



**Duquesne Light**

Our Energy...Your Power

Legal Department  
411 Seventh Avenue, 16-1  
Pittsburgh, PA 15219

Tel 412-393-6505  
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kkubiak@duqlight.com

**Krycia Kubiak**  
Assistant General Counsel

February 11, 2010

**RECEIVED**

FEB 11 2010

Certificate of Mailing

James J. McNulty, Secretary  
Pennsylvania Public Utility Commission  
P.O. Box 3265  
Harrisburg, PA 17105-3265

**PA PUBLIC UTILITY COMMISSION  
SECRETARY'S BUREAU**

In re: Application of Duquesne Light Company for the Siting and Construction of a 345 kV Transmission Line in the City of Pittsburgh, Municipality of Penn Hills, Verona Borough and Plum Borough, Allegheny County, PA

Dear Secretary McNulty:

Enclosed for filing are an original and six copies of the Application of Duquesne Light Company for the Siting and Construction of a 345 kV Transmission Line in the City of Pittsburgh, Municipality of Penn Hills, Verona Borough and Plum Borough, Allegheny County, PA. Copies are being served in accordance with Commission Regulation 57.74(b).

Sincerely,

Krycia Kubiak  
Assistant General Counsel  
Duquesne Light Company

encs

cc: Robert F. Wilson, Director, Bureau of Fixed Utility Services (w/enclosure)  
All listed on Certificate of Service (w/enclosure)

Before the  
PENNSYLVANIA PUBLIC UTILITY COMMISSION

In re: :  
Application of Duquesne Light Company :  
for the Siting and Construction of a 345 kV :  
Transmission Line in the City of Pittsburgh, : Docket No.  
Municipality of Penn Hills, Verona Borough and : Folder  
Plum Borough, Allegheny County :

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FEB 11 2010

PA PUBLIC UTILITY COMMISSION  
SECRETARY'S BUREAU

**APPLICATION FOR AUTHORIZATION  
TO SITE AND CONSTRUCT A 345 kV TRANSMISSION LINE  
IN THE CITY OF PITTSBURGH, MUNICIPALITY OF PENN HILLS,  
VERONA BOROUGH AND PLUM BOROUGH**

TO THE HONORABLE COMMISSION:

AND NOW comes Duquesne Light Company ("Duquesne Light") and, pursuant to Commission Regulations 5.91, and 57.71 through 57.77, 52 Pa. Code §§ 5.91, and 57.71 through 57.77, files the within Application of which the following is a statement:

**INTRODUCTION**

1. The name of the Applicant and the address of its principal business office are:

Duquesne Light Company  
411 Seventh Avenue  
Pittsburgh, PA 15219

2. Duquesne Light is a duly incorporated Pennsylvania public utility engaged in the distribution of electric service to the public, primarily within Allegheny and Beaver Counties, Pennsylvania, in an area of approximately 800 square miles having a combined population based on the 2000 census of approximately 1,327,057.

3. The name and address of Duquesne Light's attorney, who is authorized to receive notice and communications with respect to this application, is:

Kryisia M. Kubiak  
Assistant General Counsel  
Duquesne Light Company, 16-1  
411 Seventh Avenue  
Pittsburgh, PA 15219

## GENERAL DESCRIPTION OF THE PROPOSED LINE

4. Duquesne Light proposes to construct a single-circuit 345 kilovolt (“kV”) transmission line (“the Line”) which will connect its Logans Ferry Substation located in Plum Borough to its Arsenal Substation located in the City of Pittsburgh. The Line will be constructed between the Logans Ferry Substation in Plum Borough and the Highland Substation in the City of Pittsburgh where it will connect to existing underground transmission cables that run between Arsenal Substation and Highland Substation. The Line will be identified as Arsenal-Logans Ferry (Circuit 308). A topographic map of the area that shows the location of the Line, is attached hereto and incorporated herein as Exhibit 1. A system map that shows the location and voltage of existing Duquesne Light transmission lines and substations and the location of the proposed Line is attached hereto and incorporated herein as Exhibit 2.

5. The Line leaves the Duquesne Light Highland Substation in the City of Pittsburgh and proceeds in a northeasterly direction for approximately 1.1 miles where it enters the Municipality of Penn Hills. At this point, the Line continues in the same general direction for a distance of approximately 2.8 miles. The Line then runs in a northerly direction for approximately 0.3-mile, before proceeding in a northeasterly direction for a distance of approximately 0.2-mile and then easterly for a distance of approximately 0.6-mile. At this point, the Line continues in a northeasterly direction for 1.8 miles entering Plum Borough, crossing both the Bessemer and Lake Erie Railroad and the Pennsylvania Turnpike. From the Pennsylvania Turnpike, the Line then continues in a northerly direction for approximately 0.8-mile. Finally, the Line proceeds in a westerly direction for approximately 0.2-mile on the Logans Ferry Substation property.

