEPTUNE*	h1/65 3	Sullivan 765 kV line and the	(2.50%) / Dominion (12.86%) /
b1465.4       Make switching improvements at Sullivan and Jefferson 765 kV stations       Make switching improvements       (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%)         b1465.4       Make switching improvements at Sullivan and Jefferson 765 kV stations       AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (2.50%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE*	01405.5	Rockport – Jefferson 765	EKPC (1.87%) / JCPL (3.74%) /
b1465.4       Make switching         improvements at Sullivan       and Jefferson 765 kV         stations       Stations		kV line	ME (1.90%) / NEPTUNE*
b1465.4       (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%)         Make switching improvements at Sullivan and Jefferson 765 kV stations       AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE*			(0.44%) / PECO (5.34%) /
b1465.4       Make switching         B1465.4       Make switching <td< td=""><td></td><td></td><td>PENELEC (1.89%) / PEPCO</td></td<>			PENELEC (1.89%) / PEPCO
b1465.4       AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE*			(3.99%) / PPL (4.84%) / PSEG
b1465.4       APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE*			(6.26%) / RE (0.26%)
b1465.4       BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE*			AEC (1.66%) / AEP (14.16%) /
b1465.4 Make switching improvements at Sullivan and Jefferson 765 kV stations			APS (5.73%) / ATSI (7.88%) /
b1465.4Make switching improvements at Sullivan and Jefferson 765 kV stations(3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE*			BGE (4.22%) / ComEd (13.31%)
b1465.4improvements at Sullivan and Jefferson 765 kV stations(2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE*			/ Dayton (2.11%) / DEOK
b1465.4         and Jefferson 765 kV         EKPC (1.87%) / JCPL (3.74%) /           stations         ME (1.90%) / NEPTUNE*		e	
and Jefferson 765 kVEKPC (1.8/%) / JCPL (3.74%) /stationsME (1.90%) / NEPTUNE*	b1465.4		
	01405.4		
(0.44%) / PECO (5.34%) /		stations	
PENELEC (1.89%) / PEPCO			
(3.99%) / PPL (4.84%) / PSEG			(3.99%) / PPL (4.84%) / PSEG
(6.26%) / RE (0.26%)			(6.26%) / RE (0.26%)
Create an in and out loop at		<b>▲</b>	
Adams Station by removing			
b1466.1 the hard tap that currently	b1466.1	the hard tap that currently	
exists AEP (100%)			AEP (100%)
b1466.2 Upgrade the Adams	h1/66 2	10	
01400.2transformer to 90 MVAAEP (100%)	01400.2	transformer to 90 MVA	AEP (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

At Seaman Station install a new 138 kV bus and two new 138 kV circuit breakersAEP (100%)Convert South Central Co- op's New Market 69 kV Station to 138 kVAEP (100%)b1466.4op's New Market 69 kV Station to 138 kVAEP (100%)b1466.5The Seaman – Highland circuit is already built to 138 kV, but is currently operating at 69 kV, which would now increase to 138 kVAEP (100%)b1466.6anew 138 kV currently operating at 69 kV, which would now increase to 138 kVAEP (100%)b1466.6is with scurrently operating at 69 kV, which would now increase to 138 kVAEP (100%)b1466.6is with scurrently operating at 69 kV, which would now increase to 138 kVAEP (100%)b1466.6in ew 138 kV bus, three a new 138 kV bus, three new 138 kV circuit breakers and a new 138/69 kV 90 MVA transformerAEP (100%)b1466.7Using one of the bays at Highland, build a 138 kV build a 138 kV, which is approximately 3 milesAEP (100%)b1467.1Install a 14.4 MVAr Buffalo stationAEP (100%)b1467.2Reconfigure the 138 kV bus at LaPorte Junction station to eliminate a contingency resulting in loss of two 138 kV vources serving the LaPorte areaAEP (100%)	Required T	ransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
new 138 kV circuit breakersAEP (100%)Convert South Central Co- op's New Market 69 kV Station to 138 kVAEP (100%)The Seaman – Highland circuit is already built to 138 kV, but is currently operating at 69 kV, which would now increase to 138 kVAEP (100%)b1466.5At Highland Station, install a new 138 kV bus, three new 138 kV bus, three na a new 138/69 kV 90 MVA transformerAEP (100%)b1466.7Using one of the bays at Highland, build a 138 kV circuit from Hillsboro – Highland 138 kV, which is approximately 3 milesAEP (100%)b1467.1Install a 14.4 MVAr Capacitor Bank at New Buffalo stationAEP (100%)b1467.2Reconfigure the 138 kV bus at LaPorte Junction station to eliminate a contingency resulting in loss of two 138 kV sources serving theAEP (100%)		At Seaman Station install a		
Convert South Central Co- op's New Market 69 kV Station to 138 kV       AEP (100%)         The Seaman – Highland circuit is already built to 138 kV, but is currently operating at 69 kV, which would now increase to 138 kV       AEP (100%)         At Highland Station, install a new 138 kV bus, three new 138 kV circuit breakers and a new 138 kV bus, three new 138 kV circuit breakers and a new 138 kV volut is using one of the bays at Highland, build a 138 kV circuit from Hillsboro – Highland 138 kV, which is approximately 3 miles       AEP (100%)         Install a 14.4 MVAr       AEP (100%)         Evention of the 138 kV bus at LaPorte Junction station to eliminate a contingency resulting in loss of two 138 kV sources serving the       AEP (100%)	b1466.3	new 138 kV bus and two		
b1466.4       op's New Market 69 kV       AEP (100%)         Station to 138 kV       AEP (100%)         b1466.5       The Seaman – Highland       ircuit is already built to         138 kV, but is currently       operating at 69 kV, which       would now increase to 138         kV       AEP (100%)         At Highland Station, install       a new 138 kV bus, three         new 138 kV circuit breakers       and a new 138/69 kV 90         MVA transformer       AEP (100%)         b1466.6       Using one of the bays at         Highland, build a 138 kV       circuit from Hillsboro –         Highland 138 kV, which is       approximately 3 miles         AEP (100%)       AEP (100%)         b1467.1       Capacitor Bank at New         Buffalo station       AEP (100%)         b1467.2       Reconfigure the 138 kV bus         at LaPorte Junction station       AEP (100%)         kV sources serving the       kV sources serving the		new 138 kV circuit breakers		AEP (100%)
Station to 138 kVAEP (100%)InterstandThe Seaman – Highland circuit is already built to 138 kV, but is currently operating at 69 kV, which would now increase to 138 kVAEP (100%)At Highland Station, install a new 138 kV bus, three new 138 kV circuit breakers and a new 138/69 kV 90 MVA transformerAEP (100%)b1466.6Image: Static on the static on th		Convert South Central Co-		
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operating at 69 kV, which would now increase to 138 kVAEP (100%)kVAEP (100%)At Highland Station, install a new 138 kV bus, three new 138 kV circuit breakers and a new 138/69 kV 90 MVA transformerAEP (100%)b1466.6NVA transformerAEP (100%)Using one of the bays at Highland, build a 138 kV circuit from Hillsboro – Highland 138 kV, which is approximately 3 milesAEP (100%)b1467.1Capacitor Bank at New Buffalo stationAEP (100%)b1467.2Reconfigure the 138 kV bus at LaPorte Junction station to eliminate a contingency resulting in loss of two 138 kV sources serving theAEP (100%)	h14665	138 kV, but is currently		
kVAEP (100%)At Highland Station, install a new 138 kV bus, threenew 138 kV bus, threenew 138 kV circuit breakers and a new 138/69 kV 90MVA transformerAEP (100%)MVA transformerAEP (100%)b1466.7circuit from Hillsboro –Highland 138 kV, which is approximately 3 milesAEP (100%)b1467.1Buffalo stationb1467.2Reconfigure the 138 kV bus at LaPorte Junction station to eliminate a contingency resulting in loss of two 138 kV sources serving the	01400.3	operating at 69 kV, which		
At Highland Station, install a new 138 kV bus, three new 138 kV circuit breakers and a new 138/69 kV 90 MVA transformerAEP (100%)Using one of the bays at Highland, build a 138 kV circuit from Hillsboro – Highland 138 kV, which is approximately 3 milesAEP (100%)11466.7Install a 14.4 MVAr Capacitor Bank at New Buffalo stationAEP (100%)b1467.2Reconfigure the 138 kV bus at LaPorte Junction station to eliminate a contingency resulting in loss of two 138 kV sources serving theAEP (100%)		would now increase to 138		
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MVA transformerAEP (100%)Using one of the bays at Highland, build a 138 kV circuit from Hillsboro – Highland 138 kV, which is approximately 3 milesAEP (100%)11467.1Install a 14.4 MVAr Capacitor Bank at New Buffalo stationAEP (100%)804761Capacitor Bank at New Buffalo stationAEP (100%)11467.2Reconfigure the 138 kV bus at LaPorte Junction station to eliminate a contingency resulting in loss of two 138 kV sources serving theAEP (100%)	b1466.6	new 138 kV circuit breakers		
b1466.7       Using one of the bays at Highland, build a 138 kV circuit from Hillsboro – Highland 138 kV, which is approximately 3 miles         b1467.1       Install a 14.4 MVAr Capacitor Bank at New Buffalo station         b1467.2       Reconfigure the 138 kV bus at LaPorte Junction station to eliminate a contingency resulting in loss of two 138 kV sources serving the		and a new 138/69 kV 90		
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Highland 138 kV, which is approximately 3 milesAEP (100%)Install a 14.4 MVArAEP (100%)b1467.1Capacitor Bank at New Buffalo stationAEP (100%)Reconfigure the 138 kV bus at LaPorte Junction station to eliminate a contingency resulting in loss of two 138 kV sources serving theHighland 138 kV bus kV sources serving the		Highland, build a 138 kV		
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Install a 14.4 MVAr         b1467.1       Capacitor Bank at New         Buffalo station       AEP (100%)         Reconfigure the 138 kV bus       at LaPorte Junction station         to eliminate a contingency       resulting in loss of two 138         kV sources serving the       KV		Highland 138 kV, which is		
b1467.1Capacitor Bank at New Buffalo stationAEP (100%)Reconfigure the 138 kV bus at LaPorte Junction station to eliminate a contingency resulting in loss of two 138 kV sources serving theAEP (100%)		approximately 3 miles		AEP (100%)
Buffalo stationAEP (100%)Reconfigure the 138 kV bus at LaPorte Junction station to eliminate a contingency resulting in loss of two 138 kV sources serving theImage: Content of the service of th		Install a 14.4 MVAr		
b1467.2 Reconfigure the 138 kV bus at LaPorte Junction station to eliminate a contingency resulting in loss of two 138 kV sources serving the	b1467.1	Capacitor Bank at New		
b1467.2 at LaPorte Junction station to eliminate a contingency resulting in loss of two 138 kV sources serving the		Buffalo station		AEP (100%)
b1467.2 to eliminate a contingency resulting in loss of two 138 kV sources serving the		Reconfigure the 138 kV bus		
resulting in loss of two 138 kV sources serving the		at LaPorte Junction station		
kV sources serving the	h1167 2	to eliminate a contingency		
-	01407.2			
LaPorte area AEP (100%)		kV sources serving the		
		LaPorte area		AEP (100%)

1		Annual Revenue Requirement	Responsible Customer(s)
	Expand Selma Parker Station		
b1468.1 a	and install a 138/69/34.5 kV		
	transformer		AEP (100%)
]	Rebuild and convert 34.5 kV	7	
b1468.2	line to Winchester to 69 kV,		
j	including Farmland Station		AEP (100%)
b1468.3	Retire the 34.5 kV line from		
01408.5	Haymond to Selma Wire		AEP (100%)
(	Conversion of the		
b1469.1	Newcomerstown –		
01409.1	Cambridge 34.5 kV system		
t	to 69 kV operation		AEP (100%)
]	Expansion of the Derwent 69	9	
b1469.2	kV Station (including		
01409.2	reconfiguration of the 69 kV		
5	system)		AEP (100%)
]	Rebuild 11.8 miles of 69 kV		
b1469.3	line, and convert additional		
01409.5	34.5 kV stations to 69 kV		
(	operation		AEP (100%)
]	Build a new 138 kV double		
b1470.1	circuit off the Kanawha –		
01470.1	Bailysville #2 138 kV circui	t	
1	to Skin Fork Station		AEP (100%)
b1470.2	Install a new 138/46 kV		
01470.2	transformer at Skin Fork		AEP (100%)
]	Replace 5 Moab's on the		
b1470.3	Kanawha – Baileysville line		
014/0.5	with breakers at the Sundial		
	138 kV station		AEP (100%)
]	Perform a sag study on the		
] ]	East Lima – For Lima –		
b1471	Rockhill 138 kV line to		
j	increase the emergency		
1	rating		AEP (100%)

Required	Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1472	Perform a sag study on the East Lima – Haviland 138 kV line to increase the emergency rating	7	AEP (100%)
b1473	Perform a sag study on the East New Concord – Muskingum River section of the Muskingum River – Wes Cambridge 138 kV circuit		AEP (100%)
b1474	Perform a sag study on the Ohio Central – Prep Plant tap 138 kV circuit	,	AEP (100%)
b1475	Perform a sag study on the S73 – North Delphos 138 kV line to increase the emergency rating		AEP (100%)
b1476	Perform a sag study on the S73 – T131 138 kV line to increase the emergency rating	g	AEP (100%)
b1477	The Natrium – North Martin 138 kV circuit would need ar electrical clearance study among other equipment upgrades	1	AEP (100%)
b1478	Upgrade Strouds Run – Strounds Tap 138 kV relay and riser		AEP (100%)
b1479	West Hebron station upgrade	s	AEP (100%)
b1480	Perform upgrades and a sag study on the Corner – Layman 138 kV section of th Corner – Muskingum River 138 kV circuit		AEP (100%)

Required T	<b>Transmission Enhancements</b>	Annual Revenue Requirement	Responsible Customer(s)
	Perform a sag study on the		
	West Lima – Eastown Road		
b1481	– Rockhill 138 kV line and		
01481	replace the 138 kV risers at		
	Rockhill station to increase		
	the emergency rating		AEP (100%)
	Perform a sag study for the		
b1482	Albion – Robison Park 138		
01482	kV line to increase its		
	emergency rating		AEP (100%)
	Sag study 1 mile of the		
	Clinch River – Saltville 138		
b1483	kV line and replace the riser	s	
01485	and bus at Clinch River,		
	Lebanon and Elk Garden		
	Stations		AEP (100%)
	Perform a sag study on the		
b1484	Hacienda – Harper 138 kV		
01484	line to increase the		
	emergency rating		AEP (100%)
	Perform a sag study on the		
b1485	Jackson Road – Concord		
01405	183 kV line to increase the		
	emergency rating		AEP (100%)
	The Matt Funk – Poages Mi	11	
b1486	– Starkey 138 kV line		
	requires		AEP (100%)
	Perform a sag study on the		
b1487	New Carlisle – Trail Creek		
0148/	138 kV line to increase the		
	emergency rating		AEP (100%)
	Perform a sag study on the		
b1488	Olive – LaPorte Junction 13	8	
01400	kV line to increase the		
	emergency rating		AEP (100%)

