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February 4, 2015

RECEIVED

VIA FEDERAL EXPRESS

FEB - 4 2015

Rosemary Chiavetta, Secretary
Pennsylvania Public Utility Commission
Commonwealth Keystone Building
400 North Street
Harrisburg, PA 17105-3265

PA PUBLIC UTILITY COMMISSION
SECRETARY'S BUREAU

Re: Petition of PECO Energy Company for Approval of Its Gas Long Term Infrastructure Improvement Plan – Docket No. P-2013-2347340

Dear Secretary Chiavetta:

With this letter, we are filing the **Petition for Approval of PECO Energy Company's Modified Gas Long Term Infrastructure Improvement Plan** ("Petition") accompanied by PECO's **Modified Gas Long Term Infrastructure Improvement Plan** ("Modified LTIP"). Exhibit A to the Modified LTIP, which is a copy of PECO's Gas Operator Qualification Program, has been marked "**CONFIDENTIAL**" and is contained in a separate envelope. We ask that Exhibit A be lodged in a non-public file and not be made publicly available.

As evidenced by the enclosed Certificate of Service, copies of the enclosed Petition and accompanying Modified LTIP, excluding Exhibit A, are being served upon the Bureaus of Investigation and Enforcement and Technical Utility Services, the Office of Consumer Advocate, the Office of Small Business Advocate and the parties to PECO's last gas base rate case.

If you have any questions regarding this filing, please contact me at 215-841-5777.

Sincerely,

A handwritten signature in black ink, appearing to read "R. Webster", followed by a horizontal line.

c: Per Certificate of Service

RECEIVED

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

FEB - 4 2015

PA PUBLIC UTILITY COMMISSION
SECRETARY'S BUREAU

PETITION OF PECO ENERGY COMPANY :
FOR APPROVAL OF ITS GAS LONG :
TERM INFRASTRUCTURE :
IMPROVEMENT PLAN :

DOCKET NO. P-2013-2347340

PETITION FOR APPROVAL OF
PECO ENERGY COMPANY'S MODIFIED GAS
LONG TERM INFRASTRUCTURE IMPROVEMENT PLAN

Pursuant to 66 Pa.C.S. § 1352(a) and 52 Pa. Code § 121.5(a), PECO Energy Company ("PECO" or the "Company") hereby petitions the Pennsylvania Public Utility Commission ("PUC" or the "Commission") to approve PECO's modified gas Long Term Infrastructure Improvement Plan ("Modified LTIIIP" or the "Modified Plan"), which accompanies this Petition. PECO has an existing LTIIIP that was approved by the Commission by Order entered May 9, 2013 at Docket No. P-2013-2347340. PECO's Modified LTIIIP contains all of the elements required by 66 Pa.C.S. § 1352(a)(1)-(6) and 52 Pa. Code § 121.1 et seq (the "LTIIIP Regulations").¹ Accordingly, PECO's Modified LTIIIP satisfies all the requirements for Commission approval set forth in 66 Pa.C.S. § 1352(a)(7) and the LTIIIP Regulations.

PECO is proposing to modify its existing LTIIIP for three primary reasons: (1) to further enhance the safety and reliability of the Company's gas distribution system; (2) to address a recommendation in a recent Commission management and operations audit² to accelerate the

¹ The LTIIIP Regulations were established pursuant to a May 23, 2014 Final Rulemaking Order at Docket No. L-2012-2317274.

² See Focused Management and Operations Audit of PECO Energy Company, Docket No. D-2013-2370921 (Issued September 2014) (the "Management Audit"), pp. 86-89.

replacement rate of unprotected bare steel mains; and (3) to address recent revisions to 52 Pa. Code § 59.18 (the “Meter Location Regulations”)³ which require the relocation of indoor meters to outdoor structures.

PECO’s proposed modifications will increase its annual spend from \$34 million per year (under the existing LTIIP) to \$61 million by 2018⁴, increasing the total estimated cost from \$371.3 million to \$534.4 million, or by 44 percent. Pursuant to the LTIIP Regulations, any change that increases the total estimated cost of an LTIIP by more than 20 percent constitutes a “major modification” and requires the utility to file a separate petition for modification both explaining and justifying the change. As more fully explained below, the Modified LTIIP will reduce overall risk to PECO’s distribution system and enhance safety and reliability. In particular, the Modified LTIIP will make the following changes to PECO’s existing LTIIP: (1) accelerate the pace of cast iron and bare steel mains replacement such that their replacement will be complete by 2035 instead of 2047; and (2) accomplish the relocation of indoor meters to outdoor structures as required by the Meter Location Regulations by 2034. The rate of bare steel service replacement and “high risk” cast iron main replacement will remain the same and, as such, are scheduled to be completed by 2022. Schedules showing PECO’s actual and projected expenditures and quantities of eligible plant to be replaced from 2005 to 2022 are provided in Appendix A to the Modified Plan and are described in Sections IV.A.3. and B. of the Modified Plan.

³ The Meter Location Regulations were most recently amended pursuant to a May 23, 2014 Final Rulemaking Order at Docket No. L-2009-2107155.

⁴ Increases in annual investment after 2018 reflect adjustments for inflation only.

I. INTRODUCTION

1. PECO is a corporation organized and existing under the laws of the Commonwealth of Pennsylvania with its principal office in Philadelphia, Pennsylvania. PECO provides electric delivery service to approximately 1.6 million customers and natural gas delivery service to approximately 503,000 customers in southeastern Pennsylvania. PECO furnishes gas service within its authorized service territory in Bucks, Chester, Delaware, Lancaster and Montgomery Counties. PECO is a “public utility,” as defined in 66 Pa.C.S. § 102, and, with respect to its provision of gas service, a “natural gas distribution company,” as defined in 66 Pa.C.S. § 2201.

2. On February 14, 2012, former Governor Corbett signed into law Act 11 of 2012 (“Act 11”). Act 11 amended the Public Utility Code in several respects, including the addition of Subchapter B (66 Pa.C.S. §§ 1350 – 1360), which authorizes the Commission to approve a distribution system improvement charge (“DSIC”) upon petition by an electric distribution company, a natural gas distribution company (“NGDC”), a water utility or a wastewater utility. In addition, Subchapter B sets forth various requirements that must be satisfied by a qualifying utility in order to establish a DSIC and to recover the reasonable and prudent costs to repair, improve or replace eligible property.

3. Section 1352(a)⁵ provides that a utility must submit an LTIP “in order to be eligible to recover costs under section 1353 (relating to distribution system improvement charge).” In addition, Section 1352 provides that an LTIP should include the following:

- (1) Identification of the types and age of eligible property owned or operated by the utility for which the utility would seek recovery under this subchapter.

⁵ Unless otherwise indicated, references to a “section” are to the Public Utility Code.

- (2) An initial schedule for the planned repair and replacement of eligible property.
- (3) A general description of the location of the eligible property.
- (4) A reasonable estimate of the quantity of eligible property to be improved.
- (5) Projected annual expenditures to implement the plan and measures taken to ensure that the plan is cost effective.
- (6) The manner in which the replacement of aging infrastructure will be accelerated and how the repair, improvement or replacement will ensure and maintain adequate, efficient, safe, reliable and reasonable service.

4. On August 2, 2012, the Commission entered an Implementation Order,⁶ most of which is devoted to explaining how the Commission intended to implement the provisions of Subchapter B. In particular, the Implementation Order set forth the Commission's expectations with regard to the contents of: (1) an LTIP, which must be filed for a utility to be eligible to recover costs pursuant to a DSIC (*see* 66 Pa.C.S. § 1352); (2) Annual Asset Optimization Plans, which must be filed each year by a utility that has an approved DSIC and LTIP (*see* 66 Pa.C.S. § 1356); and (3) a petition requesting Commission approval to include a DSIC in a utility's tariff (*see* 66 Pa.C.S. § 1353). The terms of the Implementation Order track, and build upon, the provisions of Subchapter B.

5. Pursuant to 66 Pa.C.S. §1352, PECO submitted an LTIP for its natural gas distribution system on February 8, 2013 and it was approved by Commission Order entered May 9, 2013 at Docket No. P-2013-2347340. PECO's existing LTIP increased Company investment \$20 million per year above its baseline level of expenditures, from approximately \$14 million to

⁶ *Implementation of Act 11 of 2012*, Docket No. M-2012-2293611 (Final Implementation Order entered August 2, 2012).

\$34 million, to replace cast iron, wrought iron, ductile iron, and bare steel mains and bare steel services. This increased level of investment allows PECO to modernize all of the cast iron and bare steel mains in its gas system within approximately 34 years. This represents a significant acceleration over the 85-year replacement plan under which the Company had been working.

6. On May 23, 2014, the Commission finalized the LTIIP Regulations at Docket No. L-2012-2317274, which establish the procedures and criteria for the filing, modification and periodic review of LTIIPs. The procedures and criteria reflect both Subchapter B requirements and certain provisions in the Implementation Order. On the same day, the Commission finalized the Meter Location Regulations at Docket No. L-2009-2107155 which require, among other things, the relocation of indoor meters to outdoor structures within a 20-year timeframe, subject to certain exclusions (e.g., meters in historic districts).

7. The LTIIP Regulations build on the Implementation Order and include the six statutory components of an LTIIP and three additional requirements: (1) a workforce management and training program; (2) a description of a utility's outreach and coordination activities with other utilities, the Department of Transportation and local governments; and (3) for NGDCs, identification of certain critical valves.

8. A workforce management and training plan must be "designed to ensure that the utility will have access to a qualified workforce to perform work in a cost-effective, safe and reliable manner." *See* 52 Pa. Code § 121.3(a)(7). It is intended to implement the standards set forth in Section 1359 (i.e., that utilities must demonstrate that work done on eligible property is performed by "qualified employees of either the utility or an independent contractor").

9. The LTIIP Regulations require a "description of a utility's outreach and coordination activities with other utilities, Department of Transportation and local governments

regarding their planned maintenance/construction projects and roadways that may be impacted by the LTIIP.” *See* 52 Pa. Code § 121.3(a)(7). The Commission believes these activities are necessary to ensure that LTIIP projects are properly planned, coordinated with other stakeholders, and executed in an efficient and cost-effective manner.

10. Finally, in the Final Rulemaking Order for the LTIIP Regulations (p. 18), the Commission states that if a NGDC identifies a critical valve that it will repair, improve upon or replace and for which it will seek DSIC recovery, then it must include such information in its LTIIP.

11. The LTIIP Regulations also provide that a utility has the burden of proof to “demonstrate that its proposed LTIIP and associated expenditures are reasonable, cost effective and are designed to ensure and maintain efficient, safe, adequate, reliable and reasonable service to consumers.” *See* 52 Pa. Code § 121.4(d).

12. In September of 2014, the Commission’s Bureau of Audits issued the Management Audit, which, among other things, recommended that PECO accelerate the replacement rate of unprotected bare steel mains. *See* Management Audit, p. 89. On September 29, 2014, the Company filed an Implementation Plan⁷ in response to the Management Audit which accepted that recommendation.

13. PECO’s Modified LTIIP submitted with this Petition includes all of the required elements identified in Section 1352(a) and the LTIIP Regulations. An overview of PECO’s Modified LTIIP is provided in Section III of the Modified Plan.

⁷ *See* Implementation Plan of PECO Energy Company to the PA PUC Focused Management and Operations Audit, Docket No. D-2013-2370921 (filed September 29, 2014), response to Recommendation VIII-2.

II. DESCRIPTION OF AND JUSTIFICATION FOR MODIFICATIONS TO PECO'S EXISTING LTIIIP

14. After two years of successfully implementing its existing LTIIIP, PECO is confident that it can further accelerate the pace of cast iron and bare steel main replacement safely and while minimizing impacts to communities. The Company's proposed modifications to its existing LTIIIP are intended to: (1) reduce overall risk to PECO's gas distribution system and enhance safety and reliability; (2) address the Management Audit recommendation to accelerate the replacement rate of unprotected bare steel mains; and (3) comply with the Meter Location Regulations requirement that indoor meters be moved to outdoor structures by 2034.

15. PECO's Modified LTIIIP will make two primary changes to PECO's existing LTIIIP: (1) accelerate the pace of cast iron and bare steel mains replacement such that their replacement will be complete by 2035 instead of 2047; and (2) accomplish the relocation of approximately 69,000 indoor meters to outdoor structures by 2034. By increasing the rate of gas infrastructure replacement, the Modified LTIIIP reduces the susceptibility of PECO's gas infrastructure to breaks and leakage. In addition, the Modified LTIIIP will allow the Company to meet the new requirements of the Meter Location Regulations, which were driven, in part, by customer safety concerns.⁸ The table below provides a summary of the changes:

	Existing LTIIIP	Modified LTIIIP
Replacement timeframe	34 years	20 years
Completion year	2047	2035
Cast iron and bare steel main replacement end year	2047	2035
Bare steel services replacement end year	2023	2023 (no change)
Indoor meter relocation - plan	23,000 relocated with Bare Steel Service programs by 2023	69,000 relocated by 2034
Approximate annual investment	\$34 million	\$61 million
Total LTIIIP Cost (2013-2022)	\$371.3 million	\$534.4 million

⁸ See Rulemaking Re Amendments to 52 Pa. Code § 59.18 Meter Location, Docket No. L-2009-2107155 (Final Rulemaking Order entered May 23, 2014), pp. 5-6.