6. Approximately 5,500 feet of the Line is within the City of Pittsburgh, 28,150 feet of the Line is within the Municipality of Penn Hills, 350 feet of the Line is within the Borough of Verona and 7,100 feet of the Line is located in Plum Borough. All of the municipalities are located in Allegheny County. Approximately

two percent of the Line is located on a 30-foot right-of-way (ROW), 23 percent of the Line is located on a 50-foot ROW, 15 percent of the Line is located on a 60-foot ROW, three percent of the Line is located on 75-foot ROW, seven percent of the Line is located on 150-foot ROW, 44 percent of the Line is located on centerline ROW, one percent of the Line is located over railroad ROWs and Pennsylvania Department of Transportation highway ROWs, and five percent is located on Duquesne Light property.

7. A description of the type of construction and materials involved in the Line is attached hereto and incorporated herein as Exhibit 3. A cross-sectional diagram showing the typical placement of the proposed support structures is attached hereto and incorporated herein as Exhibit 4. A cross-sectional diagram showing the typical arrangement of the proposed poles on the joint ROW is attached hereto and incorporated herein as Exhibit 5.

#### **PROPERTY OWNERS**

8. The names and addresses of all known persons, corporations and other entities of record owning property within the existing ROWs are shown in Exhibit 6.

#### **STATEMENT OF NEED**

9. Duquesne Light's transmission system consists of facilities rated at 69 kV, 138 kV, and 345 kV. Duquesne Light depends on several generating stations to maintain system reliability, and particularly two power stations located in the eastern portion of its system.

10. Transmission system analyses revealed numerous North American Electric Reliability Corporation ("NERC") Reliability Standard contingency violations in the 2009 to 2014 time frame, with forecasted violations increasing in number and severity in the later time period in the sensitivity analyses.



11. Duquesne Light concluded that extensive upgrades would be needed to its transmission system to ensure reliability. Duquesne Light's plan to construct a backbone of 345 kV transmission lines through overhead and underground construction arose from these system analyses and from analyses considering other existing and projected limitations on the transmission system's physical or operational capability or performance. The engineering studies identified a number of interrelated alternatives that involved upgrading 69 kV circuits to 138 kV, upgrading 138 kV circuits to 345 kV, installation of new overhead and underground 138 kV and 345 kV transmission lines, and significant upgrades to several substations. The alternatives described in the studies required further analysis of cost and technical feasibility, and those subsequent evaluations ultimately resulted in the Duquesne Transmission Enhancement Plan ("DTEP") that was presented to PJM and later to the Federal Energy Regulatory Commission. PJM approved the DTEP projects as part of its 2005 Regional Transmission Expansion Planning ("RTEP") process.

12. In a continued effort to bring supply from the western portion of the service territory into its eastern load centers, Duquesne Light plans to extend its 345 kV creating a 345 kV backbone through the center of its system. Along the way, 345 kV buses are being established in order to supply critical 345/138 kV autotransformers at multiple locations.

13. The central feature of Duquesne Light's plan is a new 345 kV transmission backbone and related facilities between the Brunot Island and Logans Ferry Substations using a combination of existing, new, and up-rated transmission lines. Work on the DTEP is well underway with the installation of a new 345/138 kV autotransformer at Arsenal Substation completed and with a new 345 kV switching station at Brunot Island under construction. Furthermore, eastern substations such as North, Pine Creek, Wilmerding, and Highland have all been converted to 138 kV supply, thus eliminating the area's 69 kV and making room for the proposed Line.

14. The conversion of the former Colfax-Highland No. 1 69 kV transmission line is instrumental in accomplishing Duquesne Light's plan. The Colfax-Highland No. 1 69 kV line is constructed of wooden H-frames and lattice towers. The steel lattice structures were largely constructed in 1927 as part of an original Colfax-Highland line. The wood H-frame construction occurred in 1953. Aside from maintenance-based replacements, the line has not undergone any significant modifications since it was originally built. All of the hardware and insulators on the lattice steel portion are in need of replacement. A portion of the shield wire on the lattice tower portion is Copperweld. It too, requires immediate replacement. The entire line was inspected in detail in 1989 and 2003. As a result of the 1989 inspections many of the wood poles, guys, and anchors on the H-frame portion were replaced. Additional maintenance occurred in 2004, replacing other poles, guys, and anchors requiring immediate attention. Duquesne Light decided against continuing with maintenance-based replacement of the line since most of the line is at or has exceeded the expected lifetime of the materials.