Required T	ransmission Enhancements Ar	nual Revenue Requirement	Responsible Customer(s)
b1489	A sag study must be performed		
	for the 5.40 mile Tristate –		
	Chadwick 138 kV line to		
	determine if a higher		
	emergency rating can be used		AEP (100%)
b1490.1	Establish a new 138/69 kV		
	Butler Center station		AEP (100%)
b1490.2	Build a new 14 mile 138 kV		
	line from Auburn station to		
	Woods Road station VIA		
	Butler Center station		AEP (100%)
b1490.3	Replace the existing 40 MVA		
	138/69 kV transformer at		
	Auburn station with a 90 MVA		
	138/96 kV transformer		AEP (100%)
b1490.4	Improve the switching		
	arrangement at Kendallville		
	station		AEP (100%)
b1491	Replace bus and risers at		
	Thelma and Busseyville		
	stations and perform a sag		
	study for the Big Sandy –		
	Busseyville 138 kV line		AEP (100%)
b1492	Reconductor 0.65 miles of the		
	Glen Lyn – Wythe 138 kV line		
	with 3 – 1590 ACSR		AEP (100%)
b1493	Perform a sag study for the		
	Bellfonte – Grantston 138 kV		
	line to increase its emergency		
	rating		AEP (100%)
b1494	Perform a sag study for the		
	North Proctorville – Solida –		
	Bellefonte 138 kV line to		
	increase its emergency rating		AEP (100%)

Required 7	Transmission Enhancements Ann	nual Revenue Requirement	Responsible Customer(s)
b1495	Add an additional 765/345 kV transformer at Baker Station		AEC (0.41%) / AEP (87.29%) / BGE (1.03%) / ComEd (3.39%) / Dayton (1.23%) / DL (1.46%) / DPL (0.54%) / JCPL (0.90%) / NEPTUNE (0.09%) / PECO (1.18%) / PEPCO (0.94%) / PSEG (1.48%) / RE (0.06%)
b1496	Replace 138 kV bus and risers at Johnson Mountain Station		AEP (100%)
b1497	Replace 138 kV bus and risers at Leesville Station		AEP (100%)
b1498	Replace 138 kV risers at Wurno Station		AEP (100%)
b1499	Perform a sag study on Sporn A – Gavin 138 kV to determine if the emergency rating can be improved		AEP (100%)
b1500	The North East Canton – Wagenhals 138 kV circuit would need an electrical clearance study to determine if the emergency rating can be utilized		AEP (100%)
b1501	The Moseley – Reusens 138 kV circuit requires a sag study to determine if the emergency rating can be utilized to address a thermal loading issue for a category C3		AEP (100%)

Required Tra	ansmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1502	Reconductor the Conesville East – Conesville Prep Plant Tap 138 kV section of the Conesville – Ohio Central to fix Reliability N- 1-1 thermal overloads		AEP (100%)
b1659	Establish Sorenson 345/138 kV station as a 765/345 kV station		AEP (93.67%) / ATSI (2.99%) / ComEd (2.07%) / PENELEC (0.31%) / PSEG (0.92%) / RE (0.04%)
b1659.1	Replace Sorenson 138 kV breaker 'L1'		AEP (100%)
b1659.2	Replace Sorenson 138 kV breaker 'L2' breaker		AEP (100%)
b1659.3	Replace Sorenson 138 kV breaker 'M1'		AEP (100%)
b1659.4	Replace Sorenson 138 kV breaker 'M2'		AEP (100%)
b1659.5	Replace Sorenson 138 kV breaker 'N1'		AEP (100%)
b1659.6	Replace Sorenson 138 kV breaker 'N2'		AEP (100%)
b1659.7	Replace Sorenson 138 kV breaker 'O1'		AEP (100%)
b1659.8	Replace Sorenson 138 kV breaker 'O2'		AEP (100%)
b1659.9	Replace Sorenson 138 kV breaker 'M'		AEP (100%)
b1659.10	Replace Sorenson 138 kV breaker 'N'		AEP (100%)

ansmission Enhancements	Annual Revenue Requirement Responsible Customer(s)
Replace Sorenson 138 kV	
breaker 'O'	AEP (100%)
Replace McKinley 138 kV	
breaker 'L1'	AEP (100%)
	AEC (1.66%) / AEP (14.16%) /
	APS (5.73%) / ATSI (7.88%) /
	BGE (4.22%) / ComEd (13.31%)
	/ Dayton (2.11%) / DEOK
Establish 765 kV vard at	(3.29%) / DL (1.75%) / DPL
	(2.50%) / Dominion (12.86%) /
	EKPC (1.87%) / JCPL (3.74%) /
705 KV breakers	ME (1.90%) / NEPTUNE*
	(0.44%) / PECO (5.34%) /
	PENELEC (1.89%) / PEPCO
	(3.99%) / PPL (4.84%) / PSEG
	(6.26%) / RE (0.26%)
	AEC (1.66%) / AEP (14.16%) /
	APS (5.73%) / ATSI (7.88%) /
	BGE (4.22%) / ComEd (13.31%)
	/ Dayton (2.11%) / DEOK
Build approximately 14	(3.29%) / DL (1.75%) / DPL
miles of 765 kV line from	(2.50%) / Dominion (12.86%) /
existing Dumont -	EKPC (1.87%) / JCPL (3.74%) /
Marysville line	ME (1.90%) / NEPTUNE*
	(0.44%) / PECO (5.34%) /
	PENELEC (1.89%) / PEPCO
	(3.99%) / PPL (4.84%) / PSEG
	(6.26%) / RE (0.26%)
	Replace Sorenson 138 kV breaker 'O' Replace McKinley 138 kV breaker 'L1' Establish 765 kV yard at Sorenson and install four 765 kV breakers Build approximately 14 miles of 765 kV line from existing Dumont -

Required T	ransmission Enhancements	Annual Revenue Requirem	nent Responsible Customer(s)
b1660	Install a 765/500 kV transformer at Cloverdale		AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%)
b1661	Install a 765 kV circuit breaker at Wyoming station		AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%)

Required Tr	ransmission Enhancements	Annual Revenue Requirer	nent Responsible Customer(s)
	Rebuild 4 miles of 46 kV		
b1662	line to 138 kV from		
01002	Pemberton to Cherry		
	Creek		AEP (100%)
	Circuit Breakers are		
	installed at Cherry Creek		
b1662.1	(facing Pemberton) and at		
	Pemberton (facing Tams		
	Mtn. and Cherry Creek)		AEP (100%)

Required T		Annual Revenue Requirement Responsible Customer(s)
b1662.2	Install three 138 kV breakers at Grandview Station (facing Cherry Creek, Hinton, and Bradley Stations)	AEP (100%)
b1662.3	Remove Sullivan Switching Station (46 kV)	AEP (100%)
b1663	Install a new 765/138 kV transformer at Jackson Ferry substation	AEP (100%)
b1663.1	Establish a new 10 mile double circuit 138 kV line between Jackson Ferry and Wythe	AEP (100%)
b1663.2	Install 2 765 kV circuit breakers, breaker disconnect switches and associated bus work for the new 765 kV breakers, and new relays for the 765 kV breakers at Jackson's Ferry	AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%)
b1664	Install switched capacitor banks at Kenwood 138 kV stations	AEP (100%)
b1665	Install a second 138/69 kV transformer at Thelma station	AEP (100%)
b1665.1	Construct a single circuit 69 kV line from West Paintsville to the new Paintsville station	AEP (100%)

Required T	ransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1665.2	Install new 7.2 MVAR, 46 kV bank at Kenwood Station	n	AEP (100%)
b1666	Build an 8 breaker 138 kV station tapping both circuits of the Fostoria - East Lima 138 kV line		AEP (90.65%) / Dayton (9.35%)
b1667	Establish Melmore as a switching station with both 138 kV circuits terminating at Melmore. Extend the double circuit 138 kV line from Melmore to Fremont Center		AEP (100%)
b1668	Revise the capacitor setting at Riverside 138 kV station		AEP (100%)
b1669	Capacitor setting changes at Ross 138 kV stations		AEP (100%)
b1670	Capacitor setting changes at Wooster 138 kV station		AEP (100%)
b1671	Install four 138 kV breakers in Danville area		AEP (100%)
b1676	Replace Natrium 138 kV breaker 'G (rehab)'		AEP (100%)
b1677	Replace Huntley 138 kV breaker '106'		AEP (100%)
b1678	Replace Kammer 138 kV breaker 'G'		AEP (100%)
b1679	Replace Kammer 138 kV breaker 'H'		AEP (100%)
b1680	Replace Kammer 138 kV breaker 'J'		AEP (100%)
b1681	Replace Kammer 138 kV breaker 'K'		AEP (100%)
b1682	Replace Kammer 138 kV breaker 'M'		AEP (100%)

Required T	ransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1683	Replace Kammer 138 kV breaker 'N'		AEP (100%)
b1684	Replace Clinch River 138 kV breaker 'E1'	I	AEP (100%)
b1685	Replace Lincoln 138 kV breaker 'D'		AEP (100%)
b1687	Advance s0251.7 (Replace Corrid 138 kV breaker '104S')		AEP (100%)
b1688	Advance s0251.8 (Replace Corrid 138 kV breaker '104C')		AEP (100%)
b1712.1	Perform sag study on Altavista - Leesville 138 kV line		Dominion (75.30%) / PEPCO (24.70%)
b1712.2	Rebuild the Altavista - Leesville 138 kV line		Dominion (75.30%) / PEPCO (24.70%)
b1733	Perform a sag study of the Bluff Point - Jauy 138 kV line. Upgrade breaker, wavetrap, and risers at the terminal ends		AEP (100%)
b1734	Perform a sag study of Randoph - Hodgins 138 kV line. Upgrade terminal equipment		AEP (100%)
b1735	Perform a sag study of R03 - Magely 138 kV line. Upgrade terminal equipment		AEP (100%)
b1736	Perform a sag study of the Industrial Park - Summit 138 kV line	3	AEP (100%)
b1737	Sag study of Newcomerstown - Hillview 138 kV line. Upgrade - terminal equipment		AEP (100%)

Required '	Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
	Perform a sag study of the		
	Wolf Creek - Layman 138 kV	7	
b1738	lineUpgrade terminal		
	equipment including a 138		
	kV breaker and wavetrap		AEP (100%)
	Perform a sag study of the		
b1739	Ohio Central - West Trinway		
	138 kV line		AEP (100%)
b1741	Replace Beatty 138 kV		
01/41	breaker '2C(IPP)'		AEP (100%)
b1742	Replace Beatty 138 kV		
01/42	breaker '1E'		AEP (100%)
11742	Replace Beatty 138 kV		
b1743	breaker '2E'		AEP (100%)
1 4 7 4 4	Replace Beatty 138 kV		
b1744	breaker '3C'		AEP (100%)
	Replace Beatty 138 kV		
b1745	breaker '2W'		AEP (100%)
	Replace St. Claire 138 kV		
b1746	breaker '8'		AEP (100%)
	Replace Cloverdale 138 kV		
b1747	breaker 'C'		AEP (100%)
	Replace Cloverdale 138 kV		
b1748	breaker 'D1'		AEP (100%)
	Install two 138kV breakers		AEF (100%)
	and two 138kV circuit		
	switchers at South Princeton		
b1780			
01/80	Station and one 138kV		
	breaker and one 138kV		
	circuit switcher at Switchbac	ĸ	
	Station		AEP (100%)
	Install three 138 kV breakers		
b1781	and a 138kV circuit switcher		
	at Trail Fork Station in		
	Pineville, WV		AEP (100%)

