

**BEFORE THE  
PENNSYLVANIA PUBLIC UTILITY COMMISSION**

Application of Duquesne Light Company :  
filed Pursuant to 52 Pa. Code Chapter 57, :  
Subchapter G, for Approval of the Siting and :       Docket No. A-2018-\_\_\_\_\_  
Construction of the 138 kV Transmission :  
Lines Associated with the **Universal-Plum** :  
**Project** in Penn Hills, Monroeville, and :  
Plum Borough, Allegheny County, :  
Pennsylvania

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**DIRECT TESTIMONY  
OF DUQUESNE LIGHT COMPANY**

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1. Direct Testimony of Jason A. Harchick – Statement No. 1
2. Direct Testimony of Aimee Kay – Statement No. 2
3. Direct Testimony of Meenah Shyu – Statement No. 3
4. Direct Testimony of Mark Hummel – Statement No. 4

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**Project** in Penn Hills, Monroeville, and Plum :  
Borough, Allegheny County, Pennsylvania :

**Duquesne Light Company**

**Statement No. 1**

**Written Direct Testimony of**

**Jason A. Harchick**

**Topics Addressed: Need for the Project  
Description of the Project**

1 **I. INTRODUCTION**

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

3 A. My name is Jason A. Harchick. My business address is 2839 New Beaver  
4 Avenue, Pittsburgh, PA 15233.

5

6 **Q. By whom are you employed and in what capacity?**

7 A. I am employed by Duquesne Light Company (“Duquesne Light” or “Company”)  
8 as Senior Manager, System Planning and Protection.

9

10 **Q. What are your current responsibilities?**

11 A. I am responsible for system planning which includes the performance of  
12 economic, investigative and operational assessments related to Duquesne Light's  
13 transmission and distribution system and its interaction with other transmission  
14 entities.

15

16 **Q. Please provide your educational background.**

17 A. I received a B.S. degree in Electrical Engineering, with a concentration in power,  
18 from the University of Pittsburgh in April 2008 and a M.S. degree in Electrical  
19 Engineering from the University of Pittsburgh in April 2013. I have been a  
20 registered professional engineer in the Commonwealth of Pennsylvania since  
21 January 2014.

22

23 **Q. Please describe your professional experience.**

1 A. I began working as a Transmission Planning Engineer at Duquesne Light in 2008  
2 and was promoted to Manager, Transmission Planning in November 2013. I  
3 assumed my current responsibilities as Senior Manager, System Planning and  
4 Protection in October 2015.

5

6 **Q. What is the subject matter of your direct testimony?**

7 A. The purpose of my testimony is to summarize the information detailed in  
8 Attachment 2 to Duquesne Light's Application, *i.e.*, the Necessity Statement. As  
9 such, I will describe: (1) Duquesne Light's system planning process, including the  
10 role of PJM Interconnection, LLC ("PJM"); (2) the existing system serving the  
11 areas of Braddock Hills Borough Churchill Borough, Edgewood Borough, Forest  
12 Hills Borough, Penn Hills Borough, Penn Hills Township, Monroeville Borough,  
13 Pitcairn Borough, City of Pittsburgh, Plum Borough, Swissvale Borough, Wilkins  
14 Township, and Wilkinsburg Borough in Allegheny County; (3) the need for the  
15 proposed Project; and (4) the proposed Project and explain how it will improve  
16 reliability.

17

18 **Q. Are you responsible for the preparation of any of the Attachments or exhibits**  
19 **filed with the above captioned Application?**

20 A. Yes; the Necessity Statement was prepared under my supervision.

21

22 **II. OVERVIEW OF PLANNING PROCESS**

23 **Q. Please provide an overview of system planning.**

1 A. System planning is the process which assures that transmission and distribution  
2 systems can supply electricity to all customer loads reliably and economically.  
3 The reliable and economical operation of transmission and distribution systems  
4 requires planning guidelines for system expansion and reinforcement.

5  
6 **Q. Can you briefly describe PJM, its responsibilities and Duquesne Light's role  
7 as a member of PJM?**

8 A. Yes. PJM is a FERC approved Regional Transmission Organization charged with  
9 ensuring the reliable and efficient operation of the electric transmission system  
10 under its functional control, and coordinating the transmission of electricity in all  
11 or parts of thirteen states, including Pennsylvania, and the District of Columbia.  
12 The Necessity Statement more fully describes the process by which PJM meets  
13 these responsibilities. *See Attachment 2, pp. 2-3.* Duquesne Light, an owner of  
14 transmission facilities in Pennsylvania, is a member of PJM and actively  
15 participates in the PJM transmission planning process.

16  
17 **Q. Please describe Duquesne Light's system planning process.**

18 A. The reliable and economical operation of Duquesne Light's transmission system  
19 requires planning criteria for system expansion and reinforcement. The Duquesne  
20 Light planning criteria are outlined in the *Duquesne Light Company Transmission  
21 Planning Criteria* document, which is more fully described in the Necessity  
22 Statement. *See Attachment 2, pp. 3-5.*

23

1           Using the *Duquesne Light Company Transmission Planning Criteria*,  
2 Duquesne Light's transmission system is planned so that it can be operated at all  
3 projected load levels and during normal scheduled outages. The system is also  
4 planned to withstand specific unscheduled contingencies without exceeding the  
5 equipment capability, causing system instability or cascade tripping, exceeding  
6 voltage tolerances, or causing large-scale, long term or frequent interruptions to  
7 customers.

8  
9 **III. NEED FOR PROPOSED PROJECT**

10 **Q. Please describe the existing system relevant to this proposed Project.**

11 A. Duquesne Light's transmission system consists of approximately 686 circuit-  
12 miles of overhead and underground transmission lines operating at voltages of 69  
13 kV, 138 kV and 345 kV. The transmission system forms a large loop around the  
14 City of Pittsburgh and its suburbs, and links load centers with generating facilities  
15 located to the east and to the west of the service area.

16           The eastern portion of the Duquesne system consists mainly of 138 kV  
17 facilities that form an arc north and east of Pittsburgh comprising the Crescent,  
18 North, Pine Creek, Cheswick, Logan's Ferry, Highland, Plum, Universal,  
19 Wilmerding, and Dravosburg Substations. These facilities are primarily supplied  
20 from 138 kV and 345 kV lines in an arc west and south of Pittsburgh. The  
21 proposed Project will improve the reliability of customers served from the  
22 Universal and Plum Substations.

23  
24 **Q. What existing Duquesne Light facilities are the subject of the Project?**

1 A. The Project addresses certain reliability issues at two existing substations: (1) the  
2 Universal 138-23 kV Substation; and (2) the Plum 138-23 kV Substation. Each of  
3 these facilities is described in the Necessity Statement. *See* Attachment 2, pp. 5-  
4 6.

5  
6 **Q. Please describe the reliability issues on the Universal Substation.**

7 A. The Universal Substation has violated the Duquesne Light Planning Criteria,  
8 which provides that a substation with peak load over 100 MVA should have three  
9 transmission line sources. As explained in the Necessity Statement, the Universal  
10 Substation has a maximum historical peak load of 124 MVA, but currently has  
11 only two transmission sources. Attachment 2, pp. 6-8. This two-source  
12 configuration creates a significant risk of losing the load served by the Universal  
13 Substation. Attachment 2, pp. 7-8. As further explained in the Necessity  
14 Statement, the Universal Substation has lost both transmission sources in the past  
15 and a similar event today could result in approximately 37,600 customers losing  
16 power until repairs could be made. Attachment 2, p. 8.

17  
18 **Q. Please describe the reliability issues on the Plum Substation.**

19 A. As explained in the Necessity Statement, the Plum Substation presently is  
20 supplied by single source of supply, the Cheswick-Plum 138 kV Transmission  
21 Line, which is a radial line that that extends approximately 7.5 miles. *See*  
22 Attachment 2, pp. 5-6. In the event of an outage on the Cheswick-Plum 138 kV  
23 Transmission Line, either through required maintenance or potential system

1 faults, the Plum Substation would lose its only transmission source of supply until  
2 repairs could be made. Attachment 2, p. 7.