15. Furthermore, the former Colfax-Highland 69 kV lines were inadequate to support the capacity necessary to achieve the desired voltage and contingency support required by the northeastern portion of the territory. Given the small conductor size and the age of these lines, loss of one would result in an overload on the remaining line.

16. In addition to solving the low voltage conditions and contingency overload scenarios, the 345 kV at Logans Ferry is one of the final steps to completing the transition of area transmission supply from 69 kV to 138 kV. The overall plan, including the addition of the proposed Line, will increase the capacity of the transmission system, decrease the number of transformations to 69 kV and consequently reduce transformer losses and investment in 69 kV autotransformers, while addressing the need for extensive rehabilitation of aging lines and substations.

## **SAFETY CONSIDERATIONS**

17. The Line will be designed, constructed, operated and maintained to meet or exceed the requirements of the 2007 current edition of the National Electrical Safety Code (NESC). The safety standards contained in the NESC relating to overhead electric supply lines have been incorporated into the design and will be incorporated into the construction of the Line as minimum safety standards as to required clearances and structural loadings. The design, construction, operation and maintenance procedures for the Line will conform to Duquesne Light's transmission and distribution construction standards and Duquesne Light's procedures for construction, operation, maintenance and safety, which include erosion and sedimentation control, storm water management, and line clearance and vegetation management on ROWs. These standards meet or exceed all relevant NESC standards and all standards of the Federal Occupational Safety and Health Administration.

## **ENVIRONMENTAL ASSESSMENT**

18. Duquesne Light contracted with GAI Consultants, Inc. to complete a comprehensive study of the projected environmental impacts of the Line and six alternate routes. The results of the study are contained in the Environmental Assessment and Line Route Study, dated February 2010, and designated as Exhibit 7. The Line is referred to as Alternative Route 1 in the Study.

19. A total of 25 environmental and socioeconomic resource criteria were evaluated to determine the projected impacts of the alternate routes. The 25 resource criteria were based on Pennsylvania Public Utility Commission regulations as well as traditional environmental impact assessment criteria. Exhibit 7 describes and scores the environmental impact of each alternate route in the Executive Summary, Section 2, and Section 3. The corridor planning methodology and a comparison of the merits and detriments of each route are discussed in Exhibit 7, in particular

Sections 2 and 3. Exhibit 7 includes identification of archaeological, geologic, historic, scenic, or wilderness areas within two miles of the proposed ROW. There are no airports located within two miles of the ROW as identified in Exhibit 7.

#### **GENERAL DESCRIPTION OF THE ALTERNATE ROUTES**

20. Six proposed routes, the Line (Alternative 1) and five alternative routes, were selected to be included in the Environmental Assessment and Line Route Study. Alternative Routes 1, 3, 4, 5, 6, and 9 all connect the Highland Substation and the Logans Ferry Substation by following various routes across the study area. An aerial photographic map of the area, Figure 3-1, showing all six routes is included in Exhibit 7.

21. Alternative 1 entirely follows the existing 69 kV Line #1 ROW. This 7.8-mile long alternative begins at the Highland Substation, extends eastward and passes over property of St. Peter's Cemetery and the Veterans Administration (VA) Hospital to mile point (MP) 1.1. Here it proceeds on a hilltop above the Allegheny River past the Riverview Memorial Park Cemetery, Longue Vue Country Club, and Green Oaks Country Club, to MP 3.4. It then proceeds up the Quigley Creek stream valley and turns north, then east, crossing an urban section of Penn Hills adjacent to Verona to MP 5.0. Alternative 1 then extends through open land turning northward to cross a portion of the Valemont Heights subdivision in Penn Hills, across a wooded area to another crossing of a small subdivision, crosses the Bessemer & Lake Erie Railroad and the Pennsylvania Turnpike at about MP 6.7; and then proceeds through essentially vacant land to the Logans Ferry Substation in Plum. Duquesne Light currently owns the entire ROW; no new ROW is required with this alternative.

