

**PECO ENERGY COMPANY  
STATEMENT NO. 3**

BEFORE THE  
PENNSYLVANIA PUBLIC UTILITY COMMISSION

PETITION OF PECO ENERGY COMPANY FOR A FINDING OF  
NECESSITY

PURSUANT TO 53 P.S. § 10619

Docket No. P-2021-3024328

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DIRECT TESTIMONY

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WITNESS: RYAN D. LEWIS

NON-CONFIDENTIAL VERSION

SUBJECT: NATURAL GAS DEMAND IN MARPLE  
TOWNSHIP; NEED FOR THE NATURAL  
GAS RELIABILITY STATION IN MARPLE  
TOWNSHIP

DATED: May 14, 2021

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**DIRECT TESTIMONY OF RYAN D. LEWIS**

**I. INTRODUCTION**

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2  
3 **Q. Please state your name and business address.**

4 A. My name is Ryan D. Lewis. My business address is PECO Energy Company, 2301 Market  
5 Street, Philadelphia, PA 19103.

6 **Q. What is your educational background?**

7 A. I received a Bachelor of Science degree in Mechanical Engineering from Temple  
8 University, graduating in 2000. I have also completed coursework from Drexel University  
9 in Construction Management.  
10

11 **Q. Please describe your work experience relevant to your Direct Testimony.**

12 A. I have worked at PECO Energy Company (“PECO”) since 2007, almost exclusively with  
13 natural gas operations. From 2007 to 2011, I was a General Engineer with PECO’s Gas  
14 Asset Management and Engineering Department. In this role, I was the principal  
15 engineering lead for bare steel main and emergent capital replacement work. I also led  
16 projects for replacement priority work and oversaw gas operations procedures and  
17 standards. Additionally, I provided support for Commission audits and inquiries for  
18 documentation and system data requests. From 2011 to 2017 I was a Regulatory  
19 Compliance Operations Manager for PECO’s Gas Regulatory Compliance Department.  
20 While in this position, I directed gas corrosion control, leak survey, and regulatory  
21 compliance activities for the entire PECO gas service territory to support federal regulatory  
22 compliance. Also, I oversaw the maintenance and inspections of PECO’s Gas Operations  
23 assets, including valves, regulators, cathodic protection systems and surveys of gas mains  
24 and services.  
25  
26

1 Since 2018, I have been the Gas Engineering & Asset Performance Manager for PECO's  
2 Gas Asset Management and Performance Department. In this role, I manage central  
3 engineering and system performance functions for PECO Gas Operations, including  
4 governance of the gas system hydraulic model and analysis of capital improvement  
5 programs and projects. I also manage strategic and business planning, standards and  
6 procedures management, gas distribution and transmission integrity programs, and  
7 regulatory adherence and reporting. Additionally, I am responsible for the development of  
8 long-range planning for gas system modernization, growth, and risk mitigation. I also direct  
9 the development and implementation of new gas mapping technology to improve  
10 geospatial accuracy for locating and tracking of system assets.

12 **Q. Do you have any other experience or professional certifications that would be relevant**  
13 **to your Direct Testimony?**

14 A. Yes. I completed several programs with the Gas Technology Institute. I am a Registered  
15 Gas Distribution Professional, and I completed the Distribution Integrity Management  
16 Program; the Gas Distribution Engineering System Planning & Piping Systems and  
17 Materials Program; and, the Gas Distribution Operations Program. Also, I completed the  
18 Project Management Professional Program for PECO's parent company, Exelon, through  
19 DeVry University.

22 **II. PURPOSE OF TESTIMONY**

23 **Q. What is the purpose of your Direct Testimony in this proceeding?**

24 A. The purpose of my Direct Testimony is to discuss the demand for natural gas service in  
25 Marple Township and Delaware County and the need for the Natural Gas Reliability  
26

1 Project in Marple Township. Additionally, I will discuss how the Natural Gas Reliability  
2 Station will improve gas reliability in Marple Township and Delaware County.

3 **Q. Are you sponsoring any exhibits?**

4 A. Yes. I am sponsoring Exhibit RL-1, which is a chart titled “Delaware County Load (CCF  
5 per HDD)” that depicts Delaware County historical and projected normalized gas usage  
6 from 2011 to the year 2030. I am also sponsoring Exhibit RL-2, which is a chart titled  
7 Marple and Broomall Load (CCF per HDD)” that depicts Marple Township area historical  
8 and projected normalized gas usage from 2011 to 2030. Finally, I am sponsoring Exhibit  
9 RL-3-CONFIDENTIAL, which is visual of PECO’s hydraulic modeling program that  
10 demonstrates gas supply pressures within PECO’s distribution system in Marple Township.  
11  
12