b1782Install a 46kV Moab at Montgomery Station facing Carbondale (on the London - Carbondale 46 kV circuit)AEP (100%)Add two 138 kV circuit Breakers and two 138 kVAEP (100%)b1783Freakers and two 138 kVb1784Breakers on the Lonesome Pine - South Bluefield 138 kV lineb1784Install a 52.8 MVAR capacitor bank at the Clifford 138 kV stationb1784Freakers and sag study of 4 miles of the Waterford - Muskingum lineb1811.1Rebuild 0.1 miles of b1811.2b1811.2Rebuild 0.1 miles of of the South Canton - Harmon 345 kV with 1590 ACSRb1812.2Reconductor the AEP portion of the South Canton - Harmon 345 kV with 954 ACSR and upgrade terminal equipment at South Canton - Harmon 345 kV circuit b1811.3b1812Install (3) 345 kV circuit breakers at East Elkhart station in ring bus designed as a breaker and half scheme	Required T	ransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1/82       Carbondale (on the London - Carbondale 46 kV circuit)       AEP (100%)         Add two 138 kV circuit Breakers and two 138 kV circuit switchers on the Lonesome Pine - South Bluefield 138 kV line       AEP (100%)         b1783       Install a 52.8 MVAR capacitor bank at the Clifford 138 kV station       AEP (100%)         b1784       Reparation of the Waterford - Muskingum line       AEP (100%)         b1811.1       miles of the Waterford - Muskingum line       AEP (100%)         b1811.2       Rebuild 0.1 miles of Vetror - Muskingum 345 kV with 1590 ACSR       AEP (100%)         b1811.2       Reconductor the AEP portion of the South Canton - Harmon 345 kV with 954 ACSR and upgrade terminal equipment at South Canton. Expected rating is 1800 MVA S/N and 1800 MVA S/E       AEP (100%)         b1817       Install (3) 345 kV circuit breakers at East Elkhart station in ring bus designed       AEP (100%)		Install a 46kV Moab at		
Carbondale (on the London - Carbondale 46 kV circuit)AEP (100%)Add two 138 kV Circuit Breakers and two 138 kVAEP (100%)b1783circuit switchers on the Lonesome Pine - South Bluefield 138 kV lineAEP (100%)b1784Install a 52.8 MVAR capacitor bank at the Clifford 138 kV stationAEP (100%)b1784Perform a sag study of 4 miles of the Waterford - Muskingum lineAEP (100%)b1811.1Rebuild 0.1 miles of b1811.2AEP (100%)b1811.2Reconductor the AEP portion of the South Canton - Harmon 345 kV with 954 ACSR and upgrade terminal equipment at South Canton. Expected rating is 1800 MVA S/N and 1800 MVA S/EAEP (100%)b1817Install (3) 345 kV circuit breakers at East Elkhart station in ring bus designedAEP (100%)	1,1700	Montgomery Station facing		
Add two 138 kV Circuit     Breakers and two 138 kV       b1783     Breakers and two 138 kV       circuit switchers on the     Lonesome Pine - South       Bluefield 138 kV line     AEP (100%)       Install a 52.8 MVAR     capacitor bank at the Clifford       138 kV station     AEP (100%)       Perform a sag study of 4     miles of the Waterford -       Muskingum line     AEP (100%)       Rebuild 0.1 miles of     AEP (100%)       B1811.2     Reconductor the AEP portion of the South Canton -       Harmon 345 kV with 954     ACSR and upgrade terminal equipment at South Canton.       Expected rating is 1800     MVA S/N and 1800 MVA S/E       b1817     Install (3) 345 kV circuit breakers at East Elkhart station in ring bus designed	01/82	Carbondale (on the London	-	
Breakers and two 138 kV circuit switchers on the Lonesome Pine - South Bluefield 138 kV lineAEP (100%)Install a 52.8 MVAR capacitor bank at the Clifford 138 kV stationAEP (100%)Perform a sag study of 4 miles of the Waterford - 		Carbondale 46 kV circuit)		AEP (100%)
b1783circuit switchers on the Lonesome Pine - South Bluefield 138 kV lineAEP (100%)Install a 52.8 MVAR capacitor bank at the Clifford 138 kV stationAEP (100%)b1784finstall a 52.8 MVAR capacitor bank at the Clifford 138 kV stationAEP (100%)b1811.1miles of the Waterford - Muskingum lineAEP (100%)b1811.2Rebuild 0.1 miles of kV with 1590 ACSRAEP (100%)b1811.2Waterford - Muskingum 345 kV with 1590 ACSRAEP (100%)b1811.2Reconductor the AEP portion of the South Canton - Harmon 345 kV with 954 ACSR and upgrade terminal equipment at South Canton. Expected rating is 1800 MVA S/N and 1800 MVA S/EAEP (100%)b1817Install (3) 345 kV circuit breakers at East Elkhart station in ring bus designedAEP (100%)		Add two 138 kV Circuit		
Lonesome Pine - South Bluefield 138 kV lineAEP (100%)Install a 52.8 MVAR capacitor bank at the Clifford 138 kV stationAEP (100%)b1784Perform a sag study of 4 miles of the Waterford - Muskingum lineAEP (100%)B1811.1Rebuild 0.1 miles of b1811.2AEP (100%)b1811.2Reconductor the AEP portion of the South Canton - Harmon 345 kV with 954 ACSR and upgrade terminal equipment at South Canton. Expected rating is 1800 MVA S/N and 1800 MVA S/EAEP (100%)b1817Install (3) 345 kV circuit breakers at East Elkhart station in ring bus designedAEP (100%)		Breakers and two 138 kV		
Bluefield 138 kV lineAEP (100%)Install a 52.8 MVARInstall a 52.8 MVARb1784capacitor bank at the Clifford138 kV stationAEP (100%)Perform a sag study of 4AEP (100%)b1811.1miles of the Waterford -Muskingum lineAEP (100%)Bluefield 0.1 miles ofAEP (100%)b1811.2Waterford - Muskingum 345kV with 1590 ACSRAEP (100%)Reconductor the AEP portion of the South Canton - Harmon 345 kV with 954ACSR and upgrade terminal equipment at South Canton. Expected rating is 1800 MVA S/N and 1800 MVA S/EAEP (100%)b1817Install (3) 345 kV circuit breakers at East Elkhart station in ring bus designedAEP (100%)	b1783	circuit switchers on the		
Install a 52.8 MVAR capacitor bank at the Clifford 138 kV stationAEP (100%)Perform a sag study of 4 miles of the Waterford - Muskingum lineAEP (100%)Rebuild 0.1 miles of b1811.2Rebuild 0.1 miles of Waterford - Muskingum 345 kV with 1590 ACSRAEP (100%)Reconductor the AEP portion of the South Canton - Harmon 345 kV with 954 ACSR and upgrade terminal equipment at South Canton. Expected rating is 1800 MVA S/N and 1800 MVA S/EAEP (100%)b1817Install (3) 345 kV circuit breakers at East Elkhart station in ring bus designedAEP (100%)		Lonesome Pine - South		
b1784capacitor bank at the Clifford 138 kV stationAEP (100%)138 kV stationAEP (100%)b1811.1miles of the Waterford - Muskingum lineAEP (100%)b1811.2Rebuild 0.1 miles of Waterford - Muskingum 345 kV with 1590 ACSRAEP (100%)b1811.2Reconductor the AEP portion of the South Canton - Harmon 345 kV with 954 ACSR and upgrade terminal equipment at South Canton. Expected rating is 1800 MVA S/N and 1800 MVA S/EAEP (100%)b1817Install (3) 345 kV circuit breakers at East Elkhart station in ring bus designedAEP (100%)		Bluefield 138 kV line		AEP (100%)
138 kV stationAEP (100%)Perform a sag study of 4		Install a 52.8 MVAR		
Perform a sag study of 4       miles of the Waterford -         Muskingum line       AEP (100%)         Rebuild 0.1 miles of       AEP (100%)         b1811.2       Waterford - Muskingum 345         kV with 1590 ACSR       AEP (100%)         Reconductor the AEP portion of the South Canton -       Harmon 345 kV with 954         ACSR and upgrade terminal equipment at South Canton.       Expected rating is 1800         MVA S/N and 1800 MVA       S/E         MVA S/N and 1800 MVA       AEP (100%)         b1817       Install (3) 345 kV circuit         b1817       breakers at East Elkhart station in ring bus designed	b1784	capacitor bank at the Cliffor	d	
b1811.1miles of the Waterford - Muskingum lineAEP (100%)Rebuild 0.1 miles ofb1811.2Waterford - Muskingum 345 kV with 1590 ACSRAEP (100%)Reconductor the AEP portion of the South Canton - Harmon 345 kV with 954 ACSR and upgrade terminal equipment at South Canton. Expected rating is 1800 MVA S/N and 1800 MVA S/EAEP (100%)b1817Install (3) 345 kV circuit breakers at East Elkhart station in ring bus designedAEP (100%)		138 kV station		AEP (100%)
Muskingum lineAEP (100%)Babild 0.1 miles ofb1811.2Rebuild 0.1 miles ofWaterford - Muskingum 345AEP (100%)kV with 1590 ACSRAEP (100%)Reconductor the AEP portion of the South Canton - Harmon 345 kV with 954AEP (100%)ACSR and upgrade terminal equipment at South Canton. Expected rating is 1800 MVA S/N and 1800 MVA S/EAEP (100%)B1817Install (3) 345 kV circuit breakers at East Elkhart station in ring bus designedAEP (100%)		Perform a sag study of 4		
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of the South Canton - Harmon 345 kV with 954 ACSR and upgrade terminal equipment at South Canton. Expected rating is 1800 MVA S/N and 1800 MVA S/EAEP (100%)b1817Install (3) 345 kV circuit breakers at East Elkhart station in ring bus designedAEP (100%)		kV with 1590 ACSR		AEP (100%)
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b1817       equipment at South Canton.         Expected rating is 1800         MVA S/N and 1800 MVA         S/E         AEP (100%)	L1010	ACSR and upgrade terminal		
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b1817 station in ring bus designed	1 1 0 1 7	Install (3) 345 kV circuit		
station in ring bus designed		breakers at East Elkhart		
	01817	station in ring bus designed		
		• •		AEP (100%)

Expand the Allen station by installing a second 345/138 kV transformer and adding four 138 kV exits by cutting in the Lincoln - Sterling and Milan - Timber Switch 138 kV double circuit tower lineAEP (88.30%) / ATSI (8.86%) / Dayton (2.84%)b1819Rebuild the Robinson Park - Sorenson 138 kV line corridor as a 345 kV double circuit line with one side operated at 345 kV and one side at 138 kVAEP (87.18%) / ATSI (10.06%) / Dayton (2.76%)b1819Perform a sag study for Hancock - Cave Spring - Roanoke 138 kV circuit to reach new SE ratings of 272MVA (Cave Spring- Hancock), 205MVA (Cave Spring-Sunscape), 245MVA (ROANO2-Sunscape)AEP (100%)b1860Perform a sag study on the Crooksville - Poston - Strouds Run 138 kV circuit to see if any remedial action needed to reach the SE rating (175MVA)AEP (100%)b1861Dale - West Canton 138 kV Tie- line and upgrade risers at West Canton 138 kVAEP (100%)	Required 7	Transmission Enhancements A	Annual Revenue Requirement	Responsible Customer(s)
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Ine and upgrade risers at West Canton 138 kVAEP (100%)	b1861	Dale - West Canton 138 kV T	lie-	
		line and upgrade risers at Wes	st	
		Canton 138 kV		AEP (100%)
Perform a sag study on the Grant	b1862	<b>e</b> .		
- Greentown 138 kV circuit and			nd	
h1862 replace the relay CT at Grant		1 1		
138 kV station to see if any				
remedial action needed to reach				
the new ratings of 251/286MVA     AEP (100%)       *Neptune Regional Transmission System, LLC     AEP (100%)				AEP (100%)

Required T	Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1863	Perform a sag study of the Kammer - Wayman SW 138 kV line to see if any remedia action needed to reach the new SE rating of 284MVA		AEP (100%)
b1864.1	Add two additional 345/138 kV transformers at Kammer		AEP (87.22%) / APS (8.22%) / ATSI (3.52%) / DL (1.04%)
b1864.2	Add second West Bellaire - Brues 138 kV circuit		AEP (87.22%) / APS (8.22%) / ATSI (3.52%) / DL (1.04%)
b1864.3	Replace Kammer 138 kV breaker 'E'		AEP (100%)
b1865	Perform a sag study on the Kanawha - Carbondale 138 kV line to see if any remedia action needed to reach the new ratings of 251/335MVA		AEP (100%)
b1866	Perform a sag study on the Clinch River-Lock Hart- Dorton 138kV line,increase the Relay Compliance Trip Limit at Clinch River on the C.RDorton 138kV line to 310 and upgrade the risers with 1590ACSR		AEP (100%)
b1867	Perform a sag study on the Newcomerstown - South Coshocton 138 kV line to se if any remedial action is needed to reach the new SE rating of 179MVA	e	AEP (100%)
b1868	Perform sag study on the East Lima - new Liberty 138 kV line to see if any remedia action is needed to reach the new SE rating of 219MVA	al	AEP (100%)

Required 7	Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1869	Perform a sag study of the Ohio Central - South Coshocton 138 kV circuit to see if any remedial action needed to reach the new SE ratings of 250MVA		AEP (100%)
b1870	Replace the Ohio Central transformer #1 345/138/12 kV 450 MVA for a 345/138/34.5 kV 675 MVA transformer		AEP (68.16%) / ATSI (25.27%) / Dayton (3.88%) / PENELEC (1.59%) / DEOK (1.10%)
b1871	Perform a sag study on the Central - West Coshocton 138 kV line (improving the emergency rating of this line to 254 MVA)	;	AEP (100%)
b1872	Add a 57.6 MVAr capacitor bank at East Elkhart 138 kv station in Indiana		AEP (100%)
b1873	Install two 138 kV circuit breakers at Cedar Creek Station and primary side circuit switcher on the 138/69/46 kV transformer		AEP (100%)

Required'	Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
1.1074	Install two 138 kV circuit breakers and one 138 kV		
b1874	circuit switcher at Magely		
	138 kV station in Indiana		AEP (100%)
	Build 25 miles of new 138 k	V	
	line from Bradley Station		
	through Tower 117 Station		
b1875	and terminating at McClung		
018/3	138 kV station. Existing 69		
	kV distribution transformers		
	will be replaced with 138 kV		
	transformers		AEP (100%)
	Install a 14.4 MVAr capacito	r	
b1876	bank at Capital Avenue		
01070	(AKA Currant Road) 34.5 kV	7	
	bus		AEP (100%)
	Relocate 138 kV Breaker G t		
b1877	the West Kingsport - Industry	У	
010//	Drive 138 kV line and		
	Remove 138 kV MOAB		AEP (100%)
	Perform a sag study on the		
	Lincoln - Robinson Park 138		
b1878	kV line (Improve the		
	emergency rating to 244		
	MVA)		AEP (100%)
	Perform a sag study on the		
1.1070	Hansonville - Meadowview		
b1879	138 kV line (Improve the		
	emergency rating to 245		
	MVA)		AEP (100%)
	Rebuild the 15 miles of the		
	Moseley - Roanoke 138 kV		
b1880	line. This project would		
	consist of rebuilding both circuits on the double circuit		
	line		AEP (100%)
<b>₩N</b> T (	Regional Transmission System		ALF(100%)

Required '	Transmission Enhancements A	nnual Revenue Requirement	Responsible Customer(s)
	Replace existing 600 Amp		
	switches, station risers and		
	increase the CT ratios associate	d	
b1881	with breaker 'G' at Sterling 138		
	kV Station. It will increase the		
	rating to 296 MVA S/N and 384	1	
	MVĂ S/E		AEP (100%)
	Perform a sag study on the Bluf	f	
	Point - Randolf 138 kV line to		
b1882	see if any remedial action neede	ed	
	to reach the new SE rating of 25	55	
	MVA		AEP (100%)
	Switch the breaker position of		
b1883	transformer #1 and SW Lima at		
	East Lima 345 kV bus		AEP (100%)
	Perform a sag study on Strawto	n	
	station - Fisher Body - Deer		
b1884	Creek 138 kV line to see if any		
	remedial action needed to reach		
	the new SE rating of 250 MVA		AEP (100%)
	Establish a new 138/69 kV sour	rce	
	at Carrollton and construct two		
b1887	new 69 kV lines from Carrollto	n	
0100/	to tie into the Dennison - Miller		
	SW 69 kV line and to East Dov	er	
	69 kV station respectively		AEP (100%)
	Install a 69 kV line breaker at		
b1888	Blue Pennant 69 kV Station		
01999	facing Bim Station and 14.4		
	MVAr capacitor bank		AEP (100%)