22. Alternate Route 3 is an 8.6-mile long alternative was sited to avoid areas of steep slopes along the Allegheny River and as much urban area along existing Line #1 as possible. In doing so, considerable new ROW will be required. This route begins at the Highland Substation and extends eastward, passing over property of the

St. Peter's Cemetery and the VA Hospital. It leaves existing Line #1 to join Segment D (see Figure 3-1 in Exhibit 7 for segment identifications) located on pipeline and railroad ROWs adjacent to the Allegheny River from MP 1.6 to MP 3.4 in order to avoid areas of slope instability within the ROW of existing Line #1. It then turns eastward and continues on Segment N and then northward on Segment P (MP 3.4 to MP 5.0) on new ROW, first over the Green Oaks Country Club and intermittent residential development, and then northward down a tributary to Plum Creek. From MP 5.0 to MP 6.6, Segment Q on new ROW is used to continue to avoid urban areas by following wooded stream valleys and hilltops. At MP 6.6, this alternative follows Segment U and continues northward across the Bessemer & Lake Erie Railroad and the Pennsylvania Turnpike at about MP 6.7 to the Logans Ferry Substation on new ROW.

23. Alternate Route 4 is a 7.7-mile long alternative follows existing Line #1 northeastward from the Highland Substation passing over property of the St. Peter's Cemetery and the VA Hospital and then through essentially non-urban terrain to MP 3.6. It then continues northeast on new ROW using Segment O to MP 5.0 (see Figure 3-1 in Exhibit 7 for segment identifications), crossing Verona Road at a location where there is less development than is encountered along existing Line #1. From MP 5.0 to MP 6.6, Segment Q on new ROW is used to continue to avoid urban areas by following wooded stream valleys and hilltops. From MP 6.6, it proceeds northward on existing Line #1 to cross the Bessemer & Lake Erie Railroad and the Pennsylvania Turnpike at about MP 6.7, then to the Logans Ferry Substation.

24. Alternate Route 5 is a 7.6-mile long alternative uses portions of existing Line #1 ROW and proceeds northeastward from the Highland Substation, passing over property of the St. Peter's Cemetery and the VA Hospital, and then through essentially non-urban terrain to MP 3.6. Here it uses Segment O on new ROW to MP 5.0 (see Figure 3-1 in Exhibit 7 for segment identifications), crossing Verona Road at a location where there is less development than is encountered along

existing Line #1. Alternative 5 then reconnects with existing Line #1 and proceeds through vacant land turning northward to cross a portion of Valemont Heights subdivision in Penn Hills, across a wooded area to another crossing of a small subdivision, and then proceeds through essentially vacant land to the Logans Ferry Substation. In this section, it crosses the Bessemer & Lake Erie Railroad and the Pennsylvania Turnpike at about MP 6.7.

25. Alternate Route 6 is a 7.9-mile long alternative begins at the Highland Substation and proceeds eastward on a common alignment with existing Line #1, passing over property of the St. Peter's Cemetery and the VA Hospital. The alternative then proceeds through essentially non-urban land prior to crossing an urbanized section of Verona from MP 3.6 to MP 5.0. This alternative then leaves the existing Line #1 common alignment and uses Segment Q to MP 6.6 (see Figure 3-1 in Exhibit 7 for segment identifications), avoiding the need to cross a portion of Valemont Heights subdivision in Penn Hills and the crossing of a small subdivision. From MP 6.6, Alternative 6 proceeds northward on existing Line #1 crossing the Bessemer & Lake Erie Railroad and the Pennsylvania Turnpike at about MP 6.7, then extends to the Logans Ferry Substation.

26. Alternate Route 9 is a 7.8-mile long alternative was sited to avoid steep terrain on the slopes along the Allegheny River. This route begins at the Highland Substation and extends eastward, on a common alignment with existing Line #1 and passes over property of the St. Peter's Cemetery and the VA Hospital. It leaves existing Line #1 to join Segment D (see Figure 3-1 in Exhibit 7 for segment identifications) located on railroad ROW adjacent to the Allegheny River from MP 1.6 to MP 3.4 in order to avoid areas of steep slopes within the ROW of existing Line #1. At MP 3.4, it rejoins existing Line #1 which proceeds up the Quigley Creek stream valley and turns north, then east, crossing an urban section of Penn Hills adjacent to Verona to MP 5.0. It then extends through open land turning northward to cross a portion of the Valemont Heights subdivision in Penn Hills, across a wooded area to

another crossing of a small subdivision, crosses the Bessemer & Lake Erie Railroad and the Pennsylvania Turnpike at about MP 6.7, and then proceeds through essentially vacant land to the Logans Ferry Substation.

#### **SELECTION OF PROPOSED ROUTE**

27. The existing Line #1 (Alternative 1) is the most suitable alternative for the Line. Alternative 9 is also environmentally acceptable, though not suitable as a licensable alternative route due to the inability to utilize a section along the existing railway ROW (Segment D in Figure 3-1 of Exhibit 7). See Section 3 of Exhibit 7 for the environmental impact scores of all of the routes.

#### **CONSTRUCTION COST AND IN-SERVICE DATE**

28. The estimated cost of construction of the project is \$16,500,000; the proposed in-service date for the Line is June 2011.