III. THE MODIFIED LTIIP

A. Types And Ages Of Eligible Property (66 Pa.C.S. § 1352(a)(1); 52 Pa. Code § 121.3(a)(1), Modified LTIIP Section IV.A.)

16. PECO's gas distribution system consists of mains constructed of several different materials. From the late 19th century until the early 1960s, cast iron and bare steel were the predominant material used in constructing gas mains. In the 1960s, "coated" steel was widely introduced as a main material. The installation of bare steel was prohibited by Federal law in 1970. Plastic pipe was introduced in the 1960s and is now the principal material type for most new installations and replacements that operate at distribution-level pressures.

17. Cast iron, wrought iron, ductile iron, and bare steel mains, along with bare steel services, are susceptible to breaks and leakage from different failure mechanisms:

- Cast iron pipe is relatively strong but is vulnerable to breaks from ground movement, which can occur from the cycles of freezing and thawing in the surrounding soil or from nearby excavation. Leaks can also occur where sections of cast iron pipe are joined.
- Bare steel, wrought iron, and ductile iron pipe are vulnerable to galvanic corrosion. Moisture in the surrounding soil induces metallic ions to migrate from the anode (the bare steel) to the cathode (constituents in the surrounding soil), which corrodes and weakens the pipe).⁹ Over a long enough period of time, corrosion can cause the material to fail. Ductile iron pipe is also susceptible to corrosion, but failure occurs predominantly at the joints. Similar to cast iron, the joints of ductile iron pipe sections are secured by steel bolts, which corrode at a faster rate than ductile iron pipe walls.
- Plastic pipe has a proven track record as an excellent application for transporting natural gas at distribution-level pressures. Plastic pipe is strong and flexible and, therefore, is much less vulnerable to breakage by earth movement. Additionally, it does not corrode and does not require cathodic protection. Plastic pipe is also a less costly material and is

⁹ To inhibit corrosion, gas utilities began "coating" steel pipe with non-conducting material to insulate the pipe and break the electrolytic path so that the ion exchange responsible for corrosion cannot as readily occur. Steel pipe can also be protected through "cathodic" protection. Under this approach, a "sacrificial" metal, which is more active than the metal to be protected, becomes the anode. The sacrificial metal corrodes instead of the steel pipe, thus protecting the pipe.

easier to install and join than steel pipe. Plastic pipe's principal drawback is that it is more easily damaged by nearby excavation.¹⁰

18. As of December 31, 2013, there were approximately 1,580 miles of cast iron, wrought iron and ductile iron mains and bare steel mains and services in PECO's gas distribution system. These mains and services were installed between the late 1800s and the 1960s. (Table 1 of the Modified LTIP provides a breakdown of PECO's mains and services by decade of installation and material type.)

19. Although cast iron, wrought iron and ductile iron mains and bare steel mains and services represent only about 12% (in length) of PECO's gas distribution system, they are responsible for approximately 88% of all the leaks on PECO's gas system. *See* Table 2 to PECO's Modified LTIP. For this reason, cast iron, wrought iron and ductile iron mains and bare steel mains and services were targeted for accelerated investment in the Company's existing LTIP, and additional acceleration is being proposed by the Company for cast iron and bare steel mains, as more fully explained in Sections IV.A. and B. of the Modified LTIP.

20. Prior to 2011, PECO had been replacing cast iron and bare steel mains at a rate of approximately thirteen to fourteen miles per year and had been replacing bare steel services at a rate of 1,800 services per year. At those prior rates of replacement, PECO estimates it would have taken approximately 85 years to modernize all of its cast iron and bare steel mains and 22 years to modernize its bare steel services.

21. In 2011, PECO began to reevaluate its strategy for replacing mains and services. After assessing the age, material types and leak history of mains and services within its system,

¹⁰ For this reason, excavators must use appropriate earth moving techniques near plastic pipe (hand digging) and must be sure to comply with Pennsylvania's "One Call" requirements. PECO enforces such requirements through Pennsylvania One-Call and a dedicated Damage Prevention organization within its Gas Division.

PECO determined that its schedule for modernizing cast iron and bare steel mains and bare steel services should be accelerated.

22. As this reassessment was being done, Federal regulations were issued that required the Company to adopt a Distribution Integrity Management Program (“DIMP”) and to develop and file a written Distribution Integrity Management Program Plan (“DIMP Plan”). As explained in Section IV.B. of PECO’s Modified LTIP, in developing its DIMP Plan, PECO conducted a comprehensive evaluation and ranking of the risks posed to its distribution system and identified measures that should be implemented to reduce the risks of failure of its gas distribution pipelines. The DIMP also requires PECO to measure its performance and to monitor and evaluate the effectiveness of each element of its DIMP Plan.

23. PECO’s DIMP Plan provides a rigorous framework for analyzing, ranking and mitigating threats to PECO’s distribution system¹¹ and, therefore, played a very important role in focusing PECO’s existing and Modified LTIP on areas that will reduce overall risks to its distribution system and improve safety and reliability. While PECO’s DIMP Plan was a very important input, it was not the only basis for developing PECO’s Modified LTIP. The DIMP’s risk reduction goal was coupled with other planning measures to prioritize PECO’s investment in *infrastructure improvements*. See Modified LTIP Section IV.A.3.

24. Meters are explicitly included in the statutory definition of “eligible property”, 66 Pa. C.S. § 1351, and meter relocations are a component of the existing and Modified LTIP. Under the existing LTIP, PECO will replace approximately 23,000 indoor meters by 2022 in conjunction with its bare steel service replacement efforts. Pursuant to the Meter Location

¹¹ A summary of the seven elements that Federal regulations require a distribution system operator to address in its DIMP Plan is provided in PECO’s Modified LTIP. See Section IV.A.3.

Regulations, under the Modified LTIP, an additional 46,000 indoor meters will also be relocated following the completion of the bare steel service replacement efforts.

B. Initial Schedule For The Planned Repair And Replacement Of Eligible Property And Reasonable Estimates Of The Quantity Of The Eligible Property To Be Improved (66 Pa.C.S. § 1352(a)(2) and (4); 52 Pa. Code § 121.3(a)(2) and (a)(4), Modified LTIP Sections IV.B. and D.)

25. Appendix A to the Modified Plan shows in detail the expenditures PECO has made through 2014 as well as broader estimates of its planned annual expenditures for 2015 through 2022. The Company is proposing to increase its annual spend from \$34 million per year (under the existing LTIP) to \$61 million by 2018. The tables in Appendix A also show, by material type, the miles of main and number of services to be replaced in PECO's service territory each year. Because these figures are estimates, issues can arise during the implementation period that could alter PECO's work plans. As a result, the miles of main and number of services replaced for a given level of investment may differ from PECO's estimates if actual work site conditions are more or less favorable than those assumed for purposes of those estimates.

26. PECO will modernize all of the cast iron and bare steel mains in its gas system by 2035. This represents a significant acceleration from the existing LTIP, which projected completion in 2047, and an even more significant acceleration relative to the pre-LTIP replacement baseline, under which the Company would have completed main replacement by 2097.¹²

¹² Given the contingencies that could affect how much work the Company can complete for a given level of investment, a reasonable range of completion times has been provided in Table 5 of its Modified LTIP to reflect the fact that higher or lower unit costs per mile can affect how long it will take to replace all of the targeted mains.

27. PECO's DIMP Plan will continue to be used to identify the additional areas that will be the focus of accelerated main replacement.¹³ With respect to cast iron mains, PECO will focus first on pipe that: (1) is less than eight inches in diameter; (2) operates at elevated pressure; and (3) is located in areas with greater population density and under extensively paved surfaces, or (4) was installed prior to 1900. These characteristics generally identify pipe that is at higher risk of failure, as explained in Section IV.B. of PECO's Modified LTIP. PECO is not proposing any modification to the replacement schedule for "high risk" cast iron pipe, and, therefore, expects it will be completed within seven years of this filing.

28. PECO will use the result of its risk modeling, which is part of the DIMP process, to prioritize expenditures for the replacement of wrought iron, ductile iron and bare steel mains. This risk analysis directs investment into areas that are identified as having the highest potential risk.

29. The rate of bare steel service replacement will remain the same under the Modified LTIP and, as such, is scheduled to be completed within seven years from the date of this filing. Bare steel customer service lines are subject to corrosion just like bare steel mains. Some bare steel service lines will be modernized along with the mains to which they are attached. The remaining bare steel service lines will be prioritized to stay ahead of any repaving projects, areas prone to blockage, and areas that have a previous leak history.

30. Consistent with the existing LTIP, PECO will replace approximately 23,000 indoor meters by 2022 in conjunction with its bare steel service replacement efforts. The

¹³ PECO's DIMP Plan and its Modified LTIP will be monitored, re-evaluated and updated annually. To the extent an annual update identifies any required changes in PECO's Modified LTIP, those changes will be specifically noted and explained in the Annual Asset Optimization Plans that PECO will file with the Commission after its Modified LTIP and DSIC are implemented.

Modified LTIP, however, includes an additional 46,000 indoor meters that will be relocated between 2023 and 2034 pursuant to the Meter Location Regulations.

31. In addition to the expenditures and quantities of eligible property set forth in Appendix A, there are two potential projects on the horizon that could require PECO to make significant expenditures for property that is eligible for inclusion in its Modified LTIP. The first consists of replacing certain gas pipelines that may be classified as a “transmission” facilities under regulations issued by the United States Department of Transportation’s Pipeline and Hazardous Materials Safety Administration (“PHMSA”) at 49 C.F.R. § 192.3. If replacement is the only feasible means of complying with enhanced safety requirements imposed under those regulations, then the replacement of the subject facilities would have to be accelerated significantly relative to the baseline estimates for when that property otherwise would have been replaced. The second project relates to aging regulator station facilities that will, at some time, require replacement or repair. PECO currently operates approximately 360 regulator station facilities that control pressure on systems operating at equal to or less than 25 pounds per square inch gauge (psig). PECO is monitoring the performance of each station and will make upgrades or replacements when necessary. Both projects are described in greater detail in Section IV.D. of PECO’s Modified LTIP.

C. Location Of Eligible Property (66 Pa.C.S. § 1352(3); 52 Pa. Code § 121.3(a)(3), Modified LTIP Section IV. C.)

32. As explained in Section I, *supra*, PECO’s authorized service territory is located in Bucks, Chester, Delaware, Lancaster and Montgomery Counties.¹⁴ Most of the Company’s investment under its Modified LTIP will be made in eligible property located in Montgomery and Delaware Counties because the majority of its cast iron and bare steel mains and bare steel

¹⁴ PECO does not furnish gas service within the City of Philadelphia.

services are located within its distribution piping in those areas. Cast iron and bare steel mains tend to be found in older areas because those materials have not been used for over 40 years. *See* Table 1 of the Modified LTIP. Indoor meters that will be relocated pursuant to the Meter Location Regulations are dispersed throughout PECO's service territory.

33. In addition to safety and reliability-related projects, "unreimbursed costs related to highway relocation projects" ("facility relocation costs") are eligible for recovery under Sections 1351 and 1353. These costs arise when PECO moves facilities at the direction of the state, a municipality or another governmental entity to construct a new road or to perform other construction. Facility relocation costs are difficult to predict and estimate and, therefore, only one year's worth of data for this category of eligible property is being provided in Appendix A of PECO's Modified LTIP. The estimated facility relocation costs for each year thereafter will be provided with PECO's Annual Asset Optimization Plans to be filed after PECO's Modified LTIP and DSIC are approved.

D. Projected Annual Expenditures To Implement The LTIP And Measures Taken To Ensure That The Plan Is Cost Effective (66 Pa.C.S. § 1352(a)(5); 52 Pa. Code § 121.3(a)(5); 52 Pa. Code § 121.4(d); and Modified LTIP Section IV. E.)

34. Appendix A (p. 1) and Table 6 of PECO's Modified LTIP show PECO's proposal to increase annual investment to a total of \$44 million in 2015, \$48 million in 2016, \$54 million in 2017, and reach a total annual investment of \$61 million in 2018.