Required T	Transmission Enhancements Annua	l Revenue Requirement	Responsible Customer(s)
b1889	Install a 43.2 MVAR capacitor bank at Hinton 138 kV station (APCO WV)		AEP (100%)
b1901	Rebuild the Ohio Central - West Trinway (4.84 miles) section of the Academia - Ohio Central 138 kV circuit. Upgrade the Ohio Central riser, Ohio Central switch and the West Trinway riser		AEP (100%)
b1904.1	Construct new 138/69 Michiana Station near Bridgman by tapping the new Carlisle - Main Street 138 kV and the Bridgman - Buchanan Hydro 69 kV line		AEP (100%)
b1904.2	Establish a new 138/12 kV New Galien station by tapping the Olive - Hickory Creek 138 kV line		AEP (100%)
b1904.3	Retire the existing Galien station and move its distribution load to New Galien station. Retire the Buchanan Hydro - New Carlisile 34.5 kV line		AEP (100%)
b1904.4	Implement an in and out scheme at Cook 69 kV by eliminating the Cook 69 kV tap point and by installing two new 69 kV circuit breakers		AEP (100%)
b1904.5	Rebuild the Bridgman - Cook 69 kV and the Derby - Cook 69 kV lines		AEP (100%)
b1946	Perform a sag study on the Brues – West Bellaire 138 kV line		AEP (100%)
b1947	A sag study of the Dequine - Meadowlake 345 kV line #1 line may improve the emergency rating to 1400 MVA Regional Transmission System, LLC		AEP (100%)

Required 7	<b>Fransmission Enhancements</b>	Annual Revenue Requirement	Responsible Customer(s)
	Establish a new 765/345		
	interconnection at Sporn.		
b1948	Install a 765/345 kV		
01940	transformer at Mountaineer		ATSI (61.08%) / DL (21.87%)
	and build ³ / ₄ mile of 345 kV to		/ Dominion (13.97%) /
	Sporn		PENELEC (3.08%)
	Perform a sag study on the		
b1949	Grant Tap – Deer Creek 138		
01747	kV line and replace bus and		
	risers at Deer Creek station		AEP (100%)
	Perform a sag study on the		
b1950	Kammer – Ormet 138 kV line	•	
	of the conductor section		AEP (100%)
	Perform a sag study of the		
b1951	Maddox- Convoy 345 kV line		
01751	to improve the emergency		
	rating to 1400 MVA		AEP (100%)
	Perform a sag study of the		
b1952	Maddox – T130 345 kV line		
01752	to improve the emergency		
	rating to 1400 MVA		AEP (100%)
	Perform a sag study of the		
	Meadowlake - Olive 345 kV		
b1953	line to improve the		
	emergency rating to 1400		
	MVA		AEP (100%)
	Perform a sag study on the		
b1954	Milan - Harper 138 kV line		
01901	and replace bus and switches		
	at Milan Switch station		AEP (100%)
	Perform a sag study of the R-		
b1955	049 - Tillman 138 kV line		
01700	may improve the emergency		
	rating to 245 MVA		AEP (100%)

Required 7	Transmission Enhancements A	Innual Revenue Requirement	Responsible Customer(s)
	Perform a sag study of the		
	Tillman - Dawkins 138 kV		
b1956	line may improve the		
	emergency rating to 245		
	MVA		AEP (100%)
	Terminate Transformer #2 at		AEP (69.66%) / ATSI
b1957	SW Lima in a new bay		(23.19%) / PENELEC (2.43%)
	position		/ PSEG (4.54%) / RE (0.18%)
	Perform a sag study on the		
b1958	Brookside - Howard 138 kV		
01936	line and replace bus and risers		
	at AEP Howard station		AEP (100%)
	Sag Study on 7.2 miles SE		
b1960	Canton-Canton Central		
	138kV ckt		AEP (100%)
	Sag study on the Southeast		
b1961	Canton – Sunnyside 138kV		
	line		AEP (100%)

Required'	Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1962	Add four 765 kV breakers at Kammer		AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%)
b1963	Build approximately 1 mile of circuit comprising of 2-954 ACSR to get the rating of Waterford-Muskinum 345 kV higher		AEP (100%)
b1970	Reconductor 13 miles of the Kammer – West Bellaire 345kV circuit		APS (33.58%) / ATSI (32.28%) / DL (18.68%) / Dominion (6.02%) / JCPL (1.68%) / Neptune* (0.18%) / PENELEC (4.59%) / PSEG (2.88%) / RE (0.11%)
b1971	Perform a sag study to improve the emergency rating on the Bridgville – Chandlersville 138 kV line		AEP (100%)
b1972	Replace disconnect switch on the South Canton 765/345 kV transformer		AEP (100%)

Required T	Transmission Enhancements A	Annual Revenue Requirement	Responsible Customer(s)
b1973	Perform a sag study to improve the emergency rating on the Carrollton – Sunnyside 138 kV line		AEP (100%)
b1974	Perform a sag study to improve the emergency rating on the Bethel Church – West Dover 138 kV line		AEP (100%)
b1975	Replace a switch at South Millersburg switch station		AEP (100%)
b2017	Reconductor or rebuild Sporn - Waterford - Muskingum River 345 kV line		ATSI (37.10%) / AEP (34.41%) / DL (10.43%) / Dominion (6.20%) / APS (3.95%) / PENELEC (3.10%) / JCPL (1.39%) / Dayton (1.20%) / Neptune* (0.14%) / PSEG (2.00%) / RE (0.08%)
b2018	Loop Conesville - Bixby 345 kV circuit into Ohio Central		ATSI (58.58%) / AEP (14.16%) / APS (12.88%) / DL (7.93%) / PENELEC (5.73%) / Dayton (0.72%)
b2019	Establish Burger 345/138 kV station		AEP (93.74%) / APS (4.40%) / DL (1.11%) / ATSI (0.74%) / PENELEC (0.01%)
b2020	Rebuild Amos - Kanawah River 138 kV corridor		AEP (88.39%) / APS (7.12%) / ATSI (2.89%) / DEOK (1.58%) / PEPCO (0.02%)
b2021	Add 345/138 transformer at Sporn, Kanawah River & Muskingum River stations		AEP (91.92%) / DEOK (3.60%) / APS (2.19%) / ATSI (1.14%) / DL (1.08%) / PEPCO (0.04%) / BGE (0.03%)
b2021.1	Replace Kanawah 138 kV breaker 'L'		AEP (100%)
b2021.2	Replace Muskingum 138 kV breaker 'HG'		AEP (100%)

Required Tra	ansmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2021.3	Replace Muskingum 138 kV breaker 'HJ'		AEP (100%)
b2021.4	Replace Muskingum 138 kV breaker 'HE'		AEP (100%)
b2021.5	Replace Muskingum 138 kV breaker 'HD'		AEP (100%)
b2021.6	Replace Muskingum 138 kV breaker 'HF'		AEP (100%)
b2021.7	Replace Muskingum 138 kV breaker 'HC'		AEP (100%)
b2021.8	Replace Sporn 138 kV breaker 'D1'		AEP (100%)
b2021.9	Replace Sporn 138 kV breaker 'D2'		AEP (100%)
b2021.10	Replace Sporn 138 kV breaker 'F1'		AEP (100%)
b2021.11	Replace Sporn 138 kV breaker 'F2'		AEP (100%)
b2021.12	Replace Sporn 138 kV breaker 'G'		AEP (100%)
b2021.13	Replace Sporn 138 kV breaker 'G2'		AEP (100%)
b2021.14	Replace Sporn 138 kV breaker 'N1'		AEP (100%)
b2021.15	Replace Kanawah 138 kV breaker 'M'		AEP (100%)
b2022	Terminate Tristate - Kyger Creek 345 kV line at Sport		AEP (97.99%) / DEOK (2.01%)
b2027	Perform a sag study of the Tidd - Collier 345 kV line		AEP (100%)

Required '	Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
	Perform a sag study on East		
b2028	Lima - North Woodcock 138		
	kV line to improve the rating		AEP (100%)
	Perform a sag study on		
b2029	Bluebell - Canton Central 13		
	kV line to improve the rating		AEP (100%)
b2030	Install 345 kV circuit		
02030	breakers at West Bellaire		AEP (100%)
	Sag study on Tilton - W.		
b2031	Bellaire section 1 (795		
	ACSR), about 12 miles		AEP (100%)
b2032	Rebuild 138 kV Elliot tap -		ATSI (73.02%) / Dayton
02032	Poston line		(19.39%) / DL (7.59%)
	Perform a sag study of the		
b2033	Brues - W. Bellaire 138 kV		
	line		AEP (100%)
	Adjust tap settings for		
b2046	Muskingum River		
	transformers		AEP (100%)
b2047	Baplace relay at Greenlawn		
02047	Replace relay at Greenlawn		AEP (100%)
	Replace both 345/138 kV		
b2048	transformers with one bigger		AEP (92.49%) / Dayton
	transformer		(7.51%)
b2049	Deplace relay		
02049	Replace relay		AEP (100%)
b2050	Perform sag study		
02030	renomin sag study		AEP (100%)
	Install 3 138 kV breakers and		
b2051	a circuit switcher at Dorton		
	station		AEP (100%)
			AEP (67.17%) / ATSI
b2052	Replace transformer		(27.37%) / Dayton (3.73%) /
			<b>PENELEC</b> (1.73%)
b2054	Perform a sag study of Sporn		
02034	- Rutland 138 kV line		AEP (100%)
02004	- Rutland 138 kV line		AEP (100%)

Required		Annual Revenue Requirement	Responsible Customer(s)
b2069	Replace George Washington 138 kV breaker 'A' with 63k/		
0200)	rated breaker		AEP (100%)
	Replace Harrison 138 kV		
b2070	breaker '6C' with 63kA rated		
	breaker		AEP (100%)
	Replace Lincoln 138 kV		
b2071	breaker 'L' with 63kA rated		
	breaker		AEP (100%)
	Replace Natrum 138 kV		
b2072	breaker 'I' with 63kA rated		
	breaker		AEP (100%)
	Replace Darrah 138 kV		
b2073	breaker 'B' with 63kA rated		
	breaker		AEP (100%)
	Replace Wyoming 138 kV		
b2074	breaker 'G' with 80kA rated		
	breaker		AEP (100%)
	Replace Wyoming 138 kV		
b2075	breaker 'G1' with 80kA rated		
	breaker		AEP (100%)
	Replace Wyoming 138 kV		
b2076	breaker 'G2' with 80kA rated		
	breaker		AEP (100%)
	Replace Wyoming 138 kV		
b2077	breaker 'H' with 80kA rated		
	breaker		AEP (100%)
	Replace Wyoming 138 kV		
b2078	breaker 'H1' with 80kA rated		
	breaker		AEP (100%)
	Replace Wyoming 138 kV		
b2079	breaker 'H2' with 80kA rated		
	breaker		AEP (100%)
	Replace Wyoming 138 kV		
b2080	breaker 'J' with 80kA rated		
Nontun	breaker		AEP (100%)

Required '	Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
	Replace Wyoming 138 kV		
b2081	breaker 'J1' with 80kA rated		
	breaker		AEP (100%)
	Replace Wyoming 138 kV		
b2082	breaker 'J2' with 80kA rated		
	breaker		AEP (100%)
	Replace Natrum 138 kV		
b2083	breaker 'K' with 63kA rated		
	breaker		AEP (100%)
	Replace Tanner Creek 345		
b2084	kV breaker 'P' with 63kA		
	rated breaker		AEP (100%)
	Replace Tanner Creek 345		
b2085	kV breaker 'P2' with 63kA		
	rated breaker		AEP (100%)
	Replace Tanner Creek 345		
b2086	kV breaker 'Q1' with 63kA		
	rated breaker		AEP (100%)
	Replace South Bend 138 kV		
b2087	breaker 'T' with 63kA rated		
	breaker		AEP (100%)
b2088	Replace Tidd 138 kV breake	er	
02088	'L' with 63kA rated breaker		AEP (100%)
1 2000	Replace Tidd 138 kV breake	er	
b2089	'M2' with 63kA rated breake		AEP (100%)
	Replace McKinley 138 kV		
b2090	breaker 'A' with 40kA rated		
	breaker		AEP (100%)
b2091	Replace West Lima 138 kV		
	breaker 'M' with 63kA rated		
	breaker		AEP (100%)
	Replace George Washington	1	
b2092	138 kV breaker 'B' with 63k		
	rated breaker		AEP (100%)

Required 7	Fransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
	Replace Turner 138 kV		
b2093	breaker 'W' with 63kA rated		
	breaker		AEP (100%)
	Build a new 138 kV line from	1	
	Falling Branch to Merrimac		
b2135	and add a 138/69 kV		
	transformer at Merrimac		
	Station		AEP (100%)
	Add a fourth circuit breaker		
	to the station being built for		
h0160	the U4-038 project		
b2160	(Conelley), rebuild U4-038 -		
	Grant Tap line as double		
	circuit tower line		AEP (100%)
	Rebuild approximately 20		
	miles of the Allen - S073		
	double circuit 138 kV line		
b2161	(with one circuit from Allen -		
02101	Tillman - Timber Switch -		
	S073 and the other circuit		
	from Allen - T-131 - S073)		
	utilizing 1033 ACSR		AEP (100%)
	Perform a sag study to		
b2162	improve the emergency rating		
	of the Belpre - Degussa 138		
	kV line		AEP (100%)
h2162	Replace breaker and wavetra	p	
b2163	at Jay 138 kV station		AEP (100%)

### **SCHEDULE 12 – APPENDIX**

## (23) American Transmission Systems, Inc.

Required T	ransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1190	Reconductor Lemonyne – Maclean 138 kV circuit with 954 ACSS conductor		ATSI (100%)
b1191	Replace the Shenango – Crossland 138 kV circuit #2 meter with a higher rated meter		ATSI (100%)
b1192	Reconductor the Bayshore -Chevy 138 kV circuit with 636 ACSS conductor		ATSI (100%)
b1193	Replace the Hanna –East Akron 138 kV 800 Amp wavetrap with a 1200 Amp wavetrap		ATSI (100%)
b1194	Replace substation conductor on GM powertrain 138 kV line exit (replace 636 ACSR with 1590 AAC or ACSR)		ATSI (100%)
b1229	Replace the circuit terminal and sections of substation bus conductor at Shenango 138 kV substation		ATSI (100%)
b1281	Build new Hayes 345/138 kV substation with new 138 kV lines to: Greenfield #1, Greenfield #2, and Avery		ATSI (100%)
b1281.1	Replace Greenfield 138 kV breaker '501-B-1'		ATSI (100%)
b1281.2	Replace Greenfield 138 kV breaker '501-B-21'		ATSI (100%)
b1281.3	Replace Greenfield 138 kV breaker '501-B-227'		ATSI (100%)
b1281.4	Replace Greenfield 138 kV breaker '501-B-23'		ATSI (100%)