3  
4 **Q. Does Duquesne Light anticipate that these reliability issues at the Universal  
5 and Plum Substations will continue?**

6 A. Yes. Given present load forecasts, in the absence of a new transmission source to  
7 the Universal Substation and to the Plum Substation, Duquesne Light anticipates  
8 that these reliability issues, and the number of customers that may be affected,  
9 will increase in magnitude due to forecasted load growth in the area. *See*  
10 Attachment 2, p. 6.

11  
12 **IV. DESCRIPTION OF PROPOSED PROJECT**

13 **Q. Please describe the proposed Project.**

14 A. To address the identified reliability and planning issues described above,  
15 Duquesne Light proposes to construct the new Universal-Plum 138 kV  
16 Transmission Line that will extend approximately 5.26 miles between the  
17 Universal Substation in Penn Hills and the Plum Substation in Plum Borough. As  
18 further explained in the Direct Testimony of Meenah Shyu (Duquesne Light  
19 Statement No. 3), approximately 3.70 miles of the new Universal-Plum 138 kV  
20 Transmission Line will be built as an overhead transmission line and  
21 approximately 1.56 miles will be constructed as an underground transmission line.  
22 In addition, in order to accommodate the new Universal-Plum 138 kV  
23 Transmission Line, Duquesne Light proposes to relocate approximately 0.51  
24 miles of the existing Cheswick-Plum 138 kV Transmission Line as part of the

1 Project. A description of the siting and location of the new Universal-Plum 138  
2 kV Transmission Line and relocated Cheswick-Plum 138 kV Transmission Line  
3 is further explained in the Direct Testimony of Aimee Kay (Duquesne Light  
4 Statement No. 2).

5

6 **Q. Will the proposed Project address the reliability issues at the Universal and**  
7 **Plum Substations?**

8 A. Yes. The proposed Project will bring Universal and Plum Substations into  
9 compliance with the Duquesne Light Planning Criteria. Attachment 2, pp. 8-9.  
10 The proposed Project will provide a third source of supply to the Universal  
11 Substation, which will reduce the number of customers affected by an outage to  
12 both of the present two sources of supply to the Universal Substation, as well as  
13 the duration of the outage. Attachment 2, p. 9. The proposed Project will also  
14 provide a second source of supply to the Plum Substation, which will reduce the  
15 operational impact of an outage of the current single transmission source of  
16 supply to the Plum Substation. Attachment 2, p. 9.

17

18 **Q. What is the in-service date of the proposed Project?**

19 A. The in-service date is June 1, 2020.

20

21 **Q. Has the proposed Project been reviewed by PJM?**

22 A. Yes. The proposed Project was reviewed by PJM stakeholders and included in  
23 PJM's Regional Transmission Expansion Plan ("RTEP") as project TOI340.2.

1

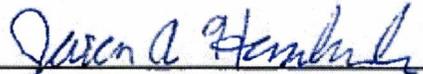
2 **Q. Does this conclude your direct testimony?**

3 A. Yes, it does. If necessary, I will supplement my testimony if and as additional  
4 issues arise during the course of this proceeding.

## VERIFICATION

I, Jason A. Harchick, being the Senior Manager, System Planning and Protection for Duquesne Light Company, hereby state that the information set forth above is true and correct to the best of my knowledge, information, and belief, and that I expect to be able to prove the same at a hearing held in this matter. I understand that the statements herein are made subject to the penalties of 18 Pa.C.S. § 4904 relating to unsworn falsification to authorities.

Date: 3/23/2018

  
\_\_\_\_\_  
Jason A. Harchick, PE  
Senior Manager, System Planning and  
Protection  
Duquesne Light Company  
2839 New Beaver Avenue  
Pittsburgh, PA 15233

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Borough, Allegheny County, Pennsylvania :

**Duquesne Light Company**

**Statement No. 2**

**Written Direct Testimony of**

**Aimee Kay**

**Topics Addressed: Summary of the Siting Study  
Selection of the Proposed Routes for the Project**

1 **I. INTRODUCTION**

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

3 A. My name is Aimee Kay. My business address is 385 E. Waterfront Drive, Homestead,  
4 PA 15120

5  
6 **Q. By whom are you employed and in what capacity?**

7 A. I am employed by GAI Consultants, Inc. and currently serve as an Environmental  
8 Manager in the Power Delivery – Environmental Services Market Sector.

9  
10 **Q. What are your principal responsibilities in this position?**

11 A. I am responsible for managing and coordinating studies for the siting, environmental  
12 assessment, permitting/licensing, and reports of high voltage electric transmission lines.

13  
14 **Q. Please provide a summary of your education and professional work experience.**

15 A. I have been providing environmental consulting services for over 26 years and have been  
16 with GAI for over seven years. In my present capacity, I am responsible for (1) the  
17 management of environmental impact studies, (2) ecological, archaeological, land-use  
18 planning, and cultural resource studies, (3) facilities siting studies, and (4) interpretation  
19 and application of government regulations and procedures relating to facility permitting.  
20 I have managed multiple utility transmission and substation (electric and gas) projects  
21 since joining GAI, along with numerous utility projects since 1990 while at previous  
22 employments. I earned a Bachelor of Arts Degree in Environmental Studies from  
23 Edinboro University in 1986 and a Master of Science in Urban and Regional Planning  
24 from Eastern Michigan University in 2007.

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**Q. What is the purpose of your direct testimony in this proceeding?**

A. My testimony provides a summary of the Route Selection of the Universal-Plum 138kV Transmission Line and the Siting Study. In my testimony, I identify and generally describe the *Environmental Assessment and Line Routing Study for the Duquesne Light Company Universal-Plum 138 kV Transmission Line Project, Allegheny County, Pennsylvania* report and appendices dated February 2018 (collectively the “Siting Study”), which is included as Attachment 3 to the Application of Duquesne Light Company filed Pursuant to 52 Pa. Code Chapter 57, Subchapter G, for Approval of the Siting and Construction of the 138 kV Transmission Lines Associated with the **Universal-Plum Project** in Penn Hills, Monroeville, and Plum Borough, Allegheny County, Pennsylvania . The Siting Study explains (1) the methodology utilized by GAI and Duquesne Light (together, the “Siting Team”) to site the line route alternatives, (2) the evaluation of the alternatives and selection of a Preferred Route for the Project, and (3) the assessment and recommended mitigation of the potential environmental effects of the Preferred Route. Furthermore, the Siting Study describes a relocation of the Duquesne Light Cheswick-Plum 138 kV Transmission Line that will be required to accommodate the Universal-Plum 138 kV Transmission Line. The siting and environmental study activities described in the Siting Study were performed by GAI, under my supervision, in coordination with Duquesne Light. The Siting Study was filed with the Siting Application as Attachment 3.

**Q. Were any portions of the siting study prepared by you or under your supervision?**

1 A. Yes, the siting and environmental study activities were performed by GAI, under my  
2 supervision.

3  
4 **Q. Please provide an overview of the project.**

5 A. As explained in the written direct testimony of Company witness Mr. Jason A. Harchick  
6 (Duquesne Light Statement No. 1), Duquesne Light identified a need to address  
7 reliability issues for the Universal 138-23 kV Substation and the Plum 138-23 kV  
8 Substation. To address these reliability issues, Duquesne Light proposes to construct the  
9 new Universal-Plum 138 kV Transmission Line that will extend approximately 5.26  
10 miles between the Universal Substation in Penn Hills and the Plum Substation in Plum  
11 Borough. As further explained in Duquesne Light Statement No. 3 (Shyu),  
12 approximately 3.7 miles of the new Universal-Plum 138 kV Transmission Line will be  
13 built as an overhead transmission line and approximately 1.56 miles will be constructed  
14 as an underground transmission line. In addition, in order to accommodate the new  
15 Universal-Plum 138 kV Transmission Line, Duquesne Light proposes to relocate  
16 approximately 0.51 miles of the existing Cheswick-Plum 138 kV Transmission Line as  
17 part of the Project.