35. The overall cost-effectiveness of PECO's Modified LTIP is established by data presented in Section IV.A. of the Modified Plan and, in particular, in Table 2, which show that only about 12% (in length) of PECO's gas distribution system (cast, ductile and wrought iron mains and bare steel mains and services) is responsible for 88% of all leaks on the Company's system. As previously explained, mains and services comprising the 12% of leak-prone pipe are

the focus of PECO's Modified LTIP. Additionally, as also explained in Section IV.A. of the Modified Plan, the eligible property within each category of vulnerable material is being prioritized for replacement using risk assessment measures derived from PECO's DIMP Plan, its cast iron main replacement protocols and a widely-used software program (i.e., "Optimain") designed to help plan and optimize expenditures for gas distribution main repair and replacement.

36. In implementing its Modified LTIP, PECO will group the mains selected for replacement by reasonable geographic areas to improve the efficiency of workforce and contractor deployment and capture economies of scale, as explained in greater detail in Section IV. E.2. of the Modified Plan. Indoor meter relocations will occur alongside bare steel service replacement where appropriate, and the remaining relocations will be bundled to decrease mobilization and coordination costs. PECO also anticipates minimizing costs through the prudent use of contractors for construction and expanding its inspector force to address the increased scope of work under the Modified LTIP to assure that all work is done properly and cost-effectively. Audits of each project will be conducted through PECO's Project Management and Finance groups to assure cost effectiveness, compliance with contract terms and high-quality work performance.

37. To minimize street opening and closing costs, PECO will work closely with the Pennsylvania Department of Transportation, local municipalities, and local water and wastewater utilities to align its Modified LTIP work with construction that each of those entities is planning. In some instances, this may require PECO to alter somewhat the timeframes for work in its *Modified LTIP* to capture the economies associated with coordinating street openings with governmental entities and other utilities.

E. The Manner In Which The Replacement Of Aging Infrastructure Will Be Accelerated Under The LTIIP And How The Repair, Improvement Or Replacement Will Ensure And Maintain Adequate, Efficient, Safe, Reliable And Reasonable Service (66 Pa.C.S. § 1352(a)(6); Modified LTIIP Section IV.F.)

38. PECO is confident that its gas distribution system is safe and that its current monitoring, testing, operating, leak-response, odor-response and maintenance procedures ensure the safety of PECO's gas customers, its employees and the public.¹⁵ Notwithstanding the strength of PECO's existing procedures, its natural gas distribution system continues to age, and the forces acting to degrade the most vulnerable segments of that system continue to operate. Based on its 2011 appraisal of all of the factors discussed in Sections IV.A. and B. of the Modified LTIIP, including the potential for a DSIC to be approved for use by gas utilities, PECO decided that a prudent, pro-active approach called for substantially accelerating the rate at which it was modernizing its cast iron, wrought iron, ductile iron, and bare steel mains and bare steel services. The Company's existing LTIIP implements a significantly higher replacement rate than the Company's previous baseline.

39. The Modified LTIIP further shortens the main replacement timeframe as well as addresses the relocation of indoor meters. In particular, the Modified LTIIP will: (1) accelerate the pace of cast iron and bare steel mains replacement *such that their replacement will be complete by 2035 instead of 2047*; and (2) accomplish the relocation of approximately 69,000 indoor meters to outdoor structures by 2034 as required by the Meter Location Regulations. To implement the Modified LTIIP, PECO proposes to increase its annual spend from \$34 million per year (under the existing LTIIP) to \$61 million by 2018.

¹⁵ In fact, in the detailed management audit report prepared by Schumaker and Company at the Commission's request in August 2007, the auditors found that PECO's natural gas safety program is "very comprehensive and places the proper emphasis on the safety of its workers and the public in general." (Management Efficiency Investigation, Volume 1, p. 254).

40. As explained in Section II. A. of this Petition and Sections IV.A. and B. of the Modified LTIP, PECO will use its DIMP Plan, along with the knowledge and judgment of operating staff with years of experience, to identify areas where increased investment will help reduce risk and, thereby, increase the safety and reliability of PECO's distribution system.

41. As also previously explained, PECO has mains and services constructed of vulnerable material that, while constituting only 12% (in length) of its system, are responsible for 88% of system leaks. Replacing mains and services consisting of those material types is expected to significantly reduce leaks and the expenses incurred to respond to, and repair, leaks. Reducing leaks should have a positive effect on lost and unaccounted for ("LAUF") gas. As older, leaking mains and services are replaced, LAUF gas should decrease because leaks, although not a major cause, constitute one factor driving LAUF gas. PECO's Modified LTIP, which increases investment and prioritizes that investment based largely upon risk mitigation factors, will ensure and maintain adequate, efficient, safe, reliable and reasonable service and, thus, satisfies the criteria set forth in Section 1352(a)(6).

F. Workforce Management And Training Plan (66 Pa.C.S. § 1359(a); 52 Pa. Code § 121.3(a)(7); Modified LTIP Section IV. H.)

42. PECO anticipates that it will use outside contractors to perform much of the pipe and service-modernization work and meter relocations that it is planning to undertake to implement its Modified LTIP. To the extent PECO uses outside contractors, its contractor workforce will be fully qualified, in accordance with the standards set forth in Section 1359. PECO currently has procedures in place that outline the criteria for qualifying both employees and contractors to work on its system. Anyone performing work on PECO's gas distribution system must meet those standards and must take all required training. A copy of PECO's procedure for assuring that those working on its system meet a minimum standard of knowledge

and training is being provided as Exhibit A to the Modified LTIP. Exhibit A to the Modified LTIP contains confidential information and, therefore, PECO requests that the Commission treat Exhibit A as a confidential, non-public document, exclude it from the Commission's public files and issue appropriate directives to ensure that the confidentiality of the information contained in Exhibit A is preserved. *See* 52 Pa. Code § 121.4(b).

43. Contractors comply with the same rigorous Operator Qualifications as PECO employees who work on mains and services. No one is permitted to work on any pipeline facilities without being qualified through appropriate training. The Company's training program complies with the regulations for pipeline safety developed by PHMSA and set forth at 49 C.F.R. Part 192, Subpart N (2005), while also requiring additional training specific to PECO's system. *See* Modified LTIP Section IV. H.

G. Outreach And Coordination Activities (52 Pa. Code § 121.3(a)(8))

44. PECO will continue to coordinate with municipalities and water and wastewater utilities to minimize the impact on the public and the cost of street opening and restoration. To that end, PECO submits to municipalities and water and wastewater utilities in the project areas schedules of expected work and outlines of the scope of that work. In addition, PECO reviews municipal plans for repaving and water and wastewater utilities' plans for street openings and restoration in the project areas to coordinate work schedules and avoid duplicative excavation and restoration. PECO also maintains open lines of communication with municipalities and water and wastewater utilities to further coordinate their respective work schedules.

H. Critical Valves (LTIP Regulations Final Rulemaking Order, p. 18)

45. Valves that are located within the scope of work for a main replacement will be replaced as needed. Independent of the main replacement activities performed pursuant to the

LTiIP, the Company has an annual critical valve inspection and replacement program. Under that program, critical valves are replaced as necessary following their annual inspection, but those replacements are made outside the scope of the LTiIP.

IV. SERVICE, COMMENTS AND COMMISSION REVIEW

46. This Petition and the accompanying Modified LTiIP, excluding confidential Exhibit A, are being served upon the Commission's Bureaus of Investigation and Enforcement and Technical Utility Services, the Office of Consumer Advocate, the Office of Small Business Advocate and the parties to PECO's last gas base rate case.

47. The LTiIP Regulations (52 Pa. Code § 121.5(a)) provide a 30-day comment period for modification petitions. The LTiIP Regulations further provide that an LTiIP will not be assigned to the Office of Administrative Law Judges ("OALJ") unless comments to the LTiIP "raise material factual issues." PECO is not providing a proposed litigation schedule because it does not believe that its Modified LTiIP will raise any "material factual issues." However, if this matter were to be referred to the OALJ, PECO would intend to submit written testimony in further support of its Modified LTiIP.

V. CONCLUSION

For the reasons set forth above, PECO's Modified LTIP satisfies the requirements set forth in Section 1352(a) and the LTIP Regulations. The Modified LTIP identifies the age and type of eligible property included in the plan; provides schedules depicting the levels of investment and quantity of property targeted for accelerated repair and replacement; provides the general location of eligible property covered by the Modified LTIP; explains the measures being taken to ensure the plan is cost-effective; explains the manner in which aging infrastructure will be accelerated to ensure and maintain adequate, efficient, safe, reliable and reasonable service; and provides an effective workforce management plan and discussion of coordination and outreach activities.

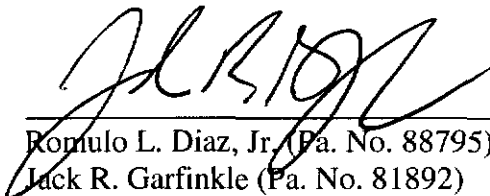
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Consequently, the Commission should find and determine that PECO's gas Modified LTIP is "adequate and sufficient to ensure and maintain adequate, efficient, safe, reliable and reasonable service" and should, therefore, approve PECO's Modified LTIP pursuant to Section 1352(a)(7).

Respectfully submitted,



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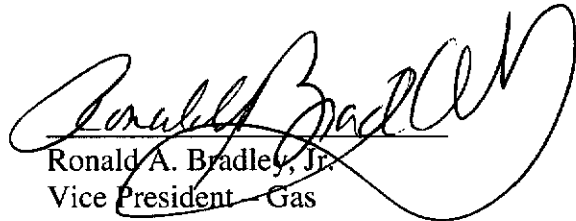
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Date: February 4, 2015

Counsel for PECO Energy Company

VERIFICATION

I, Ronald A. Bradley, Jr., hereby declare that I am the Vice President – Gas of PECO Energy Company; that, as such, I am authorized to make this verification on its behalf; that the facts set forth in the foregoing Petition for Approval of PECO Energy Company For Approval Of Its Modified Gas Long Term Infrastructure Improvement Plan are true and correct to the best of my knowledge, information and belief; and that I make this verification subject to the penalties of 18 Pa.C.S. §4904 pertaining to false statements to authorities.



Ronald A. Bradley, Jr.
Vice President – Gas
PECO Energy Company

Date: February 4, 2015

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PECO Energy Company

Gas Long Term Infrastructure Improvement Plan

2013-2022

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February 4, 2015

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I. INTRODUCTION

On February 14, 2012, former Governor Corbett signed into law Act 11 of 2012 (“Act 11”). Act 11 amended the Public Utility Code in several respects, including the addition of Subchapter B (66 Pa.C.S. §§ 1350 – 1360), which authorizes the Pennsylvania Public Utility Commission (“PUC” or the “Commission”) to approve a distribution system improvement charge (“DSIC”) upon petition by an electric distribution company, a natural gas distribution company (“NGDC”), a water utility or a wastewater utility.¹ In addition, Subchapter B sets forth various requirements that must be satisfied by a qualifying utility in order to establish a DSIC and to recover the reasonable and prudent costs to repair, improve or replace eligible property.

On August 2, 2012, the Commission entered its Final Implementation Order in *Implementation of Act 11 of 2012*, Docket No. M-2012-2293611 (“Implementation Order”), which explained how the Commission intended to implement the provisions of Subchapter B. In particular, the Implementation Order set forth the Commission’s expectations with regard to the contents of: (1) a Long Term Infrastructure Improvement Plan (“LTIIP”), which must be filed for a utility to be eligible to recover costs pursuant to a DSIC (*see* 66 Pa.C.S. § 1352); (2) Annual Asset Optimization Plans, which must be filed each year by a utility that has an approved DSIC and LTIIP (*see* 66 Pa.C.S. § 1356); and (3) a petition requesting Commission approval to include a DSIC in a utility’s tariff

¹ Prior to the enactment of Act 11, the Public Utility Code expressly provided only for water utilities to establish a DSIC. *See* former 66 Pa.C.S. § 1307(g), which was repealed by Act 11.

(see 66 Pa.C.S. § 1353). The terms of the Implementation Order track, and build upon, the provisions of Subchapter B.

Pursuant to 66 Pa.C.S. §§ 1352 and 1353(b)(3), PECO submitted an LTIIP for its natural gas distribution system on February 8, 2013. The Commission approved PECO's LTIIP by Order entered May 9, 2013 at Docket No. P-2013-2347340.

On May 23, 2014, the Commission entered a Final Rulemaking Order at Docket No. L-2012-2317274 to establish the procedures and criteria for the filing, modification and periodic review of LTIIPs (the "LTIIP Regulations"). The procedures and criteria reflect both Subchapter B requirements and certain provisions in the Implementation Order. On the same day, the Commission entered a Final Rulemaking Order at Docket No. L-2009-2107155 which requires, among other things, the relocation of indoor meters to outdoor structures within a 20-year timeframe, subject to certain exclusions (e.g., meters in historic districts) (the "Meter Location Regulations").