13 **III. PECO’S NATURAL GAS RELIABILITY STATION**

14  
15 **Q. Please describe generally PECO’s Natural Gas Reliability Project.**

16 A. The project will include: (1) an upgrade of the capacity of PECO’s West Conshohocken  
17 Liquefied Natural Gas (“LNG”) facility; (2) installation of 11.5 miles of 12-inch high-  
18 pressure gas main from the West Conshohocken LNG facility to Delaware County; and (3)  
19 installation of the Natural Gas Reliability Station in Marple Township. The upgraded West  
20 Conshohocken LNG facility will increase peak day gas supply needed to meet PECO’s  
21 long-term reliability projections as discussed by PECO witness Carlos Thillet in PECO  
22 Statement No. 2.  
23  
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1 **Q. Why was Delaware County selected for the location of the Natural Gas Reliability**  
2 **Station?**

3 A. PECO conducted an analysis using hydraulic modeling to determine current and projected  
4 natural gas need and the optimal location to direct the additional capacity from the Natural  
5 Gas Reliability Project to where the increased supply would be able to be accepted into the  
6 system.

7  
8 This analysis showed that Delaware County has the greatest future projected need for peak  
9 day demand<sup>1</sup> due to the County's usage growth. This analysis also showed that Lawrence  
10 and Sproul Roads in Marple Township was an ideal location to direct the increased supply  
11 of natural gas.

12  
13 **Q. How was Delaware County's gas usage growth determined?**

14 A. PECO performed a linear trend analysis for both customer count and usage growth. This  
15 trend analysis was based on the 10-year (2011-2020) historical customer counts for  
16 Delaware County. According to the trend, the customer count for Delaware County is  
17 expected to grow by 3-4% over the next 10 years. PECO then calculated projected usage  
18 load over the next 10-year period on a normalized basis using the total number of Heating  
19 Degree Days<sup>2</sup>, an industry standard, for each respective year. Based on this calculation, the  
20 normalized usage is expected to increase annually at 2% over the next 10 years. Exhibit  
21 RL-1 shows this normalized usage projection for Delaware County to the year 2030 based  
22 on historical usage.  
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25 <sup>1</sup> Peak day demand is the highest level of natural gas distributed in a year over a specified 24-hour period.

26 <sup>2</sup> A heating degree day (HDD) is the degrees that a day's average temperature is below 65 Fahrenheit (18 Celsius), used to quantify the demand for energy. As an example, if the average temperature on a given day is 45 Fahrenheit, that day would have 20 HDDs (65-45=20).

1 **Q. More granularly, why was Marple Township selected for the Natural Gas Reliability**  
2 **Station?**

3 A. There were two main considerations that made Marple Township an optimal location for  
4 the Station. First, using a similar calculation to that used for Delaware County, the Marple  
5 Township/Broomall area is projected to have a 3% annual increase in customer count over  
6 a 10-year period. When normalized usage is calculated, the increase in usage is projected  
7 to be a 1% annual increase over the 10-year period. Exhibit RL-2 shows this normalized  
8 usage projection for Marple Township and the Broomall area to year 2030 based on  
9 historical usage.

10  
11 The second consideration was the physical location of Marple Township within PECO's  
12 existing natural gas distribution system in Delaware County. The Marple  
13 Township/Broomall area distribution system is located the farthest away hydraulically  
14 from supply sources, such as a gate station. In addition, it is served only by an existing 16-  
15 inch trunk line. This 16-inch trunk line is supplied by two gate stations, one in Brookhaven,  
16 Delaware County, and another in West Conshohocken. This 16-inch trunk line feeds  
17 several subsystems before reaching the Marple Township/Broomall area.

18  
19 Since Marple Township is hydraulically the furthest away from the existing gate station  
20 supply sources, this causes the area to have the lowest pressure in the system. In fact, the  
21 lowest pressure area is found at the intersection of Lawrence Road and Sproul Road in  
22 Marple Township.  
23  
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1 **Q. Please explain what this means from a natural gas supply and reliability standpoint.**

2 A. If demand for natural gas is higher within an area, then pressure decreases, and gas is pulled  
3 to a location to fill the reduced pressure. Exhibit RL-3-CONFIDENTIAL provides a visual  
4 representation of natural gas pressures within the distribution system around Lawrence  
5 Road and Sproul Road from PECO's hydraulic modeling system. As shown on Exhibit  
6 RL-3-CONFIDENTIAL, natural gas can be shown to flow from both the north and the  
7 south and centering on Lawrence Road and Sproul Road, which indicates that this area has  
8 the lowest pressure in the system, and therefore, has a higher need for additional supply  
9 within this area.