18  
19 **II. SITING STUDY**

20 **Q. Please describe the purpose of the Siting Study prepared for the proposed Project.**

21 A. The purpose of the siting study was to select a suitable route for a 138 kV electric  
22 transmission line between the Universal Substation and the Plum Substation.  
23 Furthermore, the purpose was to establish alternative routes for evaluation that are  
24 environmentally sound, feasible from an engineering and economic perspective, and

1 compliant with applicable regulatory requirements. Environmental soundness includes  
2 minimizing environmental impacts while maximizing siting opportunities. Engineering  
3 and economic feasibility includes minimizing engineering constraints, cost, and distance  
4 of the route. Per Pennsylvania regulations at 52 Pa. Code 57.1, alternative routes  
5 analyzed must include “a reasonable right-of-way which includes not more than 25  
6 percent of the right-of-way of the applicant’s proposed route.”

7 To meet the purpose of the siting study, the Project study area was examined for  
8 constraints and opportunities in order to develop alternative routes, analyze impacts  
9 associated with the alternative routes, and select a preferred alternative. The Preferred  
10 Route is the route that, when considering all the constraints and opportunities, best  
11 minimized the overall impacts of the Project.

12  
13 **Q. Please summarize the route development process used in the Siting Study.**

14 A. The initial step in the siting process involved the identification of a study area boundary.  
15 This was established to include the existing substations, existing DLC transmission line  
16 corridors to allow for opportunities to parallel existing ROWs, and the intervening areas.  
17 The northern and southern limits of this area were defined to avoid the Allegheny River  
18 valley to the north and dense urban areas of Monroeville on the south. This incorporates  
19 an approximately 38.4-square-mile area in Allegheny County, PA.

20 Following establishment of the study area, GAI utilized recent aerial photography  
21 (2015), United States Geological Survey (USGS) topographic mapping, agency  
22 coordination, and published data to compile a geographic information system (GIS)-  
23 based constraints map of the study area. This map identified sensitive natural, cultural

1 and socioeconomic resources in the study area. GAI used this information to develop  
2 preliminary transmission line routes for further analysis to avoid major constraints to the  
3 extent feasible.

4 Field reconnaissance was conducted to update data available for resources in the  
5 vicinity of each of the preliminary routes. Route locations were then added or refined as  
6 necessary based upon environmental and human/built constraints. A total of three  
7 alternative routes were developed that minimize impacts to environmental, cultural and  
8 socioeconomic constraints. The three alternatives were then qualitatively and  
9 quantitatively analyzed and compared by the routing team to identify a Preferred  
10 Alternative.

11  
12 **Q. Please summarize the guidelines and factors used to identify and evaluate the**  
13 **potential routes.**

14 A. These guidelines recognize the importance of protecting and enhancing natural,  
15 historical, scenic, and recreational resources in and around electric transmission projects.  
16 The siting guidelines were developed based upon the Pennsylvania Public Utility  
17 Commission (“Commission”) regulations (52 Pa. Code § 57.1 *et seq.*), public input,  
18 resource agency permitting requirements, engineering requirements and economic  
19 feasibility. The siting guidelines include both siting opportunities and siting constraints.  
20 Siting opportunities are locations representing land use and environmental resources  
21 which are compatible with the safe, economical, and reliable construction and operation  
22 of a 138 kV transmission line. Siting constraints represent locations where a 138 kV  
23 transmission line might have a potential adverse impact on sensitive resources or

1 locations where conditions might affect reliable and safe operation or economical  
2 construction of the line. Siting opportunities include paralleling existing electric  
3 transmission line, pipeline, or railroad ROW; maximizing the distance from residential  
4 dwellings, schools, daycare facilities, hospitals and other community facilities; a short  
5 direct route; open, uninhabited privately owned terrain; consistency with stakeholder  
6 input; minimizing visibility from federal and state listed scenic roadways and designated  
7 scenic resources; minimizing conflict with designated public resource lands, recreation  
8 lands, nature preserves, or other conservation areas; minimizing potential environmental  
9 and land use impacts by avoiding circuitous routes; minimizing new crossings of large  
10 wetland complexes, critical habitat, and other unique or distinct natural resources;  
11 minimizing habitat fragmentation; and impacts on designated areas of biodiversity  
12 concern. Constraints include populated areas, recreational areas, conservation areas,  
13 sensitive natural areas, cultural sites, engineering constraints, airports and forestland.

14  
15 **Q. Please describe how the Proposed Route is selected.**

16 A. To select the Proposed Route, the Siting Team examined 30 environmental, human/built,  
17 and engineering resource criteria to determine impacts for each of the three alternatives.  
18 These resource criteria were based on Commission regulations, public input, resource  
19 agency permitting requirements, engineering requirements and economic feasibility. GAI  
20 further evaluated these factors for each alternative as applicable within three areas of  
21 proximity: (1) the immediate construction ROW; (2) the area adjacent to the proposed  
22 ROW that would be in view of sensitive resources; and (3) a four-mile wide corridor,  
23 including the area two miles on either side of the centerline of each ROW.

1           Measurements compiled for each resource criterion were assembled by review of  
2 database software for the three alternative routes. *See* Siting Study, Section 4. In order  
3 to put resource measurements on a relative scale (acres, number, feet) and to obtain an  
4 impact score that could be compared across the different alternatives, the data were then  
5 mathematically proportioned to a scale of 1 to 10. *See* Siting Study, Section 4 and  
6 Appendix A. Higher scores indicate greater environmental impact; the route with the  
7 highest score (worst) for individual resources receives a 10; that with the lowest score  
8 (best) receives a 1. Thus, the scores are transformed to a relative scale from 1 to 10 to  
9 obtain relative scores for each resource criterion. Using the relative position of the route  
10 in comparison to the values for all routes provided an indication of how the route  
11 compares for that resource criterion.

12           These scaled scores were then weighted according to weights established by the  
13 Siting Criteria Council (SCC) for the GPU-DQE 500 kV Transmission Line Project.  
14 SCC weights existed for 22 of the 30 resource criteria. The Siting Team assigned  
15 weights for the remaining eight resource criteria (Land Trust Protected Area, Cemeteries,  
16 Exceptional Value Streams, Landslide Prone Area, Commercial/Industrial Areas, Forest  
17 Land Cleared, Non-existing ROW, and Length of ROW).

18           The scaled scores for each criterion were then multiplied by its respective weight  
19 to obtain the impact scores shown in Section 4 and Appendix A of the Siting Study.  
20 These impact scores were summed to obtain an overall impact score for each alternative  
21 route. These scores are presented in Section 4.0 of the Siting Study.

22  
23 **Q. Was public outreach part of the route selection process?**

1 A. Yes. Duquesne Light held two public open houses, one in September of 2009 and one in  
2 October 2016, and invited impacted landowners, local residents and officials, businesses,  
3 organizations and the general public located along the three alternative routes. Duquesne  
4 Light advertised the open houses in local newspapers, in which it also provided an email  
5 and mailing address for the public to contact Duquesne Light with any questions,  
6 comments, or concerns. During each open house, multiple subject matter experts from  
7 Duquesne Light and its consultants were available to explain the scope of the project, its  
8 potential impact, and the proposed schedule. Duquesne Light also conducted further  
9 outreach with affected property owners, as discussed in Duquesne Light Statement No. 4  
10 (Hummel).