After two years of successfully implementing its LTIIP, PECO is proposing modifications to further accelerate replacement rates for certain categories of plant and to address the new regulatory requirements regarding meter relocation. Accordingly, pursuant to 52 Pa. Code § 121.5(a), PECO requests that the Commission approve the proposed modifications and find that PECO's LTIIP, as modified, and associated expenditures are "reasonable, cost effective and are designed to ensure and maintain efficient, safe, adequate, reliable and reasonable service to consumers." 52 Pa. Code § 121.4 (d).

As more fully explained below, the LTIIP, as modified, will reduce overall risk to PECO's distribution system and enhance safety and reliability. In particular, the LTIIP

will make the following changes to PECO's existing LTIIP: (1) accelerate the pace of cast iron and bare steel mains replacement such that their replacement will be complete by 2035 instead of 2047; and (2) accomplish the relocation of indoor meters to outdoor structures as required by the Meter Location Regulations by 2034. The rate of bare steel service replacement and "high risk" cast iron main replacement will remain the same and, as such, are scheduled to be completed by 2022.

II. REQUIRED ELEMENTS OF AN LTIIP

Section 1352(a) provides that a utility must submit an LTIIP "in order to be eligible to recover costs under section 1353 (relating to distribution system improvement charge)." In addition, Section 1352 provides that an LTIIP should include the following:

- (1) Identification of the types and age of eligible property owned or operated by the utility for which the utility would seek recovery under this subchapter.
- (2) An initial schedule for the planned repair and replacement of eligible property.
- (3) A general description of the location of the eligible property.
- (4) A reasonable estimate of the quantity of eligible property to be improved.
- (5) Projected annual expenditures to implement the plan and measures taken to ensure that the plan is cost effective.
- (6) The manner in which the replacement of aging infrastructure will be accelerated and how the repair, improvement or replacement will ensure and maintain adequate, efficient, safe, reliable and reasonable service.

In the Implementation Order, the Commission incorporated the six elements of an LTIIP required by Section 1352(a) and provided further guidance on what an LTIIP should contain and the standards by which such plans would be reviewed and approved. The

LTIIIP Regulations build on the Implementation Order and include the six statutory components of an LTIIIP and three additional requirements: (1) a workforce management and training program; (2) a description of a utility's outreach and coordination activities with other utilities, the Department of Transportation and local governments; and (3) for NGDCs, identification of certain critical valves. Areas of particular importance related to the content of LTIIIPs and the process for their review and approval consist of the following:

Workforce Management and Training Plan (52 Pa. Code § 121.3(a)(7)). As an appropriate means of implementing the standards set forth in Section 1359 (i.e., that utilities must demonstrate that work done on eligible property is performed by "qualified employees of either the utility or an independent contractor"), the LTIIIP Regulations require a workforce management and training plan that is "is designed to ensure that the utility will have access to a qualified workforce to perform work in a cost-effective, safe and reliable manner."

Outreach and Coordination Activities (52 Pa. Code § 121.3(a)(8)). The LTIIIP Regulations require a "description of a utility's outreach and coordination activities with other utilities, Department of Transportation and local governments regarding their planned maintenance/construction projects and roadways that may be impacted by the LTIIIP." The Commission believes these activities are necessary to ensure that LTIIIP projects are properly planned, coordinated with other stakeholders, and executed in an efficient and cost-effective manner.

Identification of Critical Valves (Final Rulemaking Order, p. 18). If a NGDC identifies a critical valve that it will repair, improve upon or replace and for which it will seek DSIC recovery, then it must include such information in its LTIIIP.

LTIIIP Must Only Address Specific Property Eligible for DSIC Recovery (52 Pa. Code § 121.3(b)). The LTIIIP filed by a utility need only identify the specific eligible distribution plant property, as defined in 66 Pa. C.S. § 1351, for which the utility has determined it will repair, improve or replace based upon the age, functionalities, reliability and performance of such property and for which it will seek DSIC recovery.

Time Frame For LTIIIP (Final Rulemaking Order, p. 29). The LTIIIP Regulations do not establish a standard term for an LTIIIP – the Commission left it to the discretion of the utility whether to develop a five- or ten-year term for its individual LTIIIP. In the Implementation Order (pp. 18-19), the Commission determined that “a five to ten-year term for the LTIIIP is appropriate as this time period is forward-looking enough for utilities to make accurate predictions and also provides sufficient time for long-term planning of planned repairs and replacement of eligible property.”

Accelerates Or Maintains An Accelerated Rate Of Infrastructure Improvement (52 Pa. Code § 121.4(e)(2)). The LTIIIP Regulations provide that the Commission will review a filed LTIIIP to determine whether the plan “specifies the manner in which it *accelerates or maintains an accelerated rate* of infrastructure repair, improvement or replacement.” (emphasis added). As explained in the Implementation Order, p. 19, this language reflects the Commission’s acknowledgment that “some utilities have already taken substantial steps recently to increase prudent capital investment to address their aging infrastructure.”

Burden of Proof and Review Process (52 Pa. Code § 121.4). The LTIIP Regulations provide that a utility has the burden of proof to “demonstrate that its proposed LTIIP and associated expenditures are reasonable, cost effective and are designed to ensure and maintain efficient, safe, adequate, reliable and reasonable service to consumers.” LTIIP filings are subject to a 30-day comment period, and the LTIIP will be referred to the Office of Administrative Law Judge if comments raise “material factual issues.”

Confidential Information (52 Pa. Code § 121.4(b)). A utility may obtain a protective order for confidential or proprietary information contained in an LTIIP.

Time For Filing An Initial LTIIP And New LTIIP (Final Rulemaking Order, p. 1; 52 Pa. Code § 121.5(c)). The Final Rulemaking Order states that a precondition to obtaining the approval of a DSIC is the filing and approval of an LTIIP. In addition, a utility seeking to continue its DSIC mechanism after the expiration of its LTIIP must file a new LTIIP at least 120 days prior to the expiration of its currently-effective LTIIP.

Making Modifications To An Existing LTIIP (52 Pa. Code § 121.5(b), (c)). A utility must file a separate petition for modification if it would like to incorporate a major modification to any of the LTIIP elements in Section 121.3(a). “Major modification” is defined in the LTIIP Regulations and includes changes that: (1) extend the schedule for repair, improvement or replacement of a category of eligible property by more than 2 years; or (2) increase the total estimated cost of the LTIIP by more than 20%.

There will be a 30-day comment period for modification petitions. Minor modifications (changes that do not qualify as major modifications) will be addressed concurrent with Commission staff's review of the utility's Annual Asset Optimization Plan, if applicable.

Periodic Review Of An LTIP (52 Pa. Code § 121.7). The Commission will review a utility's LTIP at least once every five years. The periodic review will include: (1) whether the utility has adhered to the parameters of its LTIP; and (2) whether changes to the LTIP are necessary to continue to maintain the efficiency, safety, adequacy and reliability of the utility's existing distribution infrastructure.

Continuing Responsibility For Gas Utilities To Comply With 52 Pa. Code § 59.38 (Implementation Order, p. 21). In the Implementation Order, the Commission declined to grant a blanket waiver of the requirement imposed by 52 Pa. Code § 59.38 for advance notice of major construction projects by gas utilities that have approved LTIPs. This determination was not altered by the LTIP Regulations.

III. OVERVIEW OF PECO'S GAS LTIP

The Company is proposing to modify its existing LTIP to: (1) accelerate the pace of cast iron and bare steel mains replacement such that their replacement will be complete by 2035 instead of 2047; and (2) accomplish the relocation of indoor meters to outdoor structures as required by the Meter Location Regulations by 2034. The following chart summarizes the key activities and completion times under the existing and modified LTIP:

Comparison of Existing LTIP and Modified LTIP

	Existing LTIP	Modified LTIP
Replacement timeframe	34 years	20 years
Completion year	2047	2035
Cast iron and bare steel main replacement end year	2047	2035
Bare steel services replacement end year	2023	2023 (no change)
Indoor meter relocation - plan	23,000 relocated with Bare Steel Service programs by 2023	69,000 relocated by 2034
Approximate annual investment	\$34 million	\$61 million*
Total LTIP Cost (2013-2022)	\$371.3 million	\$534.4 million

*Assumes full ramp up in year 2018 with inflation adjustments applied thereafter

Section IV and Appendix A of this LTIP contain all of the components of an LTIP specified by Section 1352 and the LTIP Regulations. The contents of Section IV and Appendix A are summarized below.

Section IV.A. identifies the types and ages of eligible property that is the subject of PECO's LTIP. As part of Section IV.A., PECO explains the materials used for the mains and services that comprise its distribution system, the potential vulnerability of each material type, the method(s) it used to develop a risk-based prioritization of plant to be replaced, and how its LTIP is derived from, and coordinated with, the written Distribution Integrity Management Program Plan that PECO was required to file pursuant to regulations of the Department of Transportation's Pipeline and Hazardous Material Safety Administration ("PHMSA") at 49 C.F.R. Subpart P. Additionally, PECO's analysis of the number of leaks by material types – 88% of all leaks occur on mains and services constructed of vulnerable materials that represent only 12% (by length) of

PECO's distribution system – supports the cost-effectiveness of accelerating the modernization of those categories of eligible plant.

Section IV.B. sets forth the schedule for PECO's planned repair and replacement of eligible property. As noted earlier, the Company will accelerate the pace of cast iron and bare steel mains replacement such that their replacement will be complete by 2035 instead of 2047. Consistent with the existing LTIIP, PECO will replace approximately 23,000 indoor meters by 2022 in conjunction with its bare steel service replacement efforts. The Company is also proposing to include an additional 46,000 indoor meters that will be relocated between 2023 and 2034 pursuant to the Meter Location Regulations.

Section IV.C. describes, generally, the location of eligible property slated for modernization under PECO's LTIIP. The mains that are subject to accelerated modernization are part of an integrated distribution grid and are identified principally by their material type and other relevant factors. Valves that are located within the scope of work for a main replacement will be replaced as needed. For purposes of presenting the data in its LTIIP, PECO has grouped its major expenditures by geographic locations that provide a reasonable indication of where work will be done each year under the LTIIP. However, actual work to implement the LTIIP will be tailored to specific, on-going prioritization of vulnerable mains.

Section IV.D. identifies other areas where additional investment may be required over the ten-year term of the LTIIP for work that, because of its contingent nature, is not currently included in the LTIIP. If any of the identified contingencies were to occur, PECO's investment could increase above the levels identified in its LTIIP.

Section IV.E. summarizes PECO's actual and anticipated expenditures for gas infrastructure improvements over the period 2005 to 2022. In addition, PECO explains why it will be cost effective to implement the LTIIP over its ten-year timeframe of 2013-2022.

Section IV.F. explains how PECO has accelerated the repair, improvement and replacement of eligible property and describes its plans to further accelerate the level of work for the term of the current LTIIP and beyond.

Section IV.G. discusses the charts and tables depicting estimated expenditures for the ten-year term of the LTIIP set forth in Appendix A and explains how the estimates will be augmented with additional detail when PECO files future Asset Optimization Plans.

Section IV.H. explains PECO's workforce management and training plan for utility and contractor employees.

Section IV.I. discusses the Company's outreach and coordination activities with other utilities, Department of Transportation and local governments regarding their planned maintenance/construction projects and roadways that may be impacted by the LTIIP.

Section IV.J. addresses the Final Rulemaking Order requirement regarding the identification of certain critical valves.

IV. PECO's GAS LTIP

A. Identification Of The Types And Age Of Eligible Property Included In PECO's Gas LTIP; PECO's Risk Analysis; And PECO's Distribution Integrity Management Program

1. Pipe Materials And Associated Failure Mechanisms

PECO's gas distribution system consists of mains constructed of several different materials. From the late 19th century until the early 1960s, cast iron and bare steel were the predominant material used in constructing gas mains. In the 1960s, "coated" steel was widely introduced as a main material. The installation of bare steel was prohibited by Federal law in 1970. Plastic pipe was introduced in the 1960s and is now the principal material type for most new installations and replacements that operate at distribution-level pressures.

Cast iron, wrought iron, ductile iron, and bare steel mains, along with bare steel services, are susceptible to breaks and leakage from different failure mechanisms. Cast iron pipe is relatively strong. However, cast iron is vulnerable to breaks from ground movement, which can occur from the cycles of freezing and thawing in the surrounding soil or from nearby excavation. Also, because cast iron pipes are joined together section by section, leaks can occur at the joints.