11 Because there are no other sources of supply to the Marple Township/Broomall area, and  
12 given the fact that this location is hydraulically furthest away from current supply sources,  
13 any future usage growth within Marple Township and Delaware County will reduce the  
14 reliability of the distribution system in the Marple Township area unless another source of  
15 natural gas is provided. Therefore, an increase in natural gas supply to Marple Township,  
16 and specifically to an area close to Lawrence Road and Sproul Road, is the ideal location  
17 for the Natural Gas Reliability Project.

19  
20 **Q. Can you elaborate on the analysis you undertook to determine that Sproul Road and**  
21 **Lawrence Road in Marple Township is the optimal location for construction of the**  
22 **Natural Gas Reliability Station?**

23 A. Yes. Through PECO's hydraulic modeling, PECO was able to determine that Marple  
24 Township experiences lower pressure as compared to other areas in Delaware County. As  
25 pressure and demand are inversely proportional, low pressure is indicative of high demand  
26 in Marple Township, which is consistent with PECO's linear trend analysis discussed



1 above. More specifically, PECO determined that the intersection of Sproul Road and  
2 Lawrence Road in Marple Township is the location on the 16-inch trunk line that  
3 experiences the lowest pressures, a location sometimes referred to as the “null point.”  
4 Because the null point is the location where demand is highest and, consequently, gas  
5 pressures are lowest, the Natural Gas Reliability Station must be located at this point, or as  
6 close to it as possible.

7  
8 **Q. Why is the Natural Gas Reliability Station not located at the intersection of Sproul**  
9 **Road and Lawrence Road?**

10 A. While the intersection of Sproul Road and Lawrence Road was identified as the location  
11 of lowest pressure on the 16-inch trunk line, the siting of the Natural Gas Reliability Station  
12 was driven by multiple factors, including site availability, site size, and zoning. Those issue  
13 are discussed by PECO witness Jim Moylan in PECO Statement No. 5. Additionally,  
14 PECO determined that the Natural Gas Reliability Station could be located within a half-  
15 mile radius of the intersection of Sproul Road and Lawrence Road and still function  
16 properly.

17  
18 **Q. Why was the site selection process limited to properties located within a half-mile**  
19 **radius of Sproul and Lawrence Roads?**

20 A. Locating the Natural Gas Reliability Station within the half-mile radius from the  
21 intersection of Sproul Road and Lawrence Road is driven by hydraulic, engineering, and  
22 cost concerns. From an engineering standpoint, the Natural Gas Reliability Station must be  
23 able to connect to both the new 12-inch main connecting the West Conshohocken LNG  
24 Plant to Marple Township that will run along Sproul Road and the existing 16-inch trunk  
25 line that also runs along Sproul Road, while maintaining necessary pressures needed to run  
26

1 the natural gas through the system. The Natural Gas Reliability Station as designed must  
2 receive gas at an inlet pressure of at least 150 p.s.i. in order to function properly. Locating  
3 the Natural Gas Reliability Station outside of a half-mile radius from Sproul Road and  
4 Lawrence Road would mean the inlet natural gas pressure would drop below 150 p.s.i.,  
5 which is below the designed minimum inlet pressure required for the Station to provide the  
6 necessary amount of natural gas flow into the PECO gas distribution system. Additionally,  
7 the added distance will require significant additional infrastructure including larger  
8 diameter steel gas mains, and a redesign of the Natural Gas Reliability Station, which  
9 would increase disruptions to local traffic patterns during the period of construction and  
10 would require significant additional investment that would financially burden PECO's  
11 customers. In short, the half-mile radius was chosen to ensure proper functionality of the  
12 Natural Gas Reliability Station and to avoid disruptions to the community and unnecessary  
13 financial burdens on PECO's customers.

14  
15 **Q. How will the Natural Gas Reliability Project benefit the public?**

16 A. Placing the Natural Gas Reliability Station in Marple Township will allow PECO to meet  
17 current and projected demand for natural gas in that area. In the absence of the Natural Gas  
18 Reliability Station, PECO projects that the natural gas system in Delaware County will  
19 become constrained at some point within the next 10 years, resulting in capacity limits that  
20 will interfere with PECO's ability to provide adequate, safe, and reliable natural gas service  
21 to Delaware County.  
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IV. CONCLUSION