Required T	ransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1281.6	Replace Greenfield 138 kV breaker '501-B-36'		ATSI (100%)
b1281.7	Replace Greenfield 138 kV breaker '501-B-38'		ATSI (100%)
b1281.8	Replace Greenfield 138 kV breaker '501-B-40'		ATSI (100%)
b1282	Build Beaver - Hayes - Davis - Besse #2 345 kV line		ATSI (100%)
b1283	Loop the Chamberlin - Mansfield 345 kV line into the Hanna 345 kV substation		ATSI (100%)
b1284	Install 50.0 MVAR capacitor bank at the Lime City 138 kV Substation		ATSI (100%)
b1285	Replace Barberton Star 138 kV #1 wavetrap, CFZ relay, and line exit conductor at Barberton		ATSI (100%)

Required T	ransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1286	Reconductor Hanna - W. Ravenna 138 kV #1		ATSI (100%)
b1287	Reconductor Hanna - W. Ravenna 138 kV #2		ATSI (100%)
b1288	Replace Masury - Crossland 138 kV terminal equipment at Masury		ATSI (100%)
b1289	Reconductor Evergreen - Niles 138 kV (3 miles) and replace terminal equipment at Evergreen on Evergreen - Niles 138 kV		ATSI (100%)
b1290	Build new Niles - Salt Springs #2 138 kV with 795 ACSR		ATSI (100%)
b1291	Replace substation equipment at Eastlake on the Q-12 138 kV line ext		ATSI (100%)
b1292	Replace substation equipment at Eastlake on the Q-13 138 kV line exit		ATSI (100%)
b1293	Replace substation equipment at the Tangy sub on the E. Springfield - Tangy line		ATSI (100%)
b1294	Modify the Brookside - Longview #2 138 kV CT ratio and correct the design temperature		ATSI (100%)
b1295.1	Modify the Brookside - Longview #1 138 kV CT ratio + correct the design temperature (Longview - Madison)		ATSI (100%)
b1295.2	Modify the Brookside - Longview #1 138 kV CT ratio + correct the design temperature (Brookside - Madison)		ATSI (100%)

Required T	ransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1296.1	Reconductor BG line exit conductor at Lemoyne Sub		ATSI (100%)
b1296.2	Change the CT ratio at Lemoyne B13213 towards Brim Tap to increase line loadability		ATSI (100%)
b1297	Install a new Fulton 345/138 kV substation		ATSI (100%)
b1299	Add SCADA control and motor operators to switches 13153 and 13154 near Silica		ATSI (100%)
b1341	Install a 25 MVAR cap bank at Airpark 138 kV substation		ATSI (100%)
b1342	Install a 50 MVAR cap bank at Sharon 138 kV substation		ATSI (100%)
b1547	Reconductor the Lakeview Greenfield 138 kV line Replace 4/0 Cu with 336.4 ACSR, maintain 6-wire arrangement		ATSI (100%)
b1548	Reconductor the Ottawa Lakeview 138 kV line Replace 4/0 Cu with 336.4 ACSR, maintain 6-wire arrangement		ATSI (100%)
b1585	Galion-GM Mansfield-Longview 138 kV line: Bypass GM Mansfield substation		ATSI (100%)
b1586	Change the relay setting limit		ATSI (100%)
b1587	Build a new Mansfield 69 kV Switching Station networking Leaside, Longview, and Galion Subs @ existing Alta 69 kV Sub Site		APS (0.56%) / ATSI (97.56%) / PENELEC (1.13%) / DL (0.75%)

Required T	ransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1611	Replace Avon Lake 138 kV breaker '10-B-9'		ATSI (100%)
b1612	Replace Pleasant Valley 138 kV breaker '194-B-7'		ATSI (100%)
b1613	Replace Brady 138 kV breaker '1003-B-6'		ATSI (100%)
b1614	Replace Brady 138 kV breaker '36-B-56'		ATSI (100%)
b1615	Replace East Akron 138 kV breaker '36-B-40'		ATSI (100%)
b1616	Replace East Akron 138 kV breaker '36-B-45'		ATSI (100%)
b1617	Replace Greenfield 138 kV breaker '501-B-68'		ATSI (100%)
b1618	Replace Masury 138 kV breaker '103-B-118'		ATSI (100%)
b1619	Replace Roberts 138 kV breaker '601-B-26'		ATSI (100%)
b1620	Replace Roberts 138 kV breaker '601-B-113'		ATSI (100%)
b1621	Replace Roberts 138 kV breaker '601-B-13'		ATSI (100%)
b1622	Replace Sammis 138 kV breaker '780-B-44'		ATSI (100%)
b1623	Replace Sammis 138 kV breaker '780-B-45'		ATSI (100%)

Required T	ransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1624	Replace Sammis 138 kV breaker '780-B-9'		ATSI (100%)
b1625	Replace Sammis 138 kV breaker '780-B-75'		ATSI (100%)
b1626	Revise the reclosing of Eastlake 138 kV breaker '46- B-36'		ATSI (100%)
b1627	Revise the reclosing of Eastlake 138 kV breaker '46- B-35'		ATSI (100%)
b1628	Revise the reclosing of Eastlake 138 kV breaker '46- B-31'		ATSI (100%)
b1629	Revise the reclosing of Eastlake 138 kV breaker '46- B-34'		ATSI (100%)
b1630	Revise the reclosing of Eastlake 138 kV breaker '46- B-21'		ATSI (100%)
b1631	Revise the reclosing of Eastlake 138 kV breaker '46- B-27'		ATSI (100%)
b1632	Revise the reclosing of Eastlake 138 kV breaker '46- B-18'		ATSI (100%)
b1633	Revise the reclosing of Eastlake 138 kV breaker '46- B-24'		ATSI (100%)
b1634	Revise the reclosing of Eastlake 138 kV breaker '46- B-33'		ATSI (100%)
b1635	Revise the reclosing of Eastlake 138 kV breaker '46- B-32'		ATSI (100%)
b1636	Revise the reclosing of Fowles 138 kV breaker '64- B-9'		ATSI (100%)

Required T	ransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1637	Revise reclosing of Pleasant Valley 138 kV breaker '194- B-5'		ATSI (100%)
b1638	Revise the reclosing of Bluebell 138 kV breaker '301-B-9'		ATSI (100%)
b1639	Revise the reclosing of Bluebell 138 kV breaker '301-B-8'		ATSI (100%)
b1640	Revise the reclosing of East Akron 138 kV breaker '36- B-22'		ATSI (100%)
b1691	Install a new Bluebell - S. Akron 138 kV circuit		ATSI (100%)
b1691.1	Un-six wire sections of E. Akron - Knox 138 kV		ATSI (100%)
b1691.2	Un-six wire sections of Bluebell - C. Central 138 kV		ATSI (100%)
b1691.3	Reconductor approximately 5.5 miles of ACSR with ACSS conductor from Bluebell to start of 6-wire sections		ATSI (100%)
b1691.4	Create Bluebell - South Akron 138 kV line with new connections		ATSI (100%)
b1691.5	Replace 250 Cu and 336.4 ACSR with 954 ACSR SSCIR at Bluebell		ATSI (100%)
b1691.6	Replace Relays at Bluebell and add line breaker at tap to Alliance Castings		ATSI (100%)
b1692	Loop in E. Akron - Sammis 138 kV line and expand Knox to 6 breaker ring bus		ATSI (100%)

hancements	Annual Revenue Requireme

Required T	Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1693	Replace the Star 345/138 kV #3 with a larger unit		ATSI (100%)
b1732	Create Brookside - Reedsburg - Longview 138 kV line and open Burger - Cloverdale #2 and #3 138 kV lines		ATSI (100%)
b1771	Perform reconfiguration at Richland 138kV that will permit the removal of the existing Richland SPS		ATSI (100%)
b1814	Replace Pleasant Valley 138 kV breaker 194-B-3		ATSI (100%)
b1815	Replace West Ravena 138 kV breaker 59-B-15		ATSI (100%)
b1820	Replace the Ironville 138 kV breaker '33-B-13208'		ATSI (100%)
b1913	Convert Eastlake units 1, 2, 3, 4 and 5 to synchronous condensers		ATSI (100%)
b1914	Convert Lakeshore 18 to a synchronous condenser		ATSI (100%)
b1915	Install a 50 MVAR capacitor bank at the Maclean 138 kV station		ATSI (100%)
b1916	Install a 345/138 kV transformer at the Inland Q- 11 station		ATSI (100%)
b1917	Install a 138 kV circuit breaker at the Inland Q-11 station		ATSI (100%)

Required T	ransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1918	Upgrade terminal equipment on the Avon – Crestwood 138 kV line and reconductor 2 spans		ATSI (100%)
b1919	Re-conductor the Galion – Leaside 138 kV line with 336 ACSS		ATSI (100%)
b1920	Re-conductor the Galion – GM Mansfield – Ontario - Cairns 138 kV line with 477 ACSS		ATSI (94.47%) / DL (2.90%) / PENELEC (2.63%)
b1921	Install a 2nd 345/138 kV transformer at the Allen Junction station		ATSI (100%)
b1921.1	Replace Allen Junction 345 kV breaker 'MECS/TR1:3' with 40kA breaker		ATSI (100%)
b1921.2	Replace Allen Junction 345 kV breaker 'MIDWAY/MECS' with 40kA breaker		ATSI (100%)
b1921.3	Replace Allen Junction 345 kV breaker 'MIDWAY/TR1' with 40kA breaker		ATSI (100%)
b1922	Install a 2nd 345/138 kV transformer at the Bayshore station		ATSI (100%)
b1923	Create a new Northfield Area 345 kV switching station by looping in the Eastlake – Juniper 345 kV line and the Perry - Inland 345 kV line		ATSI (100%)

Required T	ransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1924	Build a new Mansfield - Northfield Area 345 kV line		ATSI (100%)
b1925	Create a new Harmon 345/138/69 kV substation by looping in the Star – South Canton 345 kV line		ATSI (100%)
b1925.1	Replace Bluebell 138 kV breaker '301-B-15' with 40kA breaker		ATSI (100%)
b1926	Build a new Harmon – Brookside + Harmon - Longview 138 kV line		ATSI (100%)
b1926.1	Replace Longview 138 kV breaker '651-B-219' with 40kA breaker		ATSI (100%)
b1926.2	Replace Longview 138 kV breaker '651-B-32' with 40kA breaker		ATSI (100%)
b1927	Create a new Five Points Area 345/138 kV substation by looping in the Lemoyne – Midway 345 kV line		ATSI (100%)
b1928	Install a 50 MVAR capacitor at Hayes 138 kV		ATSI (100%)
b1929	Install a 138/69 kV transformer at the Avery station		ATSI (100%)
b1930	Increase design temperature limitation on the Avery – Hayes 138 kV line by raising the existing structures		ATSI (100%)
b1931	Reconductor Cloverdale - Harmon #2 and #3 138 kV lines with 795 ACSS or greater conductor 6 miles total + Terminal upgrades		ATSI (100%)
b1932	Change the transformer tap settings on the Maclean 138/69 kV transformers		ATSI (100%)

Required Tr	ransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1933	Replace 336.4 ACSR SCCIR at Richland to upgrade the Richland – Naomi 138 kV line		ATSI (100%)
b1934	Build a new 345/138 kV Substation at Niles		ATSI (100%)
b1934.1	Loop 1.2 miles of 345 kV into substation of the Highland – Shenango 345 kV line		ATSI (100%)
b1934.2	New 345/138 kV transformer at Niles		ATSI (100%)
b1934.3	Replace Niles 138 kV breaker '170-B-11' with 63kA breaker		ATSI (100%)
b1934.4	Replace Niles 138 kV breaker '170-B-19' with 63kA breaker		ATSI (100%)
b1934.5	Replace Niles 138 kV breaker '170-B-20' with 63kA breaker		ATSI (100%)
b1934.6	Replace Niles 138 kV breaker '170-B-9' with 63kA breaker		ATSI (100%)
b1934.7	Replace Niles 138 kV breaker '170-B-97' with 63kA breaker		ATSI (100%)
b1934.8	Replace Niles 138 kV breaker '170-B-16' with 63kA breaker		ATSI (100%)
b1934.9	Replace Niles 138 kV breaker '170-B-18' with 63kA breaker		ATSI (100%)
b1934.10	Replace Niles 138 kV breaker '170-B-10' with 63kA breaker		ATSI (100%)
b1934.11	Replace Salt Springs 138 kV breaker '105-B-2' with 63kA breaker		ATSI (100%)

Required T	ransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1934.12	Replace Salt Springs 138 kV breaker 'Bay' with 63kA breaker		ATSI (100%)
b1934.13	Replace Salt Springs 138 kV breaker '105-B-40' with 63kA breaker		ATSI (100%)
b1934.14	Replace Salt Springs 138 kV breaker '105-B-42' with 63kA breaker		ATSI (100%)
b1934.15	Replace Salt Springs 138 kV breaker '105-B-45' with 63kA breaker		ATSI (100%)
b1934.16	Replace Salt Springs 138 kV breaker '105-B-56' with 63kA breaker		ATSI (100%)
b1934.17	Replace Salt Springs 138 kV breaker '105-B-58' with 63kA breaker		ATSI (100%)
b1934.18	Replace Salt Springs 138 kV breaker '105-B-170' with 63kA breaker		ATSI (100%)
b1934.19	Replace Salt Springs 138 kV breaker '105-B-192' with 63kA breaker		ATSI (100%)
b1934.20	Replace Wickliffe 138 kV breaker '144-B-103' with 40kA breaker		ATSI (100%)
b1934.21	Revise the reclosing of Evergreen 138 kV breaker '802-B-93'		ATSI (100%)
b1934.22	Revise the reclosing of Evergreen 138 kV breaker '2801-B-16'		ATSI (100%)
b1934.23	Revise the reclosing of Evergreen 138 kV breaker '2801-B-20'		ATSI (100%)
b1934.24	Revise the reclosing of Evergreen 138 kV breaker '2801-B-21'		ATSI (100%)