Bare steel, wrought iron, and ductile iron pipe are vulnerable to galvanic corrosion. Moisture in the surrounding soil creates an electrolyte around the pipe, which induces metallic ions to migrate from the anode (the bare steel) to the cathode (constituents in the surrounding soil). The result is corrosion in the anode (the pipe), which will weaken the pipe and, over a long enough period of time, cause the material to fail. For ductile iron pipe, while the pipe wall is susceptible to weakening by corrosion,

the predominant failure occurs at the joints. Similar to cast iron, ductile iron is joined section by section, and the joints are secured with steel bolts, which corrode at a faster rate than ductile iron pipe wall.

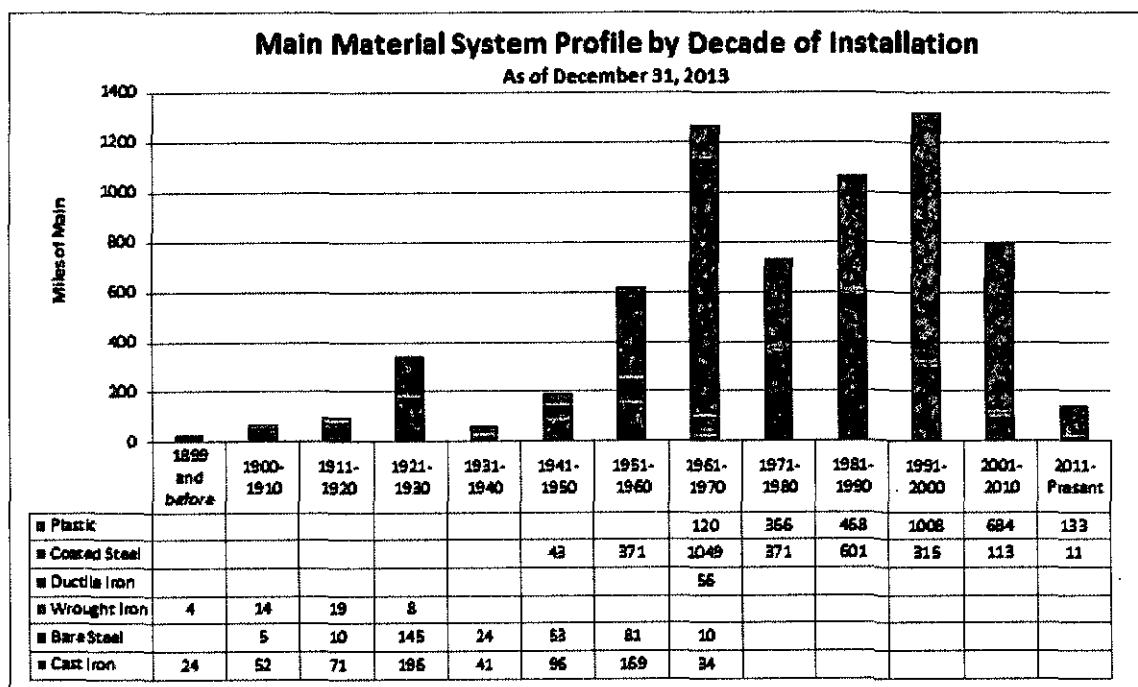
To inhibit corrosion, gas utilities began using “coated” steel pipe. With coated steel pipe, a non-conducting coating electrically insulates the pipe and breaks the galvanic “couple” (i.e., the electrolytic path) so that the ion exchange responsible for corrosion cannot as readily occur. Another way to protect steel pipe is through sacrificial “cathodic” protection. Under this approach, a “sacrificial” metal, which is more active than the metal to be protected, becomes the anode. The sacrificial metal corrodes instead of the steel pipe, thus protecting the pipe.

Plastic pipe has a proven track record as an excellent application for transporting natural gas at distribution-level pressures. Plastic pipe is both strong and flexible and, therefore, is much less vulnerable to breakage by earth movement. Additionally, it does not corrode and does not require cathodic protection. Plastic pipe is also a less costly material and is easier to install and join than steel pipe. Plastic pipe’s principal drawback is that it is more easily damaged by nearby excavation and, therefore, it is very important that excavators use appropriate earth moving techniques near plastic pipe (hand digging) and are vigilant in complying with Pennsylvania’s “One Call” requirements. PECO enforces such requirements through Pennsylvania One-Call and a dedicated Damage Prevention organization within its Gas Division.

2. Breakdown Of PECO's Mains and Services By Age And Material Type

As of December 31, 2013, there were approximately 1,580 miles of cast iron, wrought iron and ductile iron mains and bare steel mains and services in PECO's gas distribution system. This represents 151 miles of replacement or a 9% reduction in the total mileage of legacy systems since 2011 as reported in the original LTIP. These mains and services were installed between the late 1800s and the 1960s. Table 1 below shows a breakdown of PECO's mains by decade of installation and type of material. As shown in Table 1 and further explained hereafter, a significant portion of the mains that would be replaced under the Company's LTIP are over 50 years old.

Table 1

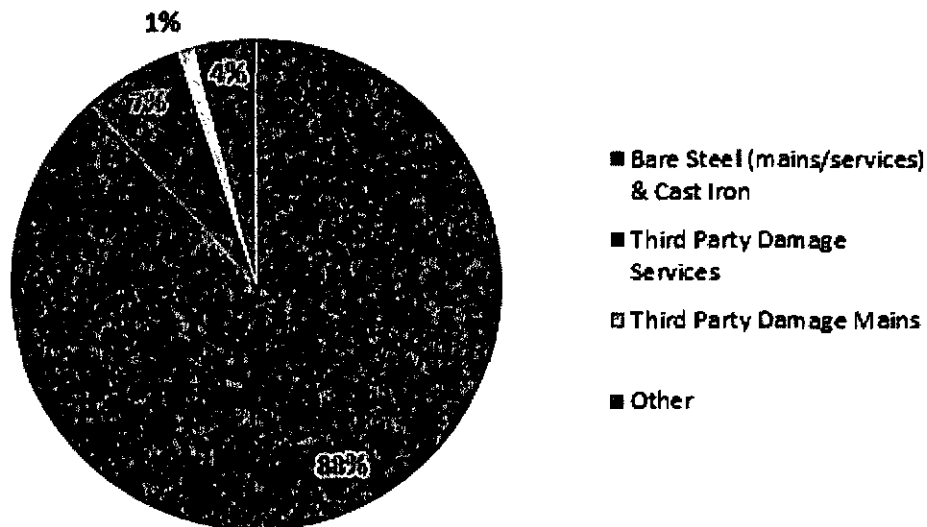


Although cast iron, wrought iron and ductile iron mains and bare steel mains and services represent only about 12% (in length) of PECO's gas distribution system, they are

responsible for approximately 88% of all the leaks on PECO's gas system, as shown in Table 2, below:

Table 2

Percentage of Total System Leaks by Material Type



Leak data as of December 31, 2013

Cause of Leaks	% of Total	Number of Leaks
Bare Steel (mains/services) & Cast Iron	88%	5,028
Third Party Damage Services	7%	374
Third Party Damage Mains	1%	60
Other	4%	236
Total	100%	5,698

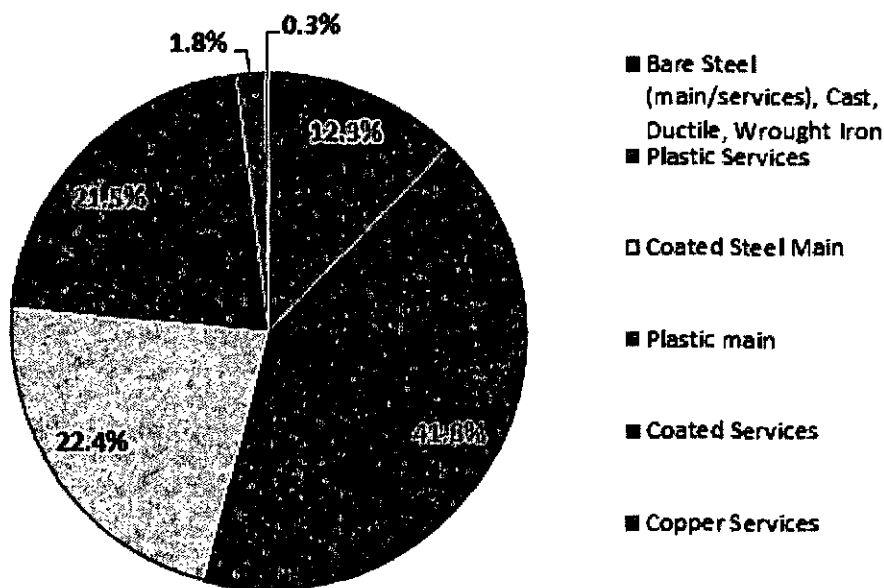
Cast iron, wrought iron and ductile iron mains and bare steel mains and services are the prime target for investment under PECO's LTIP because the disproportionately high occurrence of leaks on these material types has several material adverse effects. First, and most importantly, leaks raise safety concerns. Second, leakage can affect reliability in a number of ways, particularly when gas service has to be interrupted for

repairs. Third, high levels of leaks raise economic issues because of higher maintenance costs and increased lost and unaccounted for gas.

In order to get a better picture of the scope of work involved with targeting cast iron, wrought iron and ductile iron mains and bare steel mains and services for modernization, Table 3, below, shows a breakdown of the lengths of PECO's mains and services by material type.

Table 3

Percentages of Total Length of Mains and Services by Material Type



Data as of December 31, 2013

Category	% of Total	Miles
Bare Steel (main/services), Cast, Ductile, Wrought Iron	12.3%	1,580
Plastic Services	41.8%	5,383
Coated Steel Main	22.4%	2,879
Plastic main	21.5%	2,765
Coated Services	1.8%	230
Copper Services	0.3%	34
Total	100.0%	12,871

PECO currently has approximately 69,000 meters located indoors. The breakdown of meters based on service material is shown below in Table 4.

Table 4

Indoor Meter Locations based on Service Material

Service Material	Indoor Meters	Percentage
Plastic	40,052	58%
Bare Steel	23,337	34%
Unprotected Coated Steel	2,910	4%
Copper	1,828	3%
Protected Coated Steel	1,309	2%
Total	69,436	100%

Pursuant to the Company's existing LTIP, approximately 23,000 indoor meters will be relocated to outdoor structures in coordination with bare steel service replacement. In light of the Meter Location Regulations, however, the Company is proposing to relocate approximately 46,000 additional indoor meters after the completion of bare steel service replacement.

3. Risk Assessment, Prioritization And Replacement Rates

Even before it developed its accelerated main replacement program, PECO initiated a pro-active approach to replacing cast iron and bare steel mains and services. In fact, in the recent past, PECO had replaced such mains at a rate of approximately thirteen to fourteen miles per year and had replaced bare steel services at a rate of 1,800 services per year. PECO estimates that, at those prior rates of replacement, it would have taken approximately 85 years to modernize all of its cast iron and bare steel mains and 22 years to modernize its bare steel services.

In 2011, PECO reexamined its strategy for replacing mains and services. After assessing the age, material types and leak history of mains and services within its system, PECO determined that its schedule for modernizing cast iron and bare steel mains and bare steel services should be accelerated.

While PECO was developing its accelerated gas infrastructure modernization program, Federal regulations were issued that required the Company to adopt a Distribution Integrity Management Program (“DIMP”) and to develop and file a written Distribution Integrity Management Program Plan (“DIMP Plan”). The preparation of PECO’s DIMP Plan was instrumental in determining the appropriate areas for PECO to accelerate its infrastructure modernization.

As required by PHMSA’s regulations, PECO’s DIMP Plan includes a written explanation of how PECO will implement its DIMP to ensure compliance with 49 C.F.R. 192, Subpart P. Specifically, Section 192.1007 of PHMSA’s regulations requires each DIMP Plan to address the following seven elements:

1. **System Knowledge:** The operator of a distribution system must develop and compile reasonably available information about its system that is needed to identify applicable threats and analyze risks.
2. **Threat Identification:** The operator of a distribution system must develop a plan that considers eight threats to its pipeline system as identified by PHMSA: corrosion, natural forces, excavation damage, other outside force damage, material or welds, equipment failure, incorrect operations, and other concerns that could threaten the integrity of its pipeline. Sources of data used to identify threats include, among other things, incident and leak history, corrosion control records, continuing surveillance records, patrolling records, maintenance history, and excavation damage experience.
3. **Risk Evaluation And Ranking:** The operator of a distribution system must evaluate the risks associated with its distribution pipeline. In this evaluation, the operator must determine the relative importance of each threat and both estimate and rank the risks posed to its pipeline by each threat. This evaluation must consider each applicable current and potential threat, the likelihood of failure associated with each threat, and the potential consequences of such a failure. PHMSA has stated that, in evaluating and ranking risks, the likelihood as well as the consequences of failure must be taken into account because a

potential incident of relatively low probability with significant consequences could be ranked at a higher threat level than an incident with greater probability that would not produce major consequences.²

4. Identification And Implementation Of Measures To Address

Risks: The operator of a distribution system must determine and implement measures designed to reduce the risks of failure of its gas distribution pipeline, including an effective leak management program. The Company's LTIIP is considered an integral part of this element of PECO's DIMP Plan because it constitutes an effective risk reduction measure.