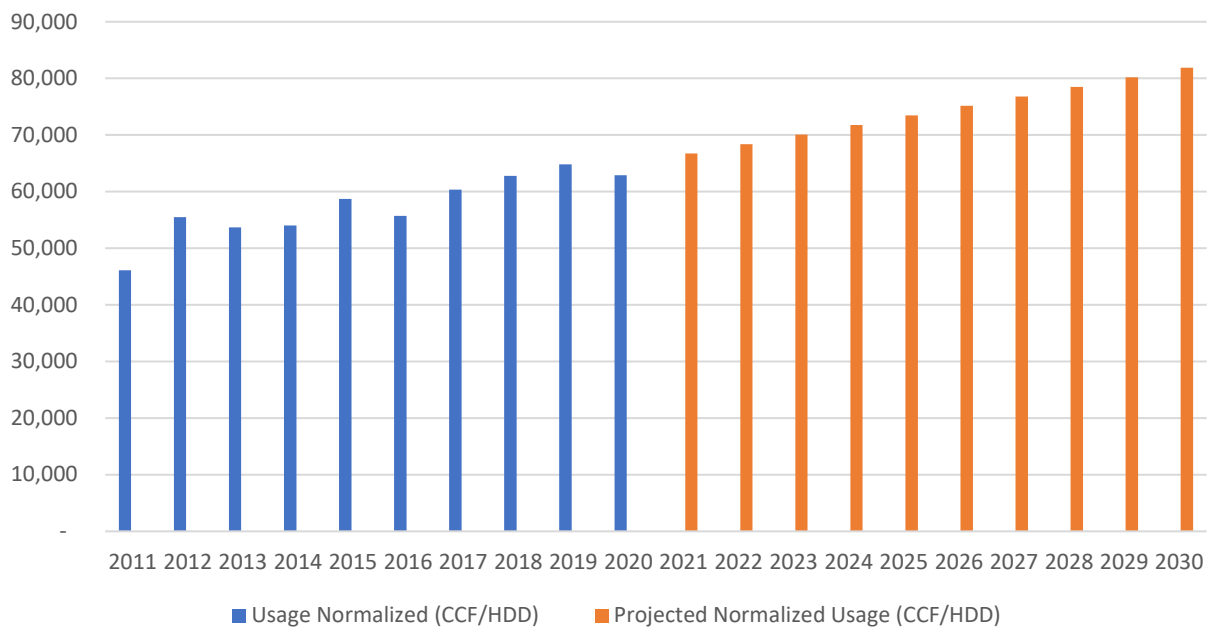
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**Q. Does this conclude your Direct Testimony?**

A. Yes. However, I reserve the right to file such additional testimony as may be necessary or appropriate.

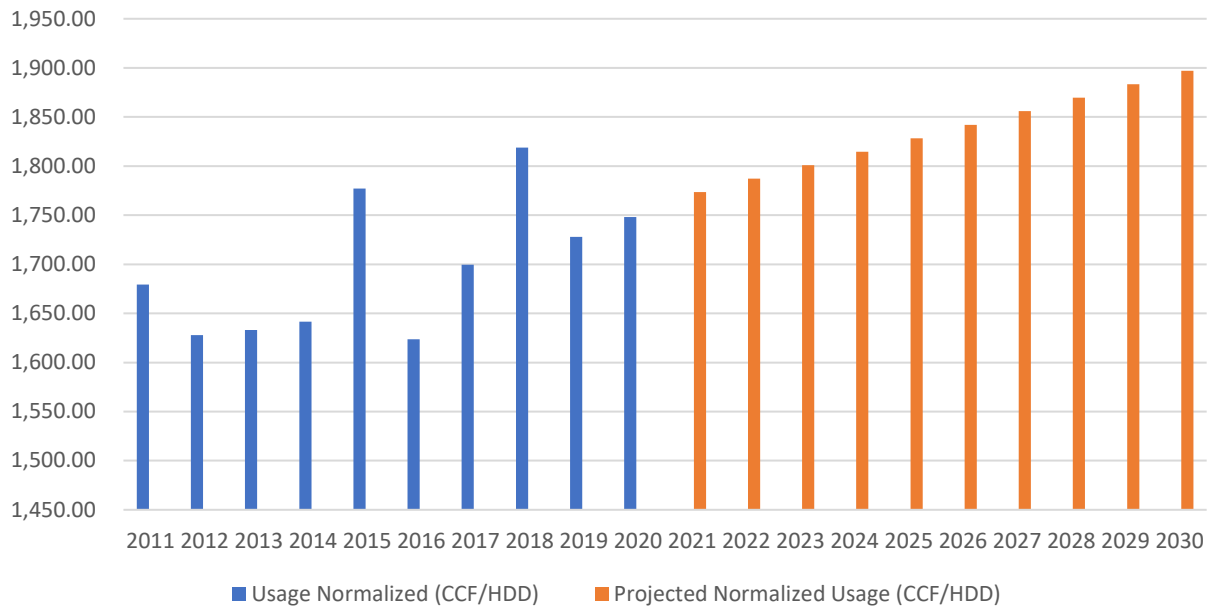
# **Exhibit RL-1**

### Delaware County Load (CCF per HDD)



# **Exhibit RL-2**

### Marple and Broomall Load (CCF per HDD)



# **Exhibit RL-3**

**CONFIDENTIAL**