Required Tr	ansmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1934.25	Revise the reclosing of Evergreen 138 kV breaker '2801-B-65'		ATSI (100%)
b1934.26	Revise the reclosing of Evergreen 138 kV breaker '2801-B-6'		ATSI (100%)
b1935	ATSI-AEP 138 kV Substation (Brubaker) on near territory border + 138 kV from new substation to Longview approx. 8 miles		ATSI (94.90%) / DL (2.97) / PENELEC (2.13%)
b1935.1	Revise the reclosing of Brookside 138 kV breaker '701-B-128'		ATSI (100%)
b1935.2	Revise the reclosing of Brookside 138 kV breaker '701-B-135'		ATSI (100%)
b1935.3	Revise the reclosing of Brookside 138 kV breaker '701-B-206'		ATSI (100%)
b1935.4	Revise the reclosing of Brookside 138 kV breaker '701-B-28'		ATSI (100%)
b1935.5	Revise the reclosing of Brookside 138 kV breaker '701-B-3'		ATSI (100%)
b1935.6	Revise the reclosing of Brookside 138 kV breaker '701-B-30'		ATSI (100%)
b1935.7	Revise the reclosing of Brookside 138 kV breaker '701-B-31'		ATSI (100%)
b1935.8	Revise the reclosing of Brookside 138 kV breaker '701-B-36'		ATSI (100%)
b1935.9	Revise the reclosing of Brookside 138 kV breaker '701-B-40'		ATSI (100%)
b1935.10	Revise the reclosing of Brookside 138 kV breaker '701-B-7'		ATSI (100%)

Required T	ransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1936	Build new Allen Jct - Midway - Lemonye 345 kV line (48 miles of open tower position)		ATSI (100%)
b1937	Build a new Leroy Center 345/138 kV substation by looping in the Perry – Harding 345 kV line		ATSI (100%)
b1938	Place a portion of the 138 kV Leroy Center 345/138 kV project into service by summer 2015		ATSI (100%)
b1939	Reconductor the Barberton – West Akron 138 kV line with 477 ACSS or greater (7.3 miles) + Terminal upgrades at Barberton		ATSI (100%)
b1959	Build a new West Fremont- Groton-Hayes 138kV line		APS (4.24%) / ATSI (87.76%) / DL (4.27%) / PENELEC (3.73%)
b1976	Reconductor ATSI portion of South Canton – Harmon 345 kV line		ATSI (89.00%) / JCPL (1.24%) / Neptune* (0.13%) / PENELEC (6.56%) / PSEG (2.95%) / RE (0.12%)
b1977	Build new Toronto 345/138 kV substation by looping in the Sammis – Wylie Ridge 345 kV line and tie in four 138 kV lines		APS (7.03%) / ATSI (88.08%) / DL (0.81%) / PENELEC (4.08%)
b1977.1	Build a new Toronto- Harmon 345kV line		APS (7.03%) / ATSI (88.08%) / DL (0.81%) / PENELEC (4.08%)
b1978	Reconductor Inland – Clinic Health Q-11 138 kV line		ATSI (100%)

Required T	ransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1981	Replace relay on the Highland – G689 138 kV line		ATSI (100%)
b1982	Reconductor the Hoytdale – Newcastle 138 kV lines #1 and #2 with 795 ACSS		ATSI (100%)
b1983	Add 150 MVAR SVC and a 100 MVAR capacitor at New Castle		ATSI (100%)
b1984	Install a 50 MVAR capacitor at the Boardman 138 kV bus		ATSI (100%)
b2042	Add (6) 138 kV breakers + relaying at Leroy Center		ATSI (100%)
b2059	Replace Bluebell 138 kV breaker '301-B-11' with 40kA breaker		ATSI (100%)
b2060	Replace Bluebell 138 kV breaker '301-B-9' with 40kA breaker		ATSI (100%)
b2061	Replace Bluebell 138 kV breaker '301-B-187' with 40kA breaker		ATSI (100%)
b2062	Replace Bluebell 138 kV breaker '301-B-206' with 40kA breaker		ATSI (100%)
b2063	Replace Bluebell 138 kV breaker '301-B-10' with 40kA breaker		ATSI (100%)
b2064	Replace Knox 138 kV breaker '307-B-10' with 40kA breaker		ATSI (100%)

#### **SCHEDULE 12 – APPENDIX A**

#### (2) Baltimore Gas and Electric Company

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

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

		Initial Revenue Requirement	F(~/
b2396.1	Install a tie breaker at Mays Chapel 115 kV		BGE (100%)
02370.1	substation		DGE (10070)
	Upgrade the Riverside		
	115kV substation strain		
	bus conductors on circuits 115012 and		
b2567	115011 with double		BGE (100%)
02307	bundled 1272 ACSR to		DOL (100%)
	achieve ratings of		
	491/577 MVA SN/SE on		
	both transformer leads		
	Reconductor Northwest -		
	Northwest #2 115kV		
b2568	110574 substation tie		BGE (100%)
02300	circuit with 2167 ACSR		
	to achieve ratings of		
	400/462 MVA SN/SE Conastone 230 kV		
	substation tie-in work		AEP (6.46%) / APS
	(install a new circuit		(8.74%) / BGE (19.74%) /
	breaker at Conastone		ComEd (2.16%) / Dayton
b2752.6	230 kV and upgrade any		(0.59%) / DEOK (1.02%) /
	required terminal		DL (0.01%) / Dominion
	equipment to terminate		(39.95%) / EKPC (0.45%) / PEPCO (20.88%)
	the new circuit)		FEFCO (20.88%)
1.0750.7			AEP (6.46%) / APS
	Reconductor/Rebuild the		(8.74%) / BGE (19.74%) /
	two Conastone –		ComEd $(2.16\%)$ / Dayton
b2752.7	Northwest 230 kV lines		(0.59%) / DEOK (1.02%) / DL (0.01%) / Dominion
	and upgrade terminal equipment on both ends		(39.95%) / EKPC (0.45%) /
	equipment on both enus		PEPCO (20.88%)
	1		

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

Required T	ransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
			Load-Ratio Share
			Allocation:
			AEC (1.66%) / AEP
			(14.16%) / APS (5.73%) /
			ATSI (7.88%) / BGE
			(4.22%) / ComEd (13.31%)
			/ Dayton (2.11%) / DEOK
			(3.29%) / DL (1.75%) /
			DPL (2.50%) / Dominion
			(12.86%) / EKPC (1.87%) /
			JCPL (3.74%) / ME
			(1.90%) / NEPTUNE*
	Upgrade substation		(0.44%) / PECO (5.34%) /
	equipment at Conastone 500 kV to increase facility rating to 2826		PENELEC (1.89%) /
			PEPCO (3.99%) / PPL
b2766.1			(4.84%) / PSEG (6.26%) /
	MVA normal and 3525		RE (0.26%)
	MVA emergency		
			DFAX Allocation:
			AEC (0.05%) / APS
			(11.40%) / BGE (22.83%) /
			Dayton (2.23%) / DEOK
			(4.28%) / DPL (0.20%) /
			EKPC (1.98%) / JCPL
			(11.06%) / NEPTUNE*
			(11.06%)/ NEPTONE* (1.17%)/ POSEIDON****
			× /
			(0.64%) / PENELEC (0.06%) / PEPCO (19.38%)
			/ PSEG (23.77%) / RECO
			(0.95%)

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*Neptune Regional Transmission System, LLC ****Poseidon Transmission 1, LLC

#### **SCHEDULE 12 – APPENDIX A**

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

Required T	ransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
	Replace Waneeta 138 kV		
b2130	breaker '15' with 63 kA		PECO (100%)
	rated breaker		
	Replace Waneeta 138 kV		
b2131	breaker '35' with 63 kA		PECO (100%)
	rated breaker		
	Replace Waneeta 138 kV		
b2132	breaker '875' with 63 kA		PECO (100%)
	rated breaker		
	Replace Waneeta 138 kV		
b2133	breaker '895' with 63 kA		PECO (100%)
	rated breaker		
	Plymouth Meeting 230		
b2134	kV breaker '115' with 63		PECO (100%)
	kA rated breaker		
	Install a second		
b2222	Eddystone 230/138 kV		PECO (100%)
	transformer		
	Replace the Eddystone		
b2222.1	138 kV #205 breaker with		PECO (100%)
	63kA breaker		
	Increase Rating of		
b2222.2	Eddystone #415 138kV		PECO (100%)
	Breaker		
b2236	50 MVAR reactor at		PECO (100%)
02230	Buckingham 230 kV		TECO (100%)
	Replace Whitpain 230 kV		
b2527	breaker '155' with 80kA		PECO (100%)
	breaker		
	Replace Whitpain 230 kV		
b2528	breaker '525' with 80kA		PECO (100%)
	breaker		
b2529	Replace Whitpain 230 kV		
	breaker '175' with 80 kA		PECO (100%)
	breaker		
	Replace terminal		
	equipment inside		
b2549	Chichester substation on		PECO (100%)
	the 220-36 (Chichester –		
	Eddystone) 230 kV line		

Required Tr	ransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2550	Replace terminal equipment inside Nottingham substation on the 220-05 (Nottingham – Daleville- Bradford) 230 kV line		PECO (100%)
b2551	Replace terminal equipment inside Llanerch substation on the 130-45 (Eddystone to Llanerch) 138 kV line		PECO (100%)
b2572	Replace the Peach Bottom 500 kV '#225' breaker with a 63kA breaker		PECO (100%)
b2694	Increase ratings of Peach Bottom 500/230 kV transformer to 1479 MVA normal/1839 MVA emergency		AEC (4.04%) / AEP (5.87%) / APS (4.34%) / ATSI (6.25%) / BGE (1.66%) / ComEd (0.73%) / Dayton (1.08%) / DEOK (2.01%) / DL (2.29%) / Dominion (0.35%) / DPL (14.53%) / EKPC (0.40%) / JCPL (6.95%) / MetEd (3.34%) / Neptune (2.18%) / PECO (16.69%) / PENELEC (4.01%) / PPL (8.46%) / PSEG (14.37%) / RECO (0.45%)
b2752.2	Tie in new Furnace Run substation to Peach Bottom – TMI 500 kV		AEP (6.46%) / APS (8.74%) / BGE (19.74%) / ComEd (2.16%) / Dayton (0.59%) / DEOK (1.02%) / DL (0.01%) / Dominion (39.95%) / EKPC (0.45%) / PEPCO (20.88%)
b2752.3	Upgrade terminal equipment and required relay communication at Peach Bottom 500 kV: on the Beach Bottom – TMI 500 kV circuit		AEP (6.46%) / APS (8.74%) / BGE (19.74%) / ComEd (2.16%) / Dayton (0.59%) / DEOK (1.02%) / DL (0.01%) / Dominion (39.95%) / EKPC (0.45%) / PEPCO (20.88%)

Required T	ransmission Enhancements	Annual Revenue Requirem	ent Responsible Customer(s)
b2766.2	Upgrade substation equipment at Peach Bottom 500 kV to increase facility rating to 2826 MVA normal and 3525 MVA emergency		Load-Ratio Share Allocation: AEC $(1.66\%) / AEP (14.16\%)$ / APS $(5.73\%) / ATSI (7.88\%)$ / BGE $(4.22\%) / ComEd$ (13.31%) / Dayton (2.11%) / DEOK $(3.29\%) / DL (1.75\%) /$ DPL $(2.50\%) / Dominion$ (12.86%) / EKPC (1.87%) / JCPL $(3.74\%) / ME (1.90\%) /$ NEPTUNE* $(0.44\%) / PECO$ (5.34%) / PENELEC (1.89%) / PEPCO $(3.99\%) / PPL (4.84\%)$ / PSEG $(6.26\%) / RE (0.26\%)$ DFAX Allocation: AEC $(0.05\%) / APS (11.40\%) /$ BGE $(22.83\%) / Dayton$ (2.23%) / DEOK (4.28%) / DPL $(0.20\%) / EKPC (1.98\%)$ / JCPL $(11.06\%) / NEPTUNE*$ (1.17%) / POSEIDON**** (0.64%) / PENELEC (0.06%) / PEPCO $(19.38\%) / PSEG$ (23.77%) / RECO $(0.95%)$

*Neptune Regional Transmission System, LLC ****Poseidon Transmission 1, LLC

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

Required Transmission Enhancements		Annual Revenue Requirement	Responsible Customer(s)
b2863	Replace the Grays Ferry 230 kV "985" with 63kA breaker		PECO (100%)
b2864	Replace the Grays Ferry 230 kV "775" with 63kA breaker		PECO (100%)

#### **SCHEDULE 12 – APPENDIX A**

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

Required Tr	ansmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2218	Rebuild 4 miles of overhead line from Edison - Meadow Rd - Metuchen (Q 1317)		PSEG (100%)
b2239	50 MVAR reactor at Saddlebrook 230 kV		PSEG (100%)
b2240	50 MVAR reactor at Athenia 230 kV		PSEG (100%)
b2241	50 MVAR reactor at Bergen 230 kV		PSEG (100%)
b2242	50 MVAR reactor at Hudson 230 kV		PSEG (100%)
b2243	Two 50 MVAR reactors at Stanley Terrace 230 kV		PSEG (100%)
b2244	50 MVAR reactor at West Orange 230 kV		PSEG (100%)
b2245	50 MVAR reactor at Aldene 230 kV		PSEG (100%)
b2246	150 MVAR reactor at Camden 230 kV		PSEG (100%)
b2247	150 MVAR reactor at Gloucester 230 kV		PSEG (100%)
b2248	50 MVAR reactor at Clarksville 230 kV		PSEG (100%)
b2249	50 MVAR reactor at Hinchmans 230 kV		PSEG (100%)
b2250	50 MVAR reactor at Beaverbrook 230 kV		PSEG (100%)
b2251	50 MVAR reactor at Cox's Corner 230 kV		PSEG (100%)

*Neptune Regional Transmission System, LLC

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

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

Required Tra	Insmission Enhancements	Annual Revenue Require	ment Responsible Customer(s)
b2421.2	Install a second four (4) breaker 69kV ring bus at Bridgewater Switching Station		PSEG (100%)
b2436.10	Convert the Bergen – Marion 138 kV path to double circuit 345 kV and associated substation upgrades		Load-Ratio Share Allocation: AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%) DFAX Allocation:
			PSEG (100%)
b2436.21	Convert the Marion - Bayonne "L" 138 kV circuit to 345 kV and any associated substation upgrades		Load-Ratio Share Allocation: AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%) DFAX Allocation: PSEG (100%)

b2436.22	Convert the Marion - Bayonne "C" 138 kV circuit to 345 kV and any associated substation upgrades	Load-Ratio Share Allocation: AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%) DFAX Allocation:
	Construct a new Bayway – Bayonne 345 kV circuit	PSEG (100%)
b2436.33	and any associated substation upgrades	PSEG (100%)
b2436.34	Construct a new North Ave – Bayonne 345 kV circuit and any associated substation upgrades	PSEG (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required Tra	ansmission Enhancements	Annual Revenue Require	ement Responsible Customer(s)
b2436.50	Construct a new North Ave - Airport 345 kV circuit and any associated substation upgrades		PSEG (100%)
b2436.60	Relocate the underground portion of North Ave - Linden "T" 138 kV circuit to Bayway, convert it to 345 kV, and any associated substation upgrades		PSEG (96.13%) / RE (3.87%)
b2436.70	Construct a new Airport - Bayway 345 kV circuit and any associated substation upgrades		PSEG (100%)
b2436.81	Relocate the overhead portion of Linden - North Ave "T" 138 kV circuit to Bayway, convert it to 345 kV, and any associated substation upgrades		Load-Ratio Share Allocation: AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%) DFAX Allocation: PSEG (96.13%) / RE (3.87%)