11 Furthermore, as the Siting Study notes, various resources prepared by  
12 governmental and non-governmental agencies were consulted for information on the  
13 project area, including comprehensive plans, natural heritage inventories, and other  
14 publications. Regulatory agencies were also contacted concerning the potential presence  
15 of rare species and sensitive natural and recreational resources. The Pennsylvania  
16 Historical and Museum Commission's Historic Preservation Office was consulted for  
17 information on the cultural resources in the project area.

18  
19 **Q. Did Duquesne Light consider local comprehensive plans and zoning ordinances in**  
20 **selecting the Proposed Route for the Project?**

21 A. Yes. Preliminarily, I understand that public utility facilities, such as transmission lines  
22 and substations, are generally exempt from local municipal authority. However, as  
23 required by the Commission's interim siting guidelines found at 52 Pa. Code § 69.1101

1 (2)(3) and § 69.3104 (1), GAI reviewed local zoning ordinances and comprehensive land  
2 use plans to evaluate the impact of the Proposed Route on municipalities. Further  
3 descriptions can be found in Section 7.2 of the Siting Study.

4  
5  
6 **III. PROPOSED ROUTE**

7 **A. NEW UNIVERSAL-PLUM TRANSMISSION LINE**

8 **Q. Please describe the feasible Alternative Routes identified by the Siting Team for the**  
9 **new Universal-Plum 138 kV Transmission Line.**

10 **A.** Using the siting analysis described above, the Siting Team identified three (3) suitable  
11 alternative routes for the new Universal-Plum 138 kV Transmission Line: Alternative 1,  
12 which extends approximately 5.65 miles; Alternative 2, which extends approximately  
13 6.41 miles; and Alternative 3, which extends approximately 5.26 miles. These three  
14 Alternative Routes are described in detail below.

15  
16 **Alternative Route 1 (5.65 miles)**

17 Alternative 1 begins at the Universal Substation, extends eastward in parallel with  
18 Duquesne Light's existing Z-52 and Z-78 Lines for a short distance, turns south at  
19 milepost (MP) 0.26 and follows Duquesne Light's existing Z-50 Line, crossing Interstate  
20 376 (I-376). At MP 0.65, Alternative 1 turns to the east, leaving Duquesne Light's Z-50  
21 Line, and travels parallel to the south of I-376. This alternative then crosses I-376 at MP  
22 2.05 and continues through a commercial section of Monroeville. Alternative 1 then  
23 crosses the Pennsylvania Turnpike (Interstate I-76) at MP 2.85, and travels northeast

1 through predominantly wooded areas (with a few small residential areas) before entering  
2 the Plum Substation.

3 **Alternative 1:**

- 4 • Has 5.39 miles of non-paralleling ROW;
- 5 • Would impact 56.65 acres of forest land and 14 perennial streams;
- 6 • Crosses 0.35 miles of commercial/industrial area, 0.10 miles of residential areas,  
7 20 roads/highways, two institutional complexes and three recreational areas;
- 8 • Crosses 1.52 miles of steep terrain and 1.86 miles of landslide-prone area;
- 9 • Crosses one Architectural/ historic site and one Archaeological site; and
- 10 • Is at its closest, 2,400 feet southeast of the Pittsburgh Monroeville Airport, and  
11 has 4.03 miles within a 2-mile radius of the airport.

12 **Alternative Route 2 (6.41 miles)**

13 Alternative 2 begins at the Universal Substation, proceeding eastward as it parallels  
14 Duquesne Light's existing Z-52 and Z-78 Lines. It crosses Duquesne Light's existing Z-  
15 50 Line at MP 0.26, then turns to the north and parallels DLC'S Z-50 Line until MP 0.42.  
16 From here, Alternative 2 turns to the northeast and continues through a large barren area  
17 until MP 1.59, where the route continues northeast through wooded areas, then turns to  
18 the southeast and crosses the Pennsylvania Turnpike at MP 2.78. Alternative 2 continues  
19 to parallel the Pennsylvania Turnpike to the south until MP 3.84, where the route turns to  
20 the east by the Community College of Allegheny County Boyce Campus. This  
21 alternative then travels a short distance southeast until joining Alternative 1's alignment  
22 at MP 4.34, travelling through mostly forested land with some residential areas before  
23 entering Plum Substation.

1           Alternative 2:

- 2           • Has 5.99 miles of non-paralleling ROW;
- 3           • Would impact 56.57 acres of forest land and 10 perennial streams;
- 4           • Crosses 0.20 miles of commercial/industrial area, 0.08 miles of residential areas,  
5           12 roads/highways, four institutional complexes and four recreational areas;
- 6           • Crosses 0.99 miles of steep terrain and 0.88 miles of landslide-prone area;
- 7           • Crosses four Architectural/ historic site and one Archaeological site; and
- 8           • Is at its closest, 3,000 feet northwest of the Pittsburgh Monroeville Airport and  
9           has 4.81 miles with in a two mile radius of the airport.

10  
11        **Alternative Route 3 (5.26 miles)**

12           Alternative 3 begins at the Universal Substation and proceeds eastward in parallel with  
13           Duquesne Light's existing Z-152 and Z-57 Lines, until crossing under Duquesne Light's  
14           existing Z-152, line and continuing to parallel Duquesne Light's existing Z-152, Z-78, Z-  
15           51, and Z-50 Lines in a northern direction. At MP 0.26, the route then turns eastward and  
16           crosses under Duquesne Light's existing Z-152, Z-78, Z-51, and Z-50 Lines before  
17           turning to the north and paralleling Duquesne Light's Z-50 and Z-51 Lines until MP 0.63.  
18           From here, Alternative 3 turns to the northeast and continues through a large barren area  
19           until MP 1.59, where the route continues northeast through wooded areas. Alternative 3  
20           then turns to the east within the wooded area and travels through a small commercial area  
21           before crossing the Pennsylvania Turnpike at MP 2.72. Alternative 3 continues travelling  
22           east through mostly forest land and enters William D. Boyce Park at MP 3.24, where it is  
23           routed underground. This alternative proceeds eastward through the northern portion of  
24           Boyce Park until MP 4.58. From here, Alternative 3 crosses New Texas Road and  
25           parallels Duquesne Light's existing Cheswick-Plum Z-54 Line. Alternative 3 remains as

1 an underground transmission line until MP 4.81. Alternative 3 then transitions back to an  
2 overhead transmission line and heads east until reaching Plum Substation.

3 Alternative 3:

- 4 • Has 4.76 miles of non-paralleling ROW;
- 5 • Would impact 41.54 acres of forest land and seven perennial streams;
- 6 • Crosses 0.22 miles of commercial/industrial area, 0.05 miles of residential areas,  
7 11 roads/highways, four institutional complexes and four recreational areas;
- 8 • Crosses 19.20 acres of Land trust protected area;
- 9 • Crosses 0.53 miles of steep terrain and 1.22 miles of landslide-prone area;
- 10 • Crosses one Architectural/ historic site; and
- 11 • Is at its closest, 3,000 feet northwest of the Pittsburgh Monroeville Airport and  
12 has 3.74 miles within a two mile radius of the airport.

13  
14 **Q. What route was selected as the Proposed Route for the new Universal-Plum 138 kV**  
15 **Transmission Line?**

16 A. Based on a qualitative and quantitative review of information obtained from GIS data,  
17 field reconnaissance, agency consultation and public outreach as well as engineering  
18 considerations for the Project, the Siting Team selected Alternative Route 3 as the  
19 Proposed Route.

20  
21 **Q. Please explain why Alternative Route 3 was selected as the Proposed Route for new**  
22 **Universal-Plum 138 kV Transmission Line.**

23 A. The Siting Team evaluated the feasible alternatives and selected the overall best route  
24 that, on balance, minimizes the impact to the natural and human environments, avoids  
25 unreasonable and circuitous routes, and avoids non-standard design requirements.