5. Performance Measurement, Result Monitoring And

Evaluation Of Effectiveness: An operator of a distribution system must develop and monitor performance measures relative to an established baseline to evaluate the effectiveness of its DIMP Plan. An operator must assess its performance by periodically re-

² To implement this important element of its DIMP, PECO has developed a quantitative measure of "Risk Potential" that employs the following formula: Risk Potential = (Risk Frequency) x (Consequence). A Risk Frequency factor is developed for each asset class, which is derived from historical data on failures extracted from PECO's Annual Report for Gas Distribution Systems, Leak Tracking Database, Regulator Station Database, Corrective Maintenance Summaries, PassPort, and Mercury Software Suite. The Consequence factor is calculated with the following formula: Consequence = (Pressure Factor) x (Incident Factor) x (Hazardous Leak Factor) x (Average Service Length Factor). The Pressure Factor accounts for the increased risk associated mains that operate at higher pressures. The Incident Factor was developed from all incidents on the PECO system submitted to PHMSA. The Hazardous Leak Factor accounts for those materials that tend to create hazardous leaks. The Average Service Length Factor reflects the increased potential for a failure to create a hazard due to closer proximity of properties to a main.

evaluating threats and risks. Performance must be measured by several metrics, including;

- The number of hazardous leaks either eliminated or repaired as required by §192.703(c) of this subchapter (or total number of leaks if all leaks are repaired when found), categorized by cause;
- The number of excavation damage incidents;
- The total number of leaks either eliminated or repaired, categorized by cause;
- The number of hazardous leaks either eliminated or repaired as required by §192.703(c) (or total number of leaks if all leaks are repaired when found), categorized by material; and
- Any additional measures the operator determines are needed to evaluate the effectiveness of its DIMP Plan in controlling each identified threat.

6. **Periodic Evaluation And Improvement:** The operator of a distribution system must re-evaluate threats and risks on its entire pipeline and consider how threats in one location may affect other areas. An operator must conduct a complete program re-evaluation not less frequently than every five years.

7. **Reporting Results:** The operator of a distribution system must report, on an annual basis, four principal measures of performance specified by the regulations as part of the annual report required by 49 CFR §191.11. An operator also must report those measures to its state pipeline safety authority if the state exercises jurisdiction over the operator's pipeline.

In general, PECO's LTIIP is focused on addressing issues of safety and reliability. As evidenced by the foregoing summary of required elements, PECO's DIMP Plan provides a rigorous framework for analyzing, ranking and mitigating threats to PECO's distribution system and, therefore, played a very important role in focusing PECO's enhanced expenditures on areas that will reduce overall risk and improve safety and reliability. As the DIMP process requires, the Company continues to monitor its compliance with each prescribed element of the DIMP, to evaluate its performance in meeting the applicable standards, and to reassess threat levels and mitigation measures in light of new information and evolving conditions on its system. In short, neither the DIMP Plan nor PECO's LTIIP are static documents because both will continue to be scrutinized by PECO over time based on past performance, new information, lessons learned and changing circumstances.

While PECO's DIMP Plan is a very important input to PECO's LTIIP, it was not the only basis for developing PECO's LTIIP. The DIMP's risk reduction goal is used principally to target additional expenditures associated with the acceleration of infrastructure repair and replacement. PECO's "baseline" expenditure level, which reflected PECO's pre-acceleration efforts to stabilize risks to its system, already included a cast iron main replacement program and a bare steel main and service replacement program. Additionally, while bare steel replacement is, in itself, a category identified for accelerated repair and replacement, the Company prioritizes the replacement of specific mains within the bare steel category using the Optimain software application, which analyzes leak history to determine how mains should be ranked for replacement. Baseline expenditures for PECO's cast iron replacement program are prioritized by

taking into account a number of considerations such as the location, size, and operating pressure.

The Company set the original goal of 34 years (end of 2047) based on an aggressive rate that it could execute safely and without major disruption to customers. Based on two years of successful implementation of its approved LTIIP, the Company proposes further acceleration to set a goal of 20 years (end of 2035). PECO is confident that it can further accelerate its facility modernization safely while minimizing impact to the community. Moreover, the Company has procured several experienced contractors from outside its territory in order to increase the number of qualified local resources. In addition, the Company is working to establish long term relationships with successful contractors in order to create sustainable results.

B. Initial Schedule For The Planned Repair And Replacement Of Eligible Property

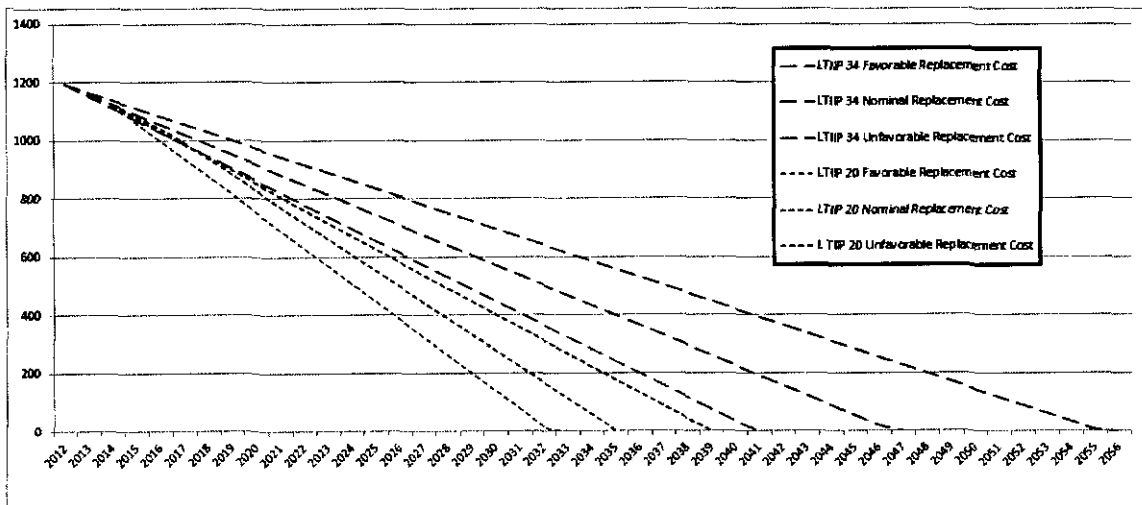
Appendix A shows the expenditures PECO has made through 2014 and will make through 2022 under the modified plan. The tables in Appendix A also show, by material type, the miles of main and number of services to be replaced each year in PECO's service territory. The miles of main and number of services replaced for a given level of investment may be different from the estimates in Appendix A if actual work site conditions are more or less favorable than those assumed for purposes of PECO's estimates.

PECO is proposing to increase annual investment to a total of \$44 million in 2015, \$48 million in 2016, \$54 million in 2017, and to reach a total annual investment of

\$61 million in 2018 with future increases due to inflation. PECO will modernize all of the cast iron and bare steel mains in its gas system by 2035. This represents a significant acceleration from the existing LTIIP, which projected completion in 2047, and an even more significant acceleration relative to the pre-LTIIP replacement baseline, under which the Company would have completed main replacement by 2097. Given the contingencies that could affect how much work the Company can complete for a given level of investment, a reasonable range of completion times has been provided in Table 5 to reflect the fact that higher or lower unit cost per mile can affect how long it will take to replace all of the targeted mains.

Table 5

LTIIP 34-year vs. LTIIP 20-year



As previously explained, PECO's DIMP Plan will be used to establish which additional areas will be the primary focus of accelerated main replacement. As also explained, the LTIIP will be monitored, re-evaluated and updated annually. To the extent an annual

update identifies any required changes in PECO's LTIIP, those changes will be specifically noted and explained in the Annual Asset Optimization Plans that PECO will file with the Commission after its LTIIP and DSIC are approved. In addition, if any required changes constitute a "Major Modification" under the LTIIP Regulations, PECO will file a petition to modify the LTIIP.

With respect to cast iron mains, PECO will focus first on pipe that: (1) is less than eight inches in diameter; (2) operates at elevated pressure; and (3) is located in areas with greater population density and under extensively paved surfaces, or (4) was installed prior to 1900. Cast iron pipe less than eight inches in diameter and operating at elevated pressure has historically been more prone to breaks and leaks. Population density and paved surfaces are safety-related risk factors. The risk associated with increased population density is intuitive. Extensive paving is problematic because gas escaping from a leak in a paved area cannot readily find a path to the atmosphere – where it is rapidly dispersed with little or no safety risk. Instead, the escaped gas tends to migrate through voids created by existing underground linear features, such as water/wastewater lines or customer service lines, and into or around structures. The build-up of gas in potential ignition areas poses an increased safety risk. This focus will direct efforts into areas with the highest potential risk to help reduce the overall risk potential on the PECO system. As previously noted, PECO estimates that, under its accelerated replacement program, all cast iron pipe with the characteristics identified above will be replaced by end of year 2022.

To prioritize wrought iron, ductile iron, and bare steel mains for modernization, PECO will employ the results of the risk model that is part of its DIMP Plan. This risk

model directs efforts into areas that the model identifies as having the highest potential risks.

PECO will also modernize all of its bare steel customer service lines. (PECO owns and maintains customer service lines from the main to the meter.) Bare steel customer service lines are subject to corrosion just like bare steel mains. Some bare steel service lines will be modernized along with the mains – to which they are attached – that are being replaced under the LTIIIP. The remaining bare steel service lines will be prioritized to stay ahead of any repaving projects, areas prone to blockage, and areas that have a previous leak history.

Additionally, as previously explained, under PECO's accelerated infrastructure modernization program, all bare steel services will be modernized within 10 years. Table 6, below, shows the expected trajectory of the accelerated replacement costs versus the prior investment level. PECO has completed two years of accelerated bare steel service replacement and is on track to complete the program in 2022.

Table 6

Main, Service, and Meter Relocation Costs

Million \$	ACTUALS		FORECAST							
	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Previous LTIIIP	35.8	35.0	37.0	37.9	37.6	37.6	37.6	37.6	37.6	37.6
Proposed LTIIIP	n/a	n/a	43.5	48.1	54.1	61.3	62.1	63.4	64.8	66.3
Acceleration Variance	n/a	n/a	6.5	10.2	16.5	23.7	24.5	25.8	27.2	28.7

During the period of 2015 to 2022, PECO will continue to include indoor meter relocations as part of its Bare Steel Service Replacement Program.

C. Location Of Eligible Property

PECO provides gas service within its authorized service territory in Bucks, Chester, Delaware, Lancaster and Montgomery Counties. PECO does not furnish gas service within the City of Philadelphia. Most of the Company's investment under its LTIP will be made in eligible property located in Montgomery and Delaware Counties because the majority of its cast iron and bare steel mains and bare steel services are located within its distribution piping in those areas. Cast iron and bare steel mains tend to be found in older areas because those materials have not been used for over 40 years. Indeed, as noted previously, most of the cast iron and bare steel main on PECO's system is over 50 years old. Valves that are located within the scope of work for a main replacement will be replaced as needed. Indoor meters are dispersed throughout the territory will be relocated outdoors in the next 20 years unless exceptions identified in the Meter Location Regulations apply.

In addition to safety and reliability-related projects, "unreimbursed costs related to highway relocation projects" ("facility relocation costs") are eligible for recovery under Sections 1351 and 1353. These costs arise when PECO moves facilities at the direction of the state, municipality or other governmental entity to construct a new road or to perform other construction. These costs are difficult to predict and estimate because PECO does not control when facilities will have to be relocated. Because this cost is driven by governmental decisions, only one year's worth of data for this category of eligible property is being provided in PECO's LTIP, as set forth in Appendix A. The estimated facility relocation cost for each year will be provided with PECO's Annual Asset Optimization Plans to be filed after PECO's LTIP and DSIC are approved. Where

facilities relocation costs are to be incurred will depend upon the directives of the governmental entities that require the work to be performed.

D. Estimate Of The Quantity Of Eligible Property To Be Improved – Possible Increase In Expenditures Not Reflected In PECO's LTIP

Estimates of the quantity (miles of main and number of services) of eligible property to be repaired or replaced have been provided in Appendix A and have been discussed in Sections IV.A. and B., above. Accordingly, those elements of PECO's LTIP are incorporated by reference in this section. In addition, there are two other potential projects on the horizon that could require expenditures that qualify for inclusion in LTIP, namely, the replacement of certain gas pipelines that may be classified as a "transmission" facilities under PHMSA's regulations at 49 C.F.R. § 192.3 and regulator station modernization.