Required Tra	ansmission Enhancements	Annual Revenue Requiren	nent Responsible Customer(s)
			Load-Ratio Share Allocation:
			AEC (1.66%) / AEP (14.16%) /
			APS (5.73%) / ATSI (7.88%) /
			BGE (4.22%) / ComEd (13.31%)
			/ Dayton (2.11%) / DEOK
	Convert the Bayway -		(3.29%) / DL (1.75%) / DPL
	Linden "Z" 138 kV circuit		(2.50%) / Dominion (12.86%) /
b2436.83	to 345 kV and any		EKPC (1.87%) / JCPL (3.74%) /
	associated substation		ME (1.90%) / NEPTUNE*
	upgrades		(0.44%) / PECO (5.34%) /
			PENELEC (1.89%) / PEPCO
			(3.99%) / PPL (4.84%) / PSEG
			(6.26%) / RE (0.26%)
			<b>DFAX Allocation:</b>
			PSEG (96.13%) / RE (3.87%)
			Load-Ratio Share Allocation:
			AEC (1.66%) / AEP (14.16%) /
			APS (5.73%) / ATSI (7.88%) /
			BGE (4.22%) / ComEd (13.31%)
			/ Dayton (2.11%) / DEOK
			(3.29%) / DL (1.75%) / DPL
	Convert the Bayway –		(2.50%) / Dominion (12.86%) /
	Linden "W" 138 kV		EKPC (1.87%) / JCPL (3.74%) /
b2436.84	circuit to 345 kV and any		ME (1.90%) / NEPTUNE*
	associated substation		(0.44%) / PECO (5.34%) /
	upgrades		PENELEC (1.89%) / PEPCO
			(3.99%) / PPL (4.84%) / PSEG
			(6.26%) / RE (0.26%)
			DFAX Allocation:
			PSEG (96.13%) / RE (3.87%)

Required Tra	Insmission Enhancements	Annual Revenue Require	ment Responsible Customer(s)
b2436.85	Convert the Bayway – Linden "M" 138 kV circuit to 345 kV and any associated substation upgrades		Load-Ratio Share Allocation: AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%) DFAX Allocation: PSEG (96.13%) / RE (3.87%)
b2436.90	Relocate Farragut - Hudson "B" and "C" 345 kV circuits to Marion 345 kV and any associated substation upgrades		Load-Ratio Share Allocation: AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%) DFAX Allocation: PSEG (96.13%) / RE (3.87%)
b2436.91	Relocate the Hudson 2 generation to inject into the 345 kV at Marion and any associated upgrades		PSEG (100%)

b2437.10	New Bergen 345/230 kV transformer and any associated substation upgrades	PSEG (96.13%) / RE (3.87%)
b2437.11	New Bergen 345/138 kV transformer #1 and any associated substation upgrades	PSEG (100%)
b2437.20	New Bayway 345/138 kV transformer #1 and any associated substation upgrades	PSEG (96.13%) / RE (3.87%)
b2437.21	New Bayway 345/138 kV transformer #2 and any associated substation upgrades	PSEG (96.13%) / RE (3.87%)
b2437.30	New Linden 345/230 kV transformer and any associated substation upgrades	PSEG (96.13%) / RE (3.87%)
b2437.33	New Bayonne 345/69 kV transformer and any associated substation upgrades	PSEG (100%)
b2438	Install two reactors at Tosco 230 kV	PSEG (100.00%)
b2439	Replace the Tosco 138kV breaker 'CB1/2 (CBT)' with 63kA	PSEG (100.00%)
b2474	Rebuild Athenia 138 kV to 80kA	PSEG (100%)
b2589	Install a 100 MVAR 230 kV shunt reactor at Mercer station	PSEG (100%)
b2590	Install two 75 MVAR 230 kV capacitors at Sewaren station	PSEG (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

- 1		idal revenue requirement intesponsible customer(s)
b2633.3	Install an SVC at New Freedom 500 kV substation	Load-Ratio Share Allocation: AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%) DFAX Allocation: AEC (0.01%) / DPL (99.98%) / JCPL (0.01%)
b2633.4	Add a new 500 kV bay at Hope Creek (Expansion of Hope Creek substation)	Load-Ratio Share Allocation:           AEC (1.66%) / AEP (14.16%) /           APS (5.73%) / ATSI (7.88%) /           BGE (4.22%) / ComEd (13.31%) /           Dayton (2.11%) / DEOK (3.29%) /           DL (1.75%) / DPL (2.50%) /           Dominion (12.86%) / EKPC           (1.87%) / JCPL (3.74%) / ME           (1.90%) / NEPTUNE* (0.44%) /           PECO (5.34%) / PENELEC           (1.89%) / PEPCO (3.99%) / PPL           (4.84%) / PSEG (6.26%) / RE           (0.26%)           DFAX Allocation:           AEC (0.01%) / DPL (99.98%) /           JCPL (0.01%)

b2633.5	autotransformer at Hope Creek and a new Hope Creek 230 kV substation	AEC (0.01%) / DPL (99.98%) / JCPL (0.01%) Load-Ratio Share Allocation:
b2633.8	Implement high speed relaying utilizing OPGW on Salem – Orchard 500 kV, Hope Creek – New Freedom 500 kV, New Freedom - Salem 500 kV, Hope Creek – Salem 500 kV, and New Freedom – Orchard 500 kV lines	AEC (1.66%) / AEP (14.16%) /         APS (5.73%) / ATSI (7.88%) /         BGE (4.22%) / ComEd (13.31%) /         Dayton (2.11%) / DEOK (3.29%) /         DL (1.75%) / DPL (2.50%) /         Dominion (12.86%) / EKPC         (1.87%) / JCPL (3.74%) / ME         (1.90%) / NEPTUNE* (0.44%) /         PECO (5.34%) / PENELEC         (1.89%) / PEPCO (3.99%) / PPL         (4.84%) / PSEG (6.26%) / RE         (0.26%)         DFAX Allocation:         AEC (0.01%) / DPL (99.98%) /         JCPL (0.01%)

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

Required Tra	ansmission Enhancements Annu	al Revenue Requirement Responsible Customer(s)
b2633.91	Implement changes to the tap settings for the two Salem units' step up transformers	AEC (0.01%) / DPL (99.98%) / JCPL (0.01%)
b2633.92	Implement changes to the tap settings for the Hope Creek unit's step up transformers	AEC (0.01%) / DPL (99.98%) / JCPL (0.01%)
b2702	Install a 350 MVAR reactor at Roseland 500 kV	Load-Ratio Share Allocation: AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%) DFAX Allocation: PSEG (100%)
b2703	Install a 100 MVAR reactor at Bergen 230 kV	PSEG (100%)
b2704	Install a 150 MVAR reactor at Essex 230 kV	PSEG (100%)
b2705	Install a 200 MVAR reactor (variable) at Bergen 345 kV	PSEG (100%)
b2706	Install a 200 MVAR reactor (variable) at Bayway 345 kV	PSEG (100%)
b2707	Install a 100 MVAR reactor at Bayonne 345 kV	PSEG (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

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

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Convert the N-1340 and T- 1372/D-1330 (Brunswick –		PSEG (100%)
Trenton) 138 kV circuits to		1 SEG (100%)
230 kV circuits		
Convert the F-1358/Z1326		
and K1363/Y-1325		
(Trenton – Burlington) 138		PSEG (100%)
kV circuits to 230 kV		
circuits		
Build new 138/26 kV		
Newark GIS station in a		
building (layout #1A)		
located adjacent to the		PSEG (100%)
existing Newark Switch and		
demolish the existing		
Newark Switch		
	Convert the N-1340 and T- 1372/D-1330 (Brunswick – Trenton) 138 kV circuits to 230 kV circuits Convert the F-1358/Z1326 and K1363/Y-1325 (Trenton – Burlington) 138 kV circuits to 230 kV circuits Build new 138/26 kV Newark GIS station in a building (layout #1A) located adjacent to the existing Newark Switch and demolish the existing	1372/D-1330 (Brunswick – Trenton) 138 kV circuits to 230 kV circuits Convert the F-1358/Z1326 and K1363/Y-1325 (Trenton – Burlington) 138 kV circuits to 230 kV circuits Build new 138/26 kV Newark GIS station in a building (layout #1A) located adjacent to the existing Newark Switch and demolish the existing

#### **SCHEDULE 12 – APPENDIX A**

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

Required 1	ransmission Enhancements Ani	iuai Revenue Requirement	Responsible Customer(s)
	Remove Byron SPS upon		
b2141.1	completion of Byron -		ComEd (100%)
	Wayne 345 kV		
	Replace 138 kV bus tie 1-2		
	circuit breaker, station		
b2365	conductor, relays, and a		ComEd (100%)
	wave trap at TSS 55		
	Hegewisch substation		
	Reconductor 1.4 miles of		
b2366	138 kV line 0112, Kickapoo		ComEd(100%)
02500	Creek - LaSalle County		ComEd (100%)
	138kV line		
	Install a 138 kV Red Blue		
b2415	bus tie with underground		ComEd (100%)
02413	cable and a line 15913 CB		Comed (100%)
	at Highland Park		
	Reconductor 0.125 miles of		
b2416	the East Frankfort - Mokena		ComEd (100%)
	138 kV line L6604		
	Replace Ridgeland 138 kV		
L0417	bus tie CB and underground		$C_{am}Ed(1000)$
b2417	cable at TSS 192 Ridgeland		ComEd (100%)
	138 kV substation		
	Reconductor 7.5 miles of		
b2418	Waukegan - Gurnee 138 kV		ComEd (100%)
	line L1607		
	Reconductor 0.33 miles of		
h2410	138 kV underground cable		ComEd(1000/)
b2419	on the Sawyer - Crawford		ComEd (100%)
	138 kV Blue line (L1324)		
	Replace the Skokie 138 kV		
b2465	breaker '88 L8809' with a		ComEd (100%)
	63 kA breaker		``´´
	Replace the Skokie 138 kV		
b2466	breaker '88 L8810' with		ComEd (100%)
	63kA breaker		
	Replace the Skokie 138 kV		
b2467	breaker '88 L11416' with		ComEd (100%)
	63 kA breaker		
	1	1	1

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

Required T	Transmission Enhancements	Annual Revenue Requirem	ent Responsible Customer(s)
b2468	Replace the Skokie 138 kV breaker '88 L8803' with 63kA breaker		ComEd (100%)
b2469	Replace the Des Plaines 138 kV breaker '46 11702' with 63 kA breaker		ComEd (100%)
b2561	Install a new 345 kV circuit breaker 5-7 at Elwood substation		ComEd (100%)
b2562	Remove 2.0 miles of wood poles on 138 kV line 17105, erect new steel structures, and install new 1113 kcmil ACSR conductor from Roscoe Bert to Harlem		ComEd (100%)
b2613	Replace relays at Mazon substation		ComEd (100%)
b2692.1	Replace station equipment at Nelson, ESS H-471 and Quad Cities		AEC (0.18%) / AEP (18.69%) / APS (5.87%) / ATSI (7.86%) / BGE (3.32%) / ComEd (38.23%) / Dayton (2.76%) / DEOK (4.13%) / DL (2.23%) / Dominion (5.15%) / DPL (1.97%) / EKPC (1.36%) / JCPL (0.52%) / MetED (0.04%) / Neptune (0.04%) / PECO (1.08%) / PENELEC (1.25%) / PEPCO (3.56%) / PPL (0.45%) / PSEG (1.17%) / RECO (0.14%)

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

Required T	ransmission Enhancements	Annual Revenue Requirem	ent Responsible Customer(s)
b2692.2	Upgrade conductor ratings of Cordova – Nelson, Quad Cities – ESS H-471 and ESS H-471 – Nelson 345 kV lines and mitigating sag limitations		AEC (0.18%) / AEP (18.69%) / APS (5.87%) / ATSI (7.86%) / BGE (3.32%) / ComEd (38.23%) / Dayton (2.76%) / DEOK (4.13%) / DL (2.23%) / Dominion (5.15%) / DPL (1.97%) / EKPC (1.36%) / JCPL (0.52%) / MetED (0.04%) / Neptune (0.04%) / PECO (1.08%) / PENELEC (1.25%) / PEPCO (3.56%) / PPL (0.45%) / PSEG (1.17%) / RECO (0.14%)
b2693	Replace L7815 B phase line trap at Wayne substation		ComEd (100%)
b2699.1	Replace 5 Powerton 345 kV CB's with 2 cycle IPO breakers, install one new 345 kV CB; swap line 0302 and line 0303 bus positions; reconfigure Powerton 345 kV bus as single ring configuration		ComEd (100%)
b2699.2	Remove SPS logic at Powerton that trips generators or sectionalizes bus under normal conditions; minimal SPS logic will remain		ComEd (100%)
b2721	Goodings Grove – Balance Station Load (swap bus positions for 345 kV lines 1312 & 11620 and 345 kV lines 11604 & 11622) and replace 138 kV bus tie 2-3		ComEd (100%)

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

Required Transmission Enhancements		Annual Revenue Requirem	nent Responsible Customer(s)
b2728	Mitigate sag limitations on Loretto – Wilton Center 345 kV Line and replace station conductor at Wilton Center		ATSI (3.43%) / AEP (3.34%) / ComEd (92.02%) / DLCO (1.21%)
b2732.1	Cut-in of line 93505 Tazewell – Kendall 345 kV line into Dresden		ComEd (100%)
b2732.2	Raise towers to remove the sag limitations on Pontiac – Loretto 345 kV line		ComEd (100%)