1 Alternative 3 was the shortest and required the least new ROW. Alternative 3 had the  
2 least impacts from a human/built and engineering perspective. From an overall  
3 environmental perspective, all of the alternatives had some impacts to most of the criteria  
4 examined; however, Alternative 3 has the least direct environmental impacts, with the  
5 least forest clearing and the least perennial stream crossings. While Alternative 3 crosses  
6 Land Trust Protected Areas, the route is largely underground in these areas, and little  
7 direct environmental impact to the purpose and function of these areas are anticipated.  
8 From an overall cultural perspective, the three alternative all had similar potential  
9 impacts, but based on further testing and consultation with the SHPO, Alternative 3's  
10 impacts to cultural resources can be mitigated or avoided.

11  
12 **B. RELOCATED CHESWICK-PLUM TRANSMISSION LINE**

13 **Q. Please describe the feasible route identified by the Siting Team for the relocation of**  
14 **the Cheswick-Plum 138 kV Transmission Line.**

15 A. As part of the Project, Duquesne Light also seeks Commission approval to relocate a  
16 portion of the Cheswick-Plum 138 kV Transmission Line to accommodate the entrance  
17 of the proposed Universal-Plum 138 kV Transmission Line into the Plum Substation. At  
18 present, the Cheswick-Plum 138 kV Transmission Line enters the west side of the Plum  
19 Substation at its northernmost terminal. This same terminal represents the best terminus  
20 of the Universal-Plum 138 kV Transmission Line, which approaches the Plum Substation  
21 north of the Cheswick-Plum 138 kV Transmission Line. Unless the Cheswick-Plum 138  
22 kV Transmission Line is re-terminated to the south of its present location, the Universal-  
23 Plum 138 kV Transmission Line would have to cross the Cheswick-Plum 138 kV

1 Transmission Line to enter the Plum Substation. Such a line crossing would be  
2 impractical for several reasons; it would present clearance and reliability issues, and  
3 would necessitate abnormally tall structures to support the Universal-Plum 138 kV  
4 Transmission Line.

5 Approximately 0.51 miles of the Cheswick-Plum 138 kV Transmission Line is  
6 proposed to be relocated between 64 and 155-feet to the south of its current location.  
7 This relocation will take place between the Plum Substation and the west side of New  
8 Texas Road and will require the relocation of seven transmission structures.

9 The relocation of Cheswick-Plum 138 kV Transmission Line will require the  
10 clearing of approximately 0.51-mile new ROW through predominantly forested area.  
11 The relocation will cross two perennial streams and one road. No other resource criteria  
12 are expected to be impacted by the relocation. Additionally, no new properties will be  
13 impacted by the relocation. Because the existing facilities to be connected by the  
14 relocated section are only 0.51 miles apart, few alternatives would be feasible.  
15 Furthermore, the proposed route runs along existing transmission right-of-way and  
16 infrastructure; any alternative that deviated from this route would necessarily have higher  
17 impacts.

18  
19  
20 **IV. COMPLIANCE WITH POTENTIAL PERMIT AND MITIGATION**  
21 **REQUIREMENTS**

22 **Q. Please summarize Duquesne Light's efforts to minimize the anticipated impacts and**  
23 **potential permit and mitigation requirements of the proposed Project.**

1 A. Efforts were made during the siting process to minimize impacts on existing and future  
2 land uses, as well as avoid sensitive natural resources such as wetlands and streams. For  
3 example, the siting team worked with land owners to route the project transmission lines,  
4 structures, and access roads to minimize impacts to future housing developments and  
5 avoid sensitive natural areas. Where potential impacts are unavoidable, Duquesne Light  
6 will obtain any necessary permits and comply with the best management practices laid  
7 out within during construction. Best management practices may include fencing sensitive  
8 resources to protect them during construction, use of timber matting equipment for  
9 crossings of streams and wetlands, and utilizing erosion and sedimentation controls. .

10 As part of the permitting process, any required waterway, wetland, or floodplain  
11 encroachment permits will be obtained from the applicable jurisdictional state and federal  
12 agencies prior to construction and Duquesne Light will comply with all special conditions  
13 placed on the permits. In addition, to address water quality standards within watersheds  
14 along the Project corridor, Duquesne Light will comply with the regulations of the  
15 National Pollutant Discharge and Elimination System permit program, obtain the  
16 required soil erosion and sedimentation control permits, and follow the specified  
17 conditions required for the permit.

18 A detailed discussion of Duquesne Light's efforts to minimize the anticipated  
19 impacts and potential permit and mitigation requirements of the proposed Project is  
20 provided in Section 5.1 to the Siting Study, including potential impacts to: land use;  
21 natural features; rare, threatened, and endangered species; cultural resources; community  
22 features and conserved lands; and agency requirements and permits.

23

1 **Q. Does this conclude your testimony at this time?**

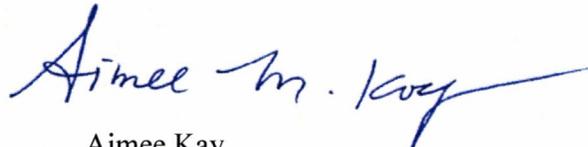
2 A. Yes. I reserve the right to supplement my testimony as additional issues arise during the  
3 course of this proceeding.

**VERIFICATION**

I, Aimee Kay, being an Environmental Manager for GAI Consultants, Inc., hereby state that the information set forth above is true and correct to the best of my knowledge, information, and belief, and that I expect to be able to prove the same at a hearing held in this matter. I understand that the statements herein are made subject to the penalties of 18 Pa.C.S. § 4904 relating to unsworn falsification to authorities.

Date:

3/23/2018



Aimee Kay  
Environmental Manager  
GAI Consultants, Inc.  
385 E. Waterfront Drive  
Homestead PA 15120

**BEFORE THE  
PENNSYLVANIA PUBLIC UTILITY COMMISSION**

Application of Duquesne Light Company filed :  
Pursuant to 52 Pa. Code Chapter 57, : Docket No. A-2018-\_\_\_\_\_  
Subchapter G, for Approval of the Siting and :  
Construction of the Universal-Plum 138 kV :  
Transmission Lines Associated with the :  
Universal-Plum Project in Penn Hills, :  
Monroeville, and Plum Borough, Allegheny :  
County, Pennsylvania :

**Duquesne Light Company**

**Statement No. 3**

**Written Direct Testimony of  
Meenah Shyu**

**Topics Addressed: Design and Safety Features of the Project**

1 **Q. Please state your name and business address.**

2 A. My name is Meenah Shyu, and my business address is 2841 New Beaver Avenue  
3 Pittsburgh, PA 15233.

4  
5 **Q. By whom are you employed?**

6 A. I am employed by Duquesne Light Company (“Duquesne Light” or the “Company”) as  
7 the Manager of Civil & Transmission Line Engineering Group.

8  
9 **Q. What are your current responsibilities?**

10 A. I lead a team of civil engineers to support capital and maintenance projects. I also  
11 oversee the design of transmission projects and structural projects in substations that are  
12 engineered by Duquesne Light and Duquesne Light’s engineering contractors.

13  
14 **Q. Please provide a summary of your education and professional work experience.**

15 A. In 2008, I received a Bachelor of Science degree in Civil Engineering from Carnegie  
16 Mellon University in Pittsburgh, PA. In 2009, I received a Master of Science degree in  
17 Civil and Environmental Engineering from Carnegie Mellon University in Pittsburgh,  
18 PA.

19 My first professional occupation was at GAI Consultants in Homestead, PA,  
20 where I worked as a civil engineer in the Structural and Lines Group from July 2009 to  
21 May 2011. My second professional occupation was at DiGioia Gray & Associates in  
22 Monroeville, PA, where I worked as a transmission line engineer in the Transmission  
23 Line Engineering group from June 2011 to January 2016. My third and current

1 occupation is with Duquesne Light Company in Pittsburgh, PA. I have been working in  
2 the Civil & Transmission Line Engineering group with DLC Since January 2016.