Classification Of Certain Pipelines As "Transmission" Facilities. The Company operates certain pipelines that, based on criteria set forth in PHMSA's regulations for Transmission Integrity Management Programs, are potentially within the scope of the enhanced inspection and documentation requirements imposed by those regulations. The Company is in the process of analyzing the application of the enhanced requirements. If such enhanced requirements are applicable, compliance would require PECO to spend in excess of \$50 million to construct replacement facilities to serve the needs of existing customers. PECO is evaluating approximately twenty miles of pipelines that may have to be replaced or for which other significant capital investments

would be required if PHMSA's enhanced inspection and documentation requirements apply to them.

Regulator Station Facilities. PECO currently operates approximately 360 regulator station facilities that control pressure on systems operating at equal to or less than 25 pounds per square inch gauge (psig). The facilities are aging and as they reach end-of-life will require replacement and/or upgrades. If every regulator station were to be replaced, PECO estimates the cost at approximately \$72 million. PECO is monitoring the performance of each station and will make upgrades when necessary.

Impact On Future LTIIP Filings. Currently, PECO's LTIIP does not contain any costs related to the contingency identified above. If it becomes necessary to do any of the identified work to meet the contingency, the projects, which are "eligible property" under Section 1351, and the associated costs would have to be included in a modification to PECO's LTIIP and filed with the PUC for approval.

As discussed previously, facility relocations are another category of cost that is eligible for recovery under Sections 1351 and 1353 but are difficult to predict because PECO does control when facilities will have to be relocated. The estimated facility relocation cost for each year will be identified and quantified in the Annual Asset Optimization Plans PECO will file when it has an approved LTIIP and DSIC. Currently, PECO anticipates that facility relocation costs will be in the range of \$3 to \$4 million per year.

E. Projected Annual Expenditures To Implement The LTIIP And Measures Taken To Ensure That The Plan Is Cost Effective

1. Projected Annual Expenditures

As required by Section 1352(a)(5), Table 7, below, shows PECO's actual (2005 – 2014) and estimated (2015 – 2022) expenditures for the period 2005-2022.

Table 7

Expenditures For Main and Bare Steel Service Replacement – 2005 -2022

Million \$	ACTUALS				
	2005	2006	2007	2008	2009
Mains	12.9	11.0	13.3	17.0	14.5
Accelerated Main Services	0.3	0.8	0.6	1.0	1.3
Accelerated Services					
Total	13.2	11.8	13.9	18.0	15.8

Million \$	ACTUALS				
	2010	2011	2012	2013	2014
Mains	18.0	16.4	14.1	13.2	12.8
Accelerated Main Services*	1.5	1.3	1.1	1.5	1.2
Accelerated Services*		1.0	1.0	0.6	1.1
Total	19.5	28.7	35.6	35.7	35.0

Million \$	LONG TERM PLAN							
	2015	2016	2017	2018	2019	2020	2021	2022
Mains	14.2	13.9	13.8	14.4	14.6	14.9	15.2	15.6
Accelerated Main Services*	24.2	29.0	35.0	41.3	41.7	42.7	43.8	44.9
Accelerated Services*	1.6	1.6	1.6	1.6	1.7	1.7	1.7	1.7
Total	43.5	48.1	54.1	61.3	62.1	63.4	64.8	66.3

* Budget is for proactive service replacement and does not include services replaced through corrective maintenance

Mains category includes work performed at baseline, pre-LTIIP rates. This includes cast iron replacement, system performance, and reliability programs. Bare steel service replacement costs and indoor meter relocation costs that occur as part of the main replacement work are included in these costs and are not included in the Service costs.

Accelerated Main category includes all accelerated main replacement work (existing LTIP and proposed LTIP) which includes cast iron, bare steel, wrought iron, and ductile iron facilities. Bare steel service replacement costs and indoor meter relocation costs that occur as part of the main replacement work are included in these costs and are not included in the Accelerated Service costs.

Services category includes proactive bare steel service replacement as part of the baseline program (pre-LTIP). Any indoor meter relocations performed as part of the replacement are included in Bare Steel Services replacement work.

Accelerated Services category includes proactive services added to accelerate replacement of all bare steel services. Any indoor meter relocations performed as part of the replacement are included in Accelerated Bare Steel Services replacement work.

In Table 8, below, the 2014 mileage does not include 6.1 miles of main that was installed in 2014, but will be retired in 2015. This delayed retirement was due to weather during the first quarter of 2014 which impacted both main and service retirement amounts.

Table 8

**Miles of Main and Number of Bare Steel Services Replaced or To Be Replaced
2005 -2022**

	ACTUALS				
MILES	2005	2006	2007	2008	2009
Mains	10.4	11.6	11.5	12.4	14.0
Accelerated Main Services	1335	1915	1271	1915	1834
Accelerated Services					

	ACTUALS				
MILES	2010	2011	2012	2013	2014*
Mains	17.0	11.0	15.5	13.3	9.5
Accelerated Main Services	2505	1690	2468	2200	1400
Accelerated Services		600	613	346	400

*Forecasted

	LONG TERM PLAN							
MILES	2015	2016	2017	2018	2019	2020	2021	2022
Mains	12.0-15.0	12.0-15.0	12.0-15.0	12.0-15.0	12.0-15.0	12.0-15.0	12.0-15.0	12.0-15.0
Accelerated Main Services	18.0-21.0	24.0-27.0	28.0-32.0	35.0-40.0	35.0-40.0	35.0-40.0	35.0-40.0	35.0-40.0
Services	1700	1700	1700	1700	1700	1700	1700	1700
Accelerated Services	2150	2150	2150	2150	2150	2150	2150	2150
Meter Relocations	2900	2900	2900	2900	2900	2900	2900	2900

The bare steel service replacement program is scheduled to be completed by end of year 2022 and meter relocation amounts shown until 2022 will continue to be included as part of the bare steel service program. The meter relocation numbers are based on averages and will fluctuate from year to year based on the bare steel service program.

2. Cost-Effectiveness

Section 1352(a)(5) provides that the LTIP should describe measures being taken to ensure the projected expenditures are cost-effective. The overall cost-effectiveness of PECO's LTIP is established by data presented in Section IV.A. and, in particular, Tables 2 and 3, which show that only about 12% (in length) of PECO's gas distribution system (cast, ductile and wrought iron mains and bare steel mains and services) is responsible for 88% of all leaks on the Company's system. As previously explained, mains and services comprising the 12% of leak-prone pipe are the focus of PECO's LTIP. Additionally, as also explained in Section IV.A., the eligible property within each category of vulnerable material is being prioritized for replacement using risk assessment measures derived from PECO's DIMP Plan, its cast iron main replacement protocols and the Optimain program.

In addition, mains selected for replacement are being grouped by reasonable geographic designations to improve the efficiency of workforce and contractor deployment through the following:

- Reduced work scoping, engineering, and design by aggregating individual main and service replacement efforts into larger, centralized projects;
- Reduced mobilization and demobilization time associated with moving construction crews to different areas; and
- Reduced tie-in work, by replacing facilities in areas larger than city blocks.

Indoor meter relocations will occur alongside bare steel service replacement where appropriate, and the remaining relocations will be bundled to decrease mobilization and coordination costs.

PECO also anticipates minimizing costs through the prudent use of contractors for construction and meter replacement. Recognizing that the accelerated investment levels set forth in its Plan will require significantly more contractors, the Company has reorganized its forces to make additional supervisors and foremen available to oversee contractors. The expanded inspector force will be used to inspect the increased scope of work under the LTIP to assure that all work is done properly and cost-effectively. Audits of each project will be conducted through PECO's Project Management and Finance groups or through monthly performance meetings to assure cost effectiveness, compliance with contract terms and high-quality work performance.

To minimize street opening and closing costs, PECO will work closely with the Pennsylvania Department of Transportation, local municipalities, and local water and wastewater utilities to align its LTIP work with construction that each of those entities is planning. Furthermore, as PECO is also an electric distribution company, it will continue to make every effort to coordinate electric and gas work where possible to reduce paving and other costs. PECO's new geographic information system ("GIS") mapping is a beneficial tool in this regard. In some instances, this may require PECO to alter somewhat the timeframes for work in its LTIP to capture the economies associated with coordinating street openings with governmental entities and other utilities.

F. The Manner In Which The Replacement Of Aging Infrastructure Will Be Accelerated Under The LTIIP And How The Repair, Improvement Or Replacement Will Ensure And Maintain Adequate, Efficient, Safe, Reliable And Reasonable Service

PECO is confident that its gas distribution system is safe and that its current monitoring, testing, operating, leak-response, odor-response and maintenance procedures ensure the safety of PECO's gas customers, its employees and the public. In the detailed management audit report prepared by Schumaker and Company at the Commission's request in August 2007, the auditors found that PECO's natural gas safety program is "very comprehensive and places the proper emphasis on the safety of its workers and the public in general." (Management Efficiency Investigation, Volume 1, p. 254).

Notwithstanding the strength of PECO's existing procedures, its natural gas distribution system continues to age, and the forces acting to degrade the most vulnerable segments of that system continue to operate. Based on its appraisal of all of the factors discussed above, including (at the time) the potential for a DSIC to be approved for use by gas utilities, PECO, in 2011, decided that a prudent, pro-active approach called for substantially accelerating the rate at which it is modernizing its cast iron, wrought iron, ductile iron, and bare steel mains and bare steel services. The Company therefore increased investment and established a 34 year replacement schedule in its existing LTIIP. In 2015, PECO is seeking to further accelerate the program to a 20-year program. It was decided that this could be accomplished safely with a minimal impact to communities. PECO's contractor outreach is important in achieving this new milestone. PECO has been working with contractors outside of its customer territory in order to

achieve the new program goal and is considering long-term agreements for successful contractors.

As explained in Sections IV.A. and B., above, PECO will use its DIMP Plan, which was being developed at the time PECO decided to accelerate main and service replacement, along with the knowledge and judgment of operating staff with years of experience, to identify areas where increased investment will help reduce risk and, thereby, increase the safety and reliability of PECO's distribution system. PECO has mains and services constructed of vulnerable material that, while constituting only 12% (in length) of its system, are responsible for 88% of system leaks. Replacing mains and services consisting of those material types is expected to significantly reduce leaks and the expenses incurred to respond to, and repair, leaks. Reducing leaks should have a positive effect on lost and unaccounted for gas ("LAUF"). As older, leaking mains and services are replaced, LAUF gas should decrease because leaks, although not a major cause, constitute one factor driving LAUF gas. With regard to meter relocation, consistent with the existing LTIP, PECO will replace approximately 23,000 indoor meters by 2022 in conjunction with its bare steel service replacement efforts. The Company is proposing to relocate approximately 46,000 additional indoor meters between 2023 and 2034 pursuant to the Meter Location Regulations.

PECO's LTIP, which increases investment and prioritizes that investment based largely upon risk mitigation factors, will ensure and maintain adequate, efficient, safe, reliable and reasonable service and, thus, satisfies the criteria set forth in Section 1352(a)(6).

G. Detailed Expenditure Plans For The LTIIP Period

The charts and tables in Appendix A provide the Company's estimated expenditures for 2015 through 2022 to implement PECO's LTIIP. As shown in those tables, a range has been provided for miles of main due to the unforeseen circumstances that can arise at a construction site. Consistent with the requirements of the Implementation Order, additional details will be provided for 2015 and subsequent years in the Annual Asset Optimization Plans that will be filed after PECO's LTIIP is approved and PECO implements a DSIC. The Annual Asset Optimization Plans will also provide information on how the Company performed in achieving the estimated scope of work for each prior year of the LTIIP and what the Company's expectations are for the then upcoming year. A breakdown of investment by county for the years 2015-2022 is not being provided because, to optimize efficiency in the replacement of mains, the Company coordinates work with other projects such as required facility relocation or other construction work. In this regard, the Company will also provide additional detail each year in its Annual Asset Optimization Plans.

H. Workforce Management And Training Plan

PECO anticipates that it will use outside contractors to perform much of the pipe and service-modernization work it is planning to implement its LTIIP. Section 1359 requires that all work performed under an LTIIP should be done by a qualified work force and the LTIIP Regulations further require a workforce management and training plan designed to ensure the qualified workforce perform work in a cost-effective, safe and reliable manner. Use of a qualified work force is essential for safety, and safety is a

paramount goal of PECO in designing, constructing and operating its gas distribution system.

To the extent PECO uses outside contractors, its contractor workforce will be fully qualified, in accordance with the standards set forth in Section 1359. PECO currently has procedures in place that outline the criteria for qualifying both employees and contractors to work on its system. Anyone performing work on PECO's gas distribution system must meet those standards and must take all required training. A copy of PECO's procedure for assuring that those working on its system meet a minimum standard of knowledge and training is provided in confidential Exhibit A. Contractors comply with the same rigorous Operator Qualifications as PECO employees who work on mains and services. No one is permitted to work on any pipeline facilities without being qualified through appropriate training.