#### **SCHEDULE 12 – APPENDIX A**

## (18) Duquesne Light Company

Required I	ransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2175.1	200 MVAR shunt reactor Brunot Island 345 kV	at	DL (100%)
	200 MVAR shunt reactor of	on	
b2175.2	future Brunot Island –		DL (100%)
	Carson 345 kV circuit		
	Revise the reclosing for the	ie	
b2198	Brunot Island 138 kV		DL (100%)
	breaker 'Z-40 COLLIER	1	
	Revise the reclosing for the	ie	
b2199	Brunot Island 138 kV		DL (100%)
	breaker 'Z-41 COLLIER	1	
	Revise the reclosing for th	ie	
b2200	Crescent 138 kV breaker "	Z-	DL (100%)
	29 Beaver'		
	Revise the reclosing for th	ie	
b2201	Crescent 138 kV breaker "	Z-	DL (100%)
	82 VALLEY'		
	Revise the reclosing for th	ie	
b2202	Crescent 138 kV breaker "	Z-	DL (100%)
	21 NORTH'		
	Revise the reclosing for th	ie	
b2203	Elrama 138 kV breaker		DL (100%)
	'Z18-USX CLAI'		Ň,
	Revise the reclosing for th	ie	
b2204	Elrama 138 kV breaker		DL (100%)
	'Z13-WEST MIF'		Ň,
	Revise the reclosing for th	ne	
b2205	Elrama 138 kV breaker 'Z	15	DL (100%)
	-DRAVOSBU'		
	Revise the reclosing for th	ie	
b2206	Woodville 138 kV breake		DL (100%)
	'Z-106 PINEY'		
	Revise the reclosing for th	ie	
b2207	Woodville 138 kV breake		DL (100%)
	'Z-64 COLLIER'		
	Revise the reclosing for th	ne	
b2208	Beaver Valley 138 kV		DL (100%)
	breaker 'Z-28 CRESCEN	· ·	
		•	

## Duquesne Light Company (cont.)

Requirea 1	ransmission Enhancements Ani	nual Revenue Requirement	Responsible Customer(s)
b2209	Revise the reclosing for the Cheswick 138 kV breaker Z-51 WILMERD'		DL (100%)
b2280	Replace the USAP 138kV breaker 'XFMR'		DL (100%)
b2303	Revise the reclosing to the Dravosburg 138kV 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 63kA breaker		DL (100%)
b2640	Replace the Crescent 138 kV 'Z-143 SWCKLY' breaker with a 63kA breaker		DL (100%)
b2641	Replace the Crescent 138 kV 'Z-24 MONTOUR' breaker with a 63kA breaker		DL (100%)
b2642	Replace the Crescent 138 kV 'Z-28 BEAVER' breaker with a 63kA breaker		DL (100%)
b2689.1	Reconductor approximately 7 miles of the Woodville – Peters (Z-117) 138 kV circuit		AEC (1.00%) / APS (66.39%) / BGE (4.62%) / DOM (8.84%) / DPL (5.85%) / Neptune (0.12%) / PECO (3.40%) / PEPCO (6.32%) / PSEG (3.46%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

# Duquesne Light Company (cont.)

Required 7	<b>Transmission Enhancements</b>	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 (1.00%) / APS (66.39%) / BGE (4.62%) / DOM (8.84%) / DPL (5.85%) / Neptune (0.12%) / PECO (3.40%) / PEPCO (6.32%) / PSEG (3.46%)

#### **SCHEDULE 12 – APPENDIX A**

## (20) Virginia Electric and Power Company

Required T	ransmission Enhancements Annua	al Revenue Requirement	Responsible Customer(s)
b1698.7	Replace Loudoun 230 kV breaker '203052' with 63kA rating		Dominion (100%)
b1696.1	Replace the Idylwood 230 kV '25112' breaker with 50kA breaker		Dominion (100%)
b1696.2	Replace the Idylwood 230 kV '209712' breaker with 50kA breaker		Dominion (100%)
b1793.1	Remove the Carolina 22 SPS to include relay logic changes, minor control wiring, relay resets and SCADA programming upon completion of project		Dominion (100%)
b2281	Additional Temporary SPS at Bath County		Dominion (100%)
b2350	Reconductor 211 feet of 545.5 ACAR conductor on 59 Line Elmont - Greenwood DP 115 kV to achieve a summer emergency rating of 906 amps or greater		Dominion (100%)
b2358	Install a 230 kV 54 MVAR capacitor bank on the 2016 line at Harmony Village Substation		Dominion (100%)
b2359	Wreck and rebuild approximately 1.3 miles of existing 230 kV line between Cochran Mill - X4-039 Switching Station		Dominion (100%)
b2360	Build a new 39 mile 230 kV transmission line from Dooms - Lexington on existing right- of-way		Dominion (100%)
b2361	Construct 230 kV OH line along existing Line #2035 corridor, approx. 2.4 miles from Idylwood - Dulles Toll Road (DTR) and 2.1 miles on new right-of-way along DTR to new Scott's Run Substation		Dominion (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required I		al Revenue Requirement	Responsible Customer(s)
b2368	Replace the Brambleton 230 kV breaker '209502' with		Dominion (100%)
b2369	63kA breaker Replace the Brambleton 230 kV breaker '213702' with 63kA breaker		Dominion (100%)
b2370	Replace the Brambleton 230 kV breaker 'H302' with 63kA 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		Dominion (100%)
b2397	Replace the Beaumeade 230 kV breaker '2079T2116' with 63kA		Dominion (100%)
b2398	Replace the Beaumeade 230 kV breaker '2079T2130' with 63kA		Dominion (100%)
b2399	Replace the Beaumeade 230 kV breaker '208192' with 63kA		Dominion (100%)
b2400	Replace the Beaumeade 230 kV breaker '209592' with 63kA		Dominion (100%)
b2401	Replace the Beaumeade 230 kV breaker '211692' with 63kA		Dominion (100%)
b2402	Replace the Beaumeade 230 kV breaker '227T2130' with 63kA		Dominion (100%)
b2403	Replace the Beaumeade 230 kV breaker '274T2130' with 63kA		Dominion (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

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

Required T	ransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2404	Replace the Beaumeade 230 kV breaker '227T2095' with 63kA		Dominion (100%)
b2405	Replace the Pleasant view 230 kV breaker '203T274' with 63kA		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 50kA		Dominion (100%)
b2443.2	Replace the Ox 230 kV breaker '206342' with 63kA breaker		Dominion (100%)
b2443.3	Glebe – Station C PAR		DFAX Allocation: Dominion (22.57%) / PEPCO (77.43%)
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%)
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%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required T	ransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
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 stee H-frames	1	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 mile from NOVEC's Wheeler Substation a new 230 kV switching station in Vint Hill area		Dominion (100%)
b2461.2	Convert NOVEC's Gainesville – Wheeler line (approximately 6 miles) to 230 kV		Dominion (100%)
b2461.3	Complete a Vint Hill – Wheeler – Loudoun 230 kV networked line		Dominion (100%)

Required T	ransmission Enhancements Annua	al Revenue Requirement	Responsible Customer(s)
b2471	Replace Midlothian 500 kV breaker 563T576 and motor operated switches with 3 breaker 500 kV ring bus. Terminate Lines # 563 Carson – Midlothian, #576 Midlothian –North Anna, Transformer #2 in new ring		Load-Ratio Share Allocation: AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / DDL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) / PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%) DFAX Allocation:
	Rebuild 115 kV Line #32		DFAX Anocation: Dominion (100%)
b2504	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 50kA breaker		Dominion (100%)
b2543	Replace the Loudoun 500 kV 'H2T584' breaker with a 50kA breaker		Dominion (100%)
b2565	Reconductor wave trap at Carver Substation with a 2000A wave trap		Dominion (100%)
b2566	Reconductor 1.14 miles of existing line between ACCA and Hermitage and upgrade associated terminal equipment		Dominion (100%)

Required I	ransmission Enhancements Ai	nnual Revenue Requirement	Responsible Customer(s)
b2582	Rebuild the Elmont – Cunningham 500 kV line		Dominion (100%)
b2583	Install 500 kV breaker at Ox Substation to remove Ox Tx#1 from H1T561 breaker failure outage.		Dominion (100%)
b2584	Relocate the Bremo load (transformer #5) to #2028 (Bremo-Charlottesville 230 kV) line and Cartersville distribution station to #2027 (Bremo- Midlothian 230 kV) line		Dominion (100%)
b2585	Reconductor 7.63 miles of existing line between Cranes and Stafford, upgrade associated line switches at Stafford		<b>DFAX Allocation:</b> PEPCO (100%)
b2620	Wreck and rebuild the Chesapeake – Deep Creek – Bowers Hill – Hodges Ferry 115 kV line; minimum rating 239 MVA normal/emergency, 275 MVA load dump rating		Dominion (100%)

Required T	ransmission Enhancements Ar	inual Revenue Requirement	Responsible Customer(s)
b2622	Rebuild Line #47 between Kings Dominion 115 kV and Fredericksburg 115 kV to current standards with summer emergency rating of 353 MVA at 115 kV		Dominion (100%)
b2623	Rebuild Line #4 between Bremo and Structure 8474 (4.5 miles) to current standards with a summer emergency rating of 261 MVA at 115 kV		Dominion (100%)
b2624	Rebuild 115 kV Lines #18 and #145 between Possum Point Generating Station and NOVEC's Smoketown DP (approx. 8.35 miles) to current 230 kV standards with a normal continuous summer rating of 524 MVA at 115 kV		Dominion (100%)
b2625	Rebuild 115 kV Line #48 between Thole Street and Structure 48/71 to current standard. The remaining line to Sewells Point is 2007 vintage. Rebuild 115 kV Line #107 line, Sewells Point to Oakwood, between structure 107/17 and 107/56 to current standard.		Dominion (100%)
b2626	Rebuild 115 kV Line #34 between Skiffes Creek and Yorktown and the double circuit portion of 115 kV Line #61 to current standards with a summer emergency rating of 353 MVA at 115 kV		Dominion (100%)
b2627	Rebuild 115 kV Line #1 between Crewe 115 kV and Fort Pickett DP 115 kV (12.2 miles) to current standards with summer emergency rating of 261 MVA at 115 kV		Dominion (100%)

Required T	ransmission Enhancements Annu	al Revenue Requirement	Responsible Customer(s)
b2628	Rebuild 115 kV Line #82 Everetts – Voice of America (20.8 miles) to current standards with a summer emergency rating of 261 MVA at 115 kV	Â	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%)
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%)

current summer g of 353 The line f or 230		Dominion (100%)
ridge – Line #16 lge – to current ummer g of 353 kV.		Dominion (100%)
o to summer		Dominion (100%)
		Dominion (100%)
ge		Dominion (100%)
eck to S n with cy rating v line will v HEMC vson's rom 34.5		Dominion (100%)
		Dominion (100%)
		Dominion (100%)
	Line #127 current summer og of 353 The line t for 230 at 115 kV. oridge – Line #16 dge – to current summer og of 353 5 kV. 5 kV line go to a summer og of 353 5 kV. reaker at ge 5 kV line Neck to S h with necy rating w line will w HEMC wson's rom 34.5 kV. ee-breaker at for 230 at 115 kV.	Line #127 current summer lg of 353 . The line t for 230 at 115 kV. Dridge – Line #16 dge – to current summer lg of 353 6 kV. 5 kV line go to a summer lg of 353 ur-breaker intego reaker at ge 5 kV line Veck to S h with hocy rating w line will w HEMC wson's rom 34.5 kV.

Required The	ansimission Enhancements Ann	uai Kevenue Kequiteriterit	Responsible Customer(s)
b2665	Rebuild the Cunningham – Dooms 500 kV line		Dominion (100%)
b2686	Pratts Area Improvement		Dominion (100%)
b2686.1	Build a 230 kV line from Remington Substation to Gordonsville Substation utilizing existing ROW		Dominion (100%)
b2686.11	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%)
b2686.2	Install a 3rd 230/115 kV transformer at Gordonsville Substation		Dominion (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required Tra	ansmission Enhancements	Annual Revenue Requirement Responsible Customer(s)
b2686.3	Upgrade Line 2088 between Gordonsville Substation and Louisa CT Station	Dominion (100%)
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 50kA breaker	Dominion (100%)
b2729	Optimal Capacitors Configuration: New 175 MVAR capacitor at Brambleton, new 175 MVAR capacitor at Ashburn, new 300 MVAR capacitor at Shelhorm, new 150 MVAR capacitor at Liberty	AEC (1.97%) / BGE (14.46%) / Dominion (35.33%) / DPL (3.78%) / JCPL (3.33%) / ME (2.53%) / Neptune (0.63%) / PECO (6.30%) / PEPCO (20.36%) / PPL (3.97%) / PSEG (7.34%)

Required Tra	ansmission Enhancements Annual	Revenue Requirement	Responsible Customer(s)
Bequired Tra	ansmission Enhancements Annua Rebuild the Carson – Rogers Rd 500 kV circuit	Revenue Requirement	Load-Ratio Share Allocation: AEC (1.66%) / AEP (14.16%) / APS (5.73%) / ATSI (7.88%) / BGE (4.22%) / ComEd (13.31%) / Dayton (2.11%) / DEOK (3.29%) / DL (1.75%) / DPL (2.50%) / Dominion (12.86%) / EKPC (1.87%) / JCPL (3.74%) / ME (1.90%) / NEPTUNE* (0.44%) / PECO (5.34%) /
			PENELEC (1.89%) / PEPCO (3.99%) / PPL (4.84%) / PSEG (6.26%) / RE (0.26%) <b>DFAX Allocation:</b> Dominion (100%)
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 Rebuild Line #1009 Ridge Rd		Dominion (100%)
b2746.2	- 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%)

Required Tr	ansmission Enhancements Annual Revenue Requirem	nent Responsible Customer(s)
b2757	Install a +/-125 MVAr Statcom at Colington 230 kV	Dominion (100%)
b2758	Rebuild Line #549 Dooms – Valley 500kV	Dominion (100%)
b2759	Rebuild Line #550 Mt. Storm – Valley 500kV	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 115kV	Dominion (100%)
b2815	Build a new Pinewood 115kV switching station at the tap serving North Doswell DP with a 115kV four breaker ring bus	Dominion (100%)
b2842	Update the nameplate for Mount Storm 500 kV "57272" to be 50kA breaker	Dominion (100%)
b2843	Replace the Mount Storm 500 kV "G2TY" with 50kA breaker	Dominion (100%)
b2844	Replace the Mount Storm 500 kV "G2TZ" with 50kA breaker	Dominion (100%)
b2845	Update the nameplate for Mount Storm 500 kV "G3TSX1" to be 50kA breaker	Dominion (100%)
b2846	Update the nameplate for Mount Storm 500 kV "SX172" to be 50kA breaker	Dominion (100%)
b2847	Update the nameplate for Mount Storm 500 kV "Y72" to be 50kA breaker	Dominion (100%)
b2848	Replace the Mount Storm 500 kV "Z72" with 50kA 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%)