3  
4 **Q. What are your responsibilities in connection with the proposed Project?**

5 A. In my role as Manager of Civil & Transmission Line Engineering, I am responsible for  
6 overseeing the overall engineering design development of the proposed new Universal-  
7 Plum 138 kV Transmission Line Project.

8  
9 **Q. What is the purpose of your direct testimony in this proceeding?**

10 A. My testimony addresses several issues. First, I will explain the major design features of  
11 the Universal – Plum 138 kV project. Second, I will explain the safety features  
12 incorporated into the design of the Universal-Plum 138 kV project. Third, I will explain  
13 DLC’s Magnetic Field Management Program and how it has been incorporated into the  
14 design of the Universal – Plum 138 kV project.

15  
16 **Q. Please describe the portions of the Siting Application that you are sponsoring.**

17 A. I am sponsoring Attachment 13, Duquesne Light Company Engineering Design Criteria.

18  
19 **Q. Please provide an overview of the proposed Project.**

20 A. As explained in the written direct testimony of Company witness Mr. Jason A. Harchick  
21 (Duquesne Light Statement No. 1), Duquesne Light identified a need to address  
22 reliability issues on the Universal 138-23 kV Substation and the Plum 138-23 kV  
23 Substation. To address these reliability issues, Duquesne Light proposes to construct the

1 new Universal-Plum 138 kV Transmission Line that will extend approximately 5.26  
2 miles between the Universal Substation in Penn Hills and the Plum Substation in Plum  
3 Borough. Approximately 3.7 miles of the new Universal-Plum 138 kV Transmission  
4 Line will be built as an overhead transmission line and approximately 1.56 miles will be  
5 constructed as an underground transmission line. In addition, in order to accommodate  
6 the new Universal-Plum 138 kV Transmission Line, Duquesne Light proposes to relocate  
7 approximately 0.51 miles of the existing Cheswick-Plum 138 kV Transmission Line as  
8 part of the Project.

9  
10 **Q. Please describe the design of the proposed new Universal-Plum 138 kV**  
11 **Transmission Line.**

12 A. The proposed new Universal-Plum 138 kV Transmission Line will be designed as a  
13 double-circuit 138 kV transmission line, but initially will be operated as a single circuit  
14 transmission line until load growth makes it necessary to install the second circuit. The  
15 overhead 138 kV circuit design will utilize three power conductors per circuit and one  
16 shield wire. The power conductors for this Project will be 795 kcmil,<sup>1</sup> 20/7 ACSS-TW-  
17 HS<sup>2</sup> conductors. The shield wire will be 48 count, fiber optical ground wire and will  
18 provide lightning protection and communication between circuit breakers that remove the  
19 line from service should a fault in the line be detected.

20  

---

<sup>1</sup> “Kcmil” stands for thousand circular mils. Kcmil wire size is the equivalent cross sectional area in thousands of circular mils. A circular mil is the area of a circle with a diameter of on thousandth (0.001) of an inch.

<sup>2</sup> “ACSS-TW-HS” stands for aluminum conductor steel supported, trapezoidal-shaped aluminum strands, high strength conductors

1 **Q. Please describe the principal types of structures that will be used for the new**  
2 **Universal-Plum 138 kV Transmission Line.**

3 A. Based on preliminary engineering, the new Universal-Plum 138 kV Transmission Line  
4 will require approximately 33 new double-circuit structures, which will consist of  
5 approximately 27 steel single-pole structures, 6 steel multi-poles structures.

6 The steel structures will largely consist of tubular steel monopole and multi-pole  
7 structures that will range from 45 to 135 feet in height, with an average height of  
8 approximately 90 feet. All steel poles will be placed on drilled concrete shaft  
9 foundations. The average span between these structures will be approximately 530 feet.

10 The minimum line to structure clearance for the proposed Universal-Plum 138 kV  
11 Transmission Line will be 6 feet. The minimum conductor-to-ground clearance for the  
12 proposed Universal-Plum 138 kV Transmission Line at mid-span will be 30 feet under  
13 maximum load and operating temperature. The average clearance under normal load and  
14 average weather conditions will be 47.3 feet. Typical design diagrams are included in  
15 Attachments 9a, 9b, and 10.

16  
17 **Q. Please explain why it is necessary to relocate the Cheswick-Plum 138 kV**  
18 **Transmission Line as part of this Project.**

19 A. In order to accommodate the new Universal-Plum 138 kV Transmission Line, Duquesne  
20 Light proposes to relocate approximately 0.51 miles of the existing Cheswick-Plum 138  
21 kV Transmission Line as part of the Project. Without relocating the Cheswick-Plum 138  
22 kV Transmission Line, the proposed Universal-Plum 138 kV Transmission Line would  
23 cross directly above the Cheswick-Plum 138 kV Transmission Line before heading into

1 an available breaker position in Plum Substation. When there is maintenance work to be  
2 done in close proximity to location of the lines crossing over, it is possible that both  
3 circuits would need outages. If there is a catastrophic event where one of the circuits  
4 come down, it is possible the other circuit would be affected structurally. Rerouting the  
5 Cheswick-Plum 138 kV Transmission Line would avoid the complications of these  
6 situations. In the interest of reliability, the Cheswick-Plum 138 kV Transmission Line is  
7 being relocated such that the circuits do not cross over.

8  
9 **Q. Please describe the design of the relocated Cheswick-Plum 138 kV Transmission**  
10 **Line.**

11 A. The relocated Cheswick-Plum 138 kV Transmission Line will be designed as a single-  
12 circuit 138 kV transmission line. The overhead 138 kV circuit design will utilize three  
13 power conductors per circuit and one shield wire, the same conductor and shield wire as  
14 the existing Cheswick-Plum 138 kV Transmission Line. The power conductors will be  
15 854 kcmil, 18/19 ACAR conductors. The shield wire will be 7#8 Alumoweld and will  
16 provide lightning protection.

17 Currently, the existing Cheswick-Plum 138 kV Transmission Line is located on  
18 the west side of New Texas Road before turning east into Plum Substation. Since space is  
19 limited on the west side of New Texas Road where the Cheswick-Plum 138 kV  
20 Transmission Line is located, the Universal-Plum 138 kV Transmission Line is proposed  
21 to be routed on the east side of New Texas Road as an underground line, before turning  
22 east into Plum Substation on new steel poles. When both lines enter into Plum Substation,  
23 the Cheswick-Plum 138 kV Transmission Line will take a new southern breaker position

1 in Plum Substation while the Universal-Plum 138 kV Transmission Line will take the  
2 northern breaker position in Plum Substation.

3  
4 **Q. Please describe the principal types of structures that will be used for the relocated**  
5 **segment of the Cheswick-Plum 138 kV Transmission Line.**

6 **A.** Based on preliminary engineering, the relocation of Cheswick-Plum 138 kV  
7 Transmission Line will require approximately seven new single-circuit structures, which  
8 will consist of approximately six steel single-pole structures and one wood single-pole  
9 structure.

10 The steel structures will largely consist of tubular steel monopole structures that  
11 will range from 85 to 105 feet in height, with an average height of approximately 95 feet.  
12 All steel poles will be placed on drilled concrete shaft foundations. The average span  
13 between these structures will be approximately 450 feet.

14 The wood pole structure will be installed adjacent to New Texas Road and will  
15 have an approximate height of 90 feet. The wood pole will be direct embedded and may  
16 be guyed due to accessibility and terrain.

17 On the existing Cheswick-Plum 138 kV Transmission Line, ten existing wood  
18 poles would be removed and one wood pole will be modified to accommodate the  
19 Universal-Plum 138 kV Transmission Line. The Cheswick-Plum 138 kV Transmission  
20 Line is be relocated between 64ft to 155ft to the south of its existing position, before  
21 entering into Plum Substation.