The Company's training program complies with the regulations for pipeline safety developed by PHMSA and set forth at 49 C.F.R. Part 192, Subpart N (2005), while also requiring additional training specific to PECO's system. If contractors that are retained to work on PECO's system propose to qualify based on completing a program other than PECO's, they must demonstrate that the program under which they have been previously qualified complies with the standards set forth in 49 C.F.R. Part 192, Subpart N (2005), and that its qualification requirements are at least as rigorous as PECO's. They must also complete any necessary PECO-specific training that PECO may require for the specific tasks they are called upon to perform. Contractor training programs are not accepted at face value. PECO's Methods and Training Department reviews the contractor programs to assure that they comply with PECO's requirements and may require testing of

contractors before they are eligible to work on the system. Each major task on the system has specific training requirements that must be met. Moreover, PECO's Methods and Training Department monitors industry developments for more efficient and effective procedures to use on the system and to assure the long-term effectiveness of PECO's training program.

I. Description Of Outreach And Coordination Activities

PECO will continue to coordinate with municipalities and water and wastewater utilities to minimize the impact on the public and the cost of street opening and restoration. To that end, PECO submits to municipalities and water and wastewater utilities in the project areas schedules of expected work and outlines of the scope of that work. In addition, PECO reviews municipal plans for repaving and water and wastewater utilities' plans for street openings and restoration in the project areas to coordinate work schedules and avoid duplicative excavation and restoration. PECO also maintains open lines of communication with municipalities and water and wastewater utilities to further coordinate their respective work schedules.

J. Identification Of Certain Critical Valves

Valves that are located within the scope of work for a main replacement will be replaced as needed. *Independent of the main replacement activities performed pursuant to the LTIIP*, the Company has an annual critical valve inspection and replacement program. Under that program, critical valves are replaced as necessary following their annual inspection, but those replacements are made outside the scope of the LTIIP.

V. CONCLUSION

In summary, PECO's LTIP satisfies the requirements set forth in Section 1352(a) and the LTIP Regulations. The LTIP identifies the age and type of eligible property included in the plan; provides schedules depicting the levels of investment and quantity of property targeted for accelerated repair and replacement; provides the general location of eligible property covered by the LTIP; explains the measures being taken to ensure the plan is cost-effective; explains the manner in which aging infrastructure will be accelerated to ensure and maintain adequate, efficient, safe, reliable and reasonable service; and provides an effective workforce management plan and discussion of coordination and outreach activities. Consequently, the Commission should find and determine that PECO's LTIP and associated expenditures are "reasonable, cost effective and are designed to ensure and maintain efficient, safe, adequate, reliable and reasonable service to consumers."

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APPENDIX A

SUMMARY OF LTIP EXPENDITURES

Expenditures for Main and Bare Steel Service Replacement 2005 -2022

	ACTUALS				
Million \$	2005	2006	2007	2008	2009
Mains	12.9	11.0	13.3	17.0	14.5
Accelerated Main Services	0.3	0.8	0.6	1.0	1.3
Accelerated Services					
Total	13.2	11.8	13.9	18.0	15.8

	ACTUALS				
Million \$	2010	2011	2012	2013	2014
Mains	18.0	16.4	14.1	13.2	12.8
Accelerated Main Services*	1.5	1.3	1.1	1.5	1.2
Accelerated Services*		1.0	1.0	0.6	1.1
Total	19.5	28.7	35.6	35.8	35.0

	LONG TERM PLAN							
Million \$	2015	2016	2017	2018	2019	2020	2021	2022
Mains	14.2	13.9	13.8	14.4	14.6	14.9	15.2	15.6
Accelerated Main Services*	24.2	29.0	35.0	41.3	41.7	42.7	43.8	44.9
Accelerated Services*	1.6	1.6	1.6	1.6	1.7	1.7	1.7	1.7
Accelerated Services*	3.5	3.6	3.7	4.0	4.1	4.1	4.1	4.1
Total	43.5	48.1	54.1	61.3	62.1	63.4	64.8	66.3

* Budget is for proactive service replacement and does not include services replaced through corrective maintenance

Mains category includes work performed at baseline, pre-LTIIP rates. This includes cast iron replacement, system performance, and reliability programs. Bare steel service replacement costs and indoor meter relocation costs that occur as part of the main replacement work are included in these costs and are not included in the Service costs.

Accelerated Main category includes all accelerated main replacement work (existing LTIIP and proposed LTIIP) which includes cast iron, bare steel, wrought iron, and ductile iron facilities. Bare steel service replacement costs and indoor meter relocation costs that occur as part of the main replacement work are included in these costs and are not included in the Accelerated Service costs.

Services category includes proactive bare steel service replacement as part of the baseline program (pre-LTIIP). Any indoor meter relocations performed as part of the replacement are included in Bare Steel Services replacement work.

Accelerated Services category includes proactive services added to accelerate replacement of all bare steel services. Any indoor meter relocations performed as part of the replacement are included in Accelerated Bare Steel Services replacement work.

Miles of Main and Number of Services Replaced 2005-2022

	ACTUALS				
MILES	2005	2006	2007	2008	2009
Mains	10.4	11.6	11.5	12.4	14.0
Accelerated Main					
Services	1335	1915	1271	1915	1834
Accelerated Services					

	ACTUALS				
MILES	2010	2011	2012	2013	2014*
Mains	17.0	11.0	15.5	13.3	9.5
Accelerated Main		9.0	16.5	19.7	13.3
Services	2505	1690	2468	2200	1400
Accelerated Services		600	613	346	400

*Forecasted

2014 does not include 6.1 miles of main that was installed but not retired. The delayed retirement was due to weather during the first quarter of 2014 which impacted both main and service retirement.

	LONG TERM PLAN							
MILES	2015	2016	2017	2018	2019	2020	2021	2022
Mains	12.0-15.0	12.0-15.0	12.0-15.0	12.0-15.0	12.0-15.0	12.0-15.0	12.0-15.0	12.0-15.0
Accelerated Main	18.0-21.0	24.0-27.0	28.0-32.0	35.0-40.0	35.0-40.0	35.0-40.0	35.0-40.0	35.0-40.0
Services	1700	1700	1700	1700	1700	1700	1700	1700
Accelerated Services	2150	2150	2150	2150	2150	2150	2150	2150
Meter Relocations	2900	2900	2900	2900	2900	2900	2900	2900

Bare steel service replacement program is scheduled to be completed by the end of 2022. Meter relocations until 2022 will be included in the bare steel service program.

NAME/TYPE OF ASSET: Mains**Program Description and Purpose**

This investment is part of the Company's overall effort to modernize its gas infrastructure to improve reliability and safety of the system.

Identification/Justification Process

The Company uses its Distribution Integrity Management Plan along with other judgment to provide guidance as to where to make improvements to its system.

Scope**Location(s)**

(in miles)	Bare Steel	Wrought Iron	Cast Iron	Ductile Iron	Total Miles
Bucks	47.0	1.7	24.4	2.7	75.8
Chester	45.0	3.4	52.4	9.7	110.5
Delaware	78.1	23.1	357.0	13.2	471.4
Lancaster	0.4	0.0	0.0	0.0	0.4
Montgomery	172.0	17.0	243.0	30.0	462.0
Total	342.5	45.2	676.8	55.6	1,120.1

Planned Expenditures

	2015	2016	2017	2018	2019	2020	2021	2022
Miles of Main Retired (Miles)	30.0-36.0	36.0-42.0	40.0-47.0	47.0-55.0	47.0-55.0	47.0-55.0	47.0-55.0	47.0-55.0
Projected Expenditures (\$ Millions)	38.4	42.9	48.8	55.7	56.3	57.6	59.0	60.5

NAME/TYPE OF ASSET: Bare Steel Services

Program Description and Purpose

This investment is part of the Company's overall effort to modernize its gas infrastructure to improve reliability and safety of the system. The Company's goal is to replace all bare steel services within 10 years. The goal of this specific program is to replace the services that would not otherwise be replaced in the normal course of business.

Identification/Justification Process

The Company uses its Distribution Integrity Management Plan along with other judgment to provide guidance as to where to make improvements to its system.

Scope

Location(s)

County	Number of Bare Steel Services
Bucks	3,415
Chester	3,151
Delaware	15,345
Lancaster	17
Montgomery	11,305
Total	33,233

Planned Expenditures

Exact locations are unknown at this time. However, the plan is to modernize 3850 services at a planned spend of \$5.1 Million in 2015.

Year	Services	Cost (\$M)
2015	3,850	\$5.1
2016	3,850	\$5.2
2017	3,850	\$5.3
2018	3,850	\$5.6
2019	3,850	\$5.8
2020	3,850	\$5.8
2021	3,850	\$5.8
2022	3,850	\$5.8

NAME/TYPE OF ASSET: Indoor Meters**Program Description and Purpose**

This investment is part of the Company's overall effort to relocate meters from indoor facilities to outdoors to improve reliability and safety of the system. The Company's goal is to relocate all indoor meters in compliance with the recent PUC rulemaking to complete in within the next 20 years unless an exception applies as part of the final rulemaking L-2009-2107155. The Company has been relocating meters as part of a normal practice when a bare steel service is replaced. Meters located on plastic, coated steel, and copper services will be replaced following the completion of the bare steel service program.

Identification/Justification Process

The Company will use synergies of the bare steel service replacement program to relocate meters located indoors.

Scope**Location(s)**

Service Material	Indoor Meters	Percentage
Plastic	40,052	58%
Bare Steel	23,337	34%
Unprotected Coated Steel	2,910	4%
Copper	1,828	3%
Protected Coated Steel	1,309	2%
Total	69,436	100%

Planned Expenditures

Cost to relocate indoor meters during the term of this LTIP is included as part of the bare steel service replacement costs.

NAME/TYPE OF ASSET: Facilities Relocation**Program Description and Purpose**

This investment is part of the Company's overall effort to modernize its gas infrastructure to improve reliability and safety of the system. It is planned at the request of municipalities or other governmental entities when necessary for road and highway construction.

Identification/Justification Process

Generally these expenditures are made in the context of improving roads and highways or railroad crossings.

Scope**Location(s)**

County	Facility Relocation (Miles)
Bucks	N/A
Chester	N/A
Delaware	N/A
Lancaster	N/A
Montgomery	N/A
Total Miles	N/A

Planned Expenditures

	2015	2016	2017	2018	2019	2020	2021	2022
Facility Relocation Requests (\$ Millions)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5

Note, the values are placeholder estimates only as actual values are dependent upon the municipal and government entities requiring the relocation of facilities.

EXHIBIT A

PECO's Gas Operator Qualification Program

**CONTAINS CONFIDENTIAL AND PROPRIETARY INFORMATION
NOT TO BE INCLUDED IN PUBLIC FILES**

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PA PUBLIC UTILITY COMMISSION
SECRETARY'S BUREAU

**BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION**

PETITION OF PECO ENERGY :
COMPANY FOR APPROVAL OF ITS GAS : **DOCKET NO. P-2013-2347340**
LONG TERM INFRASTRUCTURE :
IMPROVEMENT PLAN :

CERTIFICATE OF SERVICE

I hereby certify and affirm that I have this day served a copy of the **Petition for Approval of PECO Energy Company's Modified Gas Long Term Infrastructure Improvement Plan** excluding Exhibit A thereto, which contains confidential information, on the following persons in the matter specified in accordance with the requirements of 52 Pa. Code § 1.54:

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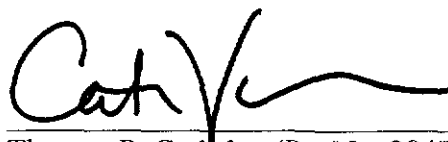
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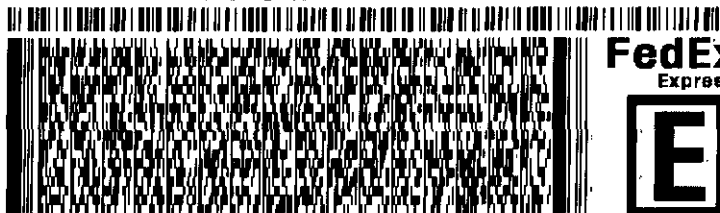
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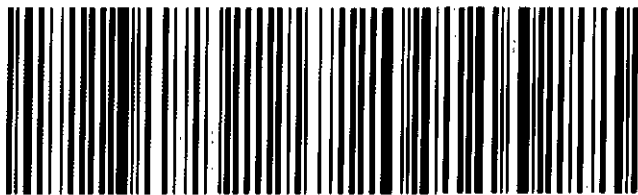
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