22 The minimum line to structure clearance for the proposed Cheswick-Plum 138 kV  
23 Transmission Line will be 6 feet. The minimum conductor-to-ground clearance for the

1 proposed Cheswick-Plum 138 kV Transmission Line at mid-span will be 30 feet under  
2 maximum load and operating temperature. The average clearance under normal load and  
3 average weather conditions will be 47.3 feet. Typical design diagrams similar to those  
4 that will be installed for the IEC-East Project are included in Attachment 10.

5  
6 **Q. What is the National Electrical Safety Code?**

7 A. The National Electrical Safety Code (“NESC”) is a set of rules designed to safeguard  
8 people during the installation, operation, and maintenance of electric power lines. The  
9 NESC contains the basic provisions considered necessary for the safety of employees and  
10 the public. Although it is not intended as a design specification, its provisions establish  
11 minimum design requirements.

12  
13 **Q. Will the proposed Project comply with the NESC standards?**

14 A. Yes.

15  
16 **Q. Please explain the safety features that will be incorporated into the design of the  
17 proposed Project.**

18 A. In addition to the safety features incorporated by designing the line in accordance with  
19 the NESC, DLC’s design loading conditions for structures, wires, and clearances exceed  
20 NESC standards. The line is designed for conductor-to-conductor clearances and  
21 conductor-to-ground clearances which support maintenance and inspection activities.  
22 Work procedures and an Employee Safety Handbook have been developed to allow work  
23 to be performed in a safe manner. Personnel are furnished with appropriate Personal

1 Protection Equipment for the performance of construction or maintenance activities in a  
2 safe manner.

3 A description of the safety features incorporated into the design of the proposed  
4 Project is provided in Attachment 13 to the Siting Application.

5  
6 **Q. Please explain Duquesne Light's electric and magnetic field ("EMF") program and  
7 how it will be incorporated into the design of the proposed Project.**

8 A. Duquesne Light has adopted a program to mitigate the potential impacts from EMFs.  
9 This EMF policy is applied to all new and reconstructed transmission lines. In order to  
10 lower magnetic field exposures, the program generally prescribes the use of a line design  
11 that provides ground clearances that meet or exceed the minimum NESC ground  
12 clearance and reverses phasing of new double circuit lines where it is feasible to do so at  
13 low or no cost. The implementation of additional modifications will be considered,  
14 provided those modifications can be made at low or no cost and will not interfere with the  
15 operation of the line. Duquesne Light's EMF policy for this Project is provided in the  
16 Design Criteria Attachment 13 to the Siting Application.

17 The new Universal-Plum 138 kV Transmission Line and the relocated section of  
18 the Cheswick-Plum 138 kV Transmission Line will be designed for ground clearances  
19 that are a minimum of nine feet higher than required by the NESC 2017 edition minimum  
20 ground clearances for 138 kV.

21 As explained above, the new Universal-Plum 138 kV Transmission Line will be  
22 designed as a double-circuit 138 kV transmission line, but initially will be operated as a  
23 single circuit transmission line until load growth makes it necessary to install the second

1 circuit. To further mitigate the potential impacts from EMFs of the single-circuit design,  
2 Duquesne Light will configure the phases in a triangular configuration. The circuit will  
3 have three conductors; two conductors will be installed on one side of the pole on arms,  
4 with the third conductor on the other side of the pole with arms. This configuration  
5 achieves better cancellation and lowers the magnetic field by an overall 29%, than if the  
6 conductors were installed in a vertical configuration, meaning all three conductors on the  
7 same side of the pole. In the future, when a second circuit is added, Duquesne Light will  
8 select the best circuit/phase arrangement to reduce the potential exposure to electric  
9 magnetic fields where it is feasible to do so at low or no cost.

10  
11 **Q. Does this complete your direct testimony?**

12 A. Yes, it does. If necessary, I will supplement my testimony if and as additional issues  
13 arise during the course of this proceeding.

## VERIFICATION

I, Meenah Shyu, the Manager of Civil & Transmission Line Engineering Group for Duquesne Light Company, hereby state that the information set forth above is true and correct to the best of my knowledge, information, and belief, and that I expect to be able to prove the same at a hearing held in this matter. I understand that the statements herein are made subject to the penalties of 18 Pa.C.S. § 4904 relating to unsworn falsification to authorities.

Date: 3/23/2018



Meenah Shyu  
Manager, Civil & Transmission Line  
Engineering Group  
Duquesne Light Company  
2841 New Beaver Avenue  
Pittsburgh, PA 15233

**BEFORE THE  
PENNSYLVANIA PUBLIC UTILITY COMMISSION**

Application of Duquesne Light Company filed :  
Pursuant to 52 Pa. Code Chapter 57, : Docket No. A-2018-\_\_\_\_\_  
Subchapter G, for Approval of the Siting and :  
Construction of the 138 kV Transmission :  
Lines Associated with the **Universal-Plum** :  
**Project** in Penn Hills, Monroeville, and Plum :  
Borough, Allegheny County, Pennsylvania :  
:

**Duquesne Light Company**

**Statement No. 4**

**Written Direct Testimony of**

**Mark Hummel**

**Topics Addressed: Rights-of-Way Identification and Acquisition**

1 **Q. Please state your name and business address.**

2 A. My name is Mark Hummel. My business address is 2515 Preble Avenue, Pittsburgh, PA  
3 15233.

4

5 **Q. By whom are you employed and in what capacity?**

6 A. I am employed by Duquesne Light Company (the "Company") as a Supervisor in Real  
7 Estate. In my position I am responsible for managing all of the surveying personnel and  
8 right-of-way agents for the Company. I currently have a staff of 8 full-time employees to  
9 support the right-of-way needs for the Company.

10

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

12 A. In 1983, I received a two-year degree from Southeast Area Vocational School in South  
13 Dakota. In 1993, I obtained a two-year Associates of Arts Degree in Land Surveying  
14 from what is now Palm Beach State College.

15

16 **Q. Are you a member of any professional organizations?**

17 A. Yes, I belong to several professional organizations. I currently am the Vice-President of  
18 the Pennsylvania Society of Land Surveyors and will become the President Elect in  
19 January of 2018. This organization represents over 800 licensed land surveyors in the  
20 Commonwealth of Pennsylvania. I also am a member of International Right-of-Way  
21 Association (IRWA). As a professional member of the IRWA you are recognized for  
22 high ethical standards, commitment to integrity and professional excellence. IRWA is a

1 multi-disciplined professional organization consisting of engineers, surveyors, appraisers,  
2 title experts, and real estate attorneys, and other land use professionals.

3  
4 **Q. Please describe our background and employment history.**

5 A. I have been employed by the Company for 3 years and 3 months as the supervisor of the  
6 Real Estate Department. This Department has four surveying technicians, four real estate  
7 agents and a clerk.

8 My surveying career started in South Florida in 1983, where I worked for several  
9 small surveying and engineering firms doing construction surveying and boundary  
10 surveying. In 1990, I joined the State of Florida and South Florida Water Management  
11 District as Assistant Survey Manager, where I managed eight surveying contracts with  
12 annual values in excess of \$2 million. In 2001, I returned to the private sector with a  
13 small surveying firm as a Project Manager, where I managed several multi-million dollar  
14 engineering and construction projects along with Florida Department of Transportation  
15 road projects. In 2006, I moved to Pittsburgh and worked for Trans Associates as a  
16 Survey Manager doing highway and construction projects. In 2009, I began working for  
17 Monaloh Basin Engineers as a Project Manager for a firm doing multiple PennDOT  
18 highway and bridge projects. In 2013, I started with Dawood Engineering as the Survey  
19 Manager for Western Pennsylvania for highway and bridge projects and oil and gas right-  
20 of-ways for private oil and gas companies. I joined the Company in 2014.

21  
22 **Q. What are your responsibilities in connection with the Universal Plum Project?**

1 A. It is my department's responsibility to identify the parcel owners and the owners adjacent  
2 to the proposed Universal-Plum 138 kV Transmission Line Project, identify any areas in  
3 which the Company will require new or enhanced right-of-way for the Project, and  
4 acquire such right-of-way. Except for the 0.4 mile portion of the Universal-Plum 138 kV  
5 Transmission Line to be constructed in Company-owned right-of-way currently occupied  
6 by a portion of the Cheswick-Plum Transmission Line, this Project involves construction  
7 of new transmission lines where none presently exist. Therefore, the Company needed to  
8 acquire new right-of-way for all but 0.4 miles of the length of the proposed routes of the  
9 new Universal-Plum Transmission Line and Cheswick-Plum Transmission Line  
10 relocation.

11

12 **Q. What is the purpose of your direct testimony in this proceeding?**

13 A. First, I will identify the portions of the above-captioned Siting Application that I am  
14 sponsoring. Second, I will summarize our process for identifying new right-of-way  
15 required for the Project and the property owners that would be affected. Third, I will  
16 explain the process we employed to attempt to acquire rights-of-way and easements for  
17 the Universal-Plum 138 kV Transmission Line Project, including the Cheswick-Plum  
18 Transmission Line Relocation. Fourth, I will explain the Company's policy regarding the  
19 property owner's use of the right-of-way area, and will provide examples of measures the  
20 Company employs to mitigate the impacts of the proposed transmission lines on property  
21 owners' present and future uses of their properties. Fifth, I will explain the status of our  
22 efforts to acquire the rights-of-way and easements needed for the Project.

23

1 **Q. Please describe the portions of the Siting Application that you are sponsoring.**

2 A. I am responsible for Attachment 11, comprising a series of aerial survey maps that show  
3 the owners of property that will be traversed by the proposed Universal-Plum  
4 Transmission Line and Cheswick-Plum Transmission Line Relocation and Attachment  
5 12, which is a matrix of the landowners contained in Attachment 11. I am also  
6 responsible for Attachment 15, which provides the packets of information that the  
7 Company delivered to owners of property that will be subject to or along the right-of-way  
8 and easement for the proposed Universal-Plum Transmission Line Project, including the  
9 Cheswick-Plum Transmission Line Relocation.

10

11 **Q. Please describe the Company's process for identifying the owners of property that**  
12 **will be traversed by Project facilities.**

13 A. In 2017, I, as well as Company personnel and contractors under my supervision,  
14 researched the Project routes for property owner names, property records, and mapping.  
15 We then collected boundary and physical evidence from the field to determine or confirm  
16 property boundaries. These data, along with property records, maps, and other written  
17 boundary evidence, were then used to refine the Project route.

18

19 **Q. Please explain the Company's policy regarding dealings with owners of property to**  
20 **be traversed by Project facilities.**

21 A. The Company's policy regarding dealings with property owners is described in the  
22 informational packet provided to property owners along the Project route, included as  
23 Attachment 15. Among other information, described in more detail below, this packet

1 provides that Duquesne Light representatives are to: act with integrity at all times; treat  
2 everyone courteously and in a professional manner; be forthright and honest in all actions  
3 and communications; comply with all laws and regulations; avoid any conflicts of  
4 interest; accept responsibility for any actions or decisions; be good stewards of the  
5 environment; and place a high priority on safety for the public, as well as Company  
6 employees and representatives.

7  
8 **Q. Did the Company provide information to owners of land that may be subject to a**  
9 **right-of-way or easement for the Project?**

10 A. Yes. As mentioned above, prior to contacting property owners to negotiate right-of-way  
11 agreements, the Company provided informational packets to notify property owners of  
12 the Company's plans to negotiate to acquire right-of-way and easements across their  
13 land. This packet discloses to the property owner information including the name,  
14 purpose, and general location of the Project; Duquesne Light's standards of employee  
15 and agent conduct; and notices of eminent domain power and right-of-way management  
16 practices; and also includes a permission form for landowners to grant Duquesne Light  
17 access to their property.

18 This packet contains the notices required by the Pennsylvania Public Utility  
19 Commission in its regulations at 52 Pa. Code § 57.91. The first notice discusses the  
20 Company's power of eminent domain with respect to the Project, and the associated  
21 rights of the property owner. The second notice provides information regarding the right-  
22 of-way maintenance practices for the Project facilities. An example of this informational  
23 packet is included as Attachment 15 to the Siting Application.

1           Additionally, the Company held a public meeting on October 20, 2016 at the  
2           Garden City Fire Hall to provide information about the Project to owners of property in  
3           the area. At this meeting, Company representatives: delivered informational presentations  
4           about the Project need, route, design, and operational characteristics; answered questions  
5           from attendees; and provided informational literature regarding property owner rights,  
6           eminent domain, and a surveying permission form.

7  
8   **Q.    What does the Company do after providing the information and notices to property**  
9   **owners?**

10  A.    Pursuant to 52 Pa. Code § 57.91, the Company waits at least 15 days and then contacts  
11    the property owner(s) via telephone or in person to schedule a convenient time to meet so  
12    that we explain the details of the Project and answer any questions they may have. At  
13    such meeting, we usually make a monetary offer to the property owner(s) for the right-of-  
14    way sought. The amount of the offer is based on the fair market value of the property  
15    interests the Company wishes to acquire.

16  
17  **Q.    Please explain the Company's policy regarding the property owner's use of the**  
18  **right-of-way area.**

19  A.    Following the Company's acquisition of a right-of-way and easement, the property owner  
20    can continue to use the right-of-way area, so long as such use is compatible with the safe  
21    and reliable operation and maintenance of Company facilities. Compatible uses that  
22    require no prior review or approval from the Company include farming and gardening.  
23    The Company also allows compatible development within the right-of-way area,

1 provided that the design and work in the area does not interfere with the safe and reliable  
2 operation and maintenance of Company facilities. Such uses can include: grading,  
3 installation of roadways or parking lots, and installation of underground infrastructure  
4 (such as utilities).

5  
6 **Q. Please describe how the Company has worked with property owners along the**  
7 **Project route to mitigate effects of the Project on their present and future land uses.**

8 A. On several occasions throughout the siting process, the Company adjusted the location of  
9 the easement to run along the edge of a parcel, so as to minimize the impact to the parcel.  
10 The Project route was tailored to parallel existing transmission line right-of-way to the  
11 extent feasible. The Company also routed the Project underground for the portion that  
12 crosses Boyce Park, so as to eliminate impacts to that public recreational resource.

13  
14 **Q. Please explain the status of the Company's efforts to acquire right-of-way and**  
15 **easements for the Project.**

16 A. There are a total of 44 deeded properties along the Project route, owned by a total of 26  
17 property owners. As of the date of this testimony, the Company has obtained necessary  
18 rights from 16 of these property owners (covering 29 parcels).

19 The Company is separately filing for approval of the condemnation of rights-of-  
20 way and easements across certain portions of the remaining fifteen (15) parcels pursuant  
21 to Section 1511(c) of the Business Corporation Law of 1988, 15 Pa.C.S. § 1511(c). The  
22 Company is continuing to pursue negotiations with the ten (10) owners of the remaining  
23 properties along the Project route.

1

2 **Q. Does this complete your direct testimony?**

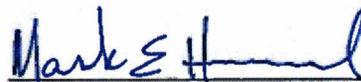
3 **A. Yes.**

### VERIFICATION

I, Mark Hummel, being Supervisor, Real Estate for Duquesne Light Company, hereby state that the information set forth above is true and correct to the best of my knowledge, information, and belief, and that I expect to be able to prove the same at a hearing held in this matter. I understand that the statements herein are made subject to the penalties of 18 Pa.C.S. § 4904 relating to unsworn falsification to authorities.

Date:

3/23/2018



\_\_\_\_\_  
Mark Hummel  
Supervisor, Real Estate  
Duquesne Light Company  
2515 Preble Avenue  
Pittsburgh, PA 15233