#### **LITIGATION**

33. There is no litigation concluded or in progress concerning the construction of the Line.

#### **SERVICE OF APPLICATION**

34. Copies of this Application and its Exhibits, or Notice of its filing, have been served upon all interested parties by certified mail, return receipt requested, as required by Commission Regulation 57.74, 52 Pa. Code § 57.74.

#### **AGENCY REQUIREMENTS**

35. A list of the local, State, and Federal governmental agencies that have requirements that will be met in connection with the construction and maintenance of

this Project and a list of documents that have or will be filed with these agencies in connection with the siting and construction of the Project is contained in Exhibit 8.

### EXHIBITS

36. The following exhibits are attached to this Application:
- Exhibit 1 - Topographic Map showing the location of the Line
  - Exhibit 2 - Duquesne Light System Map
  - Exhibit 3 - Description of the Line
  - Exhibit 4 - Proposed Typical Cross-Section - 345 kV Steel Pole
  - Exhibit 5 - Proposed Typical Cross-Section - Parallel 345 kV and  
138 kV Line
  - Exhibit 6 - Names and Addresses of Property Owners
  - Exhibit 8 - List of Agencies

The following Exhibit accompanies this Application because it is too large to attach directly:

- Exhibit 7 - Environmental Assessment and Line Route Study including:
  - Figure 3-1 - Project Area and Selected Resources – Aerial Photo
  - Figure 3-2 - Project Area and selected Resources – Topographic Map
  - Figure 3-3 - Extended Study Area and Selected Resources within  
2 Miles of Alternative Routes

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PA PUBLIC UTILITY COMMISSION  
SECRETARY'S BUREAU

Respectfully submitted,

*Krysia Kubiak*

Krysia Kubiak  
Attorney for Duquesne Light Company  
Pa. I.D. #90619

Duquesne Light Company  
411 Seventh Avenue, 16-1  
Pittsburgh, PA 15219

Telephone: (412) 393-6505  
FAX: (412) 393-6092





Before the  
PENNSYLVANIA PUBLIC UTILITY COMMISSION

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**PA PUBLIC UTILITY COMMISSION  
SECRETARY'S BUREAU**

In re: :  
Application of Duquesne Light Company :  
for the Siting and Construction of a 345kV :  
Transmission Line in the City of Pittsburgh, : Docket No. A- \_\_\_\_\_  
Municipality of Penn Hills, Verona Borough : Folder \_\_\_\_\_  
and Plum Borough, Allegheny County :

NOTICE OF FILING PURSUANT TO  
52 PA. CODE § 57.74(c)

The above-captioned Application will be filed with the Pennsylvania Public Utility Commission on or about February 11, 2010. The Application concerns the siting and construction of a 7.8-mile long, 345 kV transmission line. The Line is located entirely on existing ROW that varies in width. The Line exits the Highland Substation in the City of Pittsburgh and proceeds eastward and passes over property of St. Peter's Cemetery and the Veterans Administration (VA) Hospital to mile point (MP) 1.1. Here it proceeds on a hilltop above the Allegheny River past the Riverview Memorial Park Cemetery, Longue Vue Country Club, and Green Oaks Country Club, to MP 3.4. It then proceeds up the Quigley Creek stream valley and turns north, then east, crossing an urban section of Penn Hills adjacent to Verona to MP 5.0. The Line then extends through open land turning northward to cross a portion of the Valemont Heights subdivision in Penn Hills, across a wooded area to another crossing of a small subdivision, crosses the Bessemer & Erie Railroad and the Pennsylvania Turnpike at about MP 6.7, and then proceeds through essentially vacant land to the Logans Ferry Substation in Plum. Approximately 1.1 miles of the Line will be located within the City of Pittsburgh, 3.8 miles within the Municipality of Penn Hills, approximately 0.1-mile within the Municipality of Verona, and 2.8 miles will be located within Plum Borough, Allegheny County. Attached hereto and labeled Exhibit 1 is a map showing the proposed route of this transmission line.

A copy of the Application is available for public examination during ordinary business hours at the:

William E. Anderson Library of Penn Hills  
1037 Stotler road  
Pittsburgh, PA 15235


Verona Municipal Building  
736 East Railroad Avenue  
Verona, PA 15147

Plum Borough Community Library  
445 New Texas Road  
Plum Borough, PA 15239

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SECRETARY'S BUREAU

  
Krysta Kubiak  
Attorney for Duquesne Light Company  
Pa. I.D. #90619

Duquesne Light Company  
411 Seventh Avenue  
Pittsburgh, PA 15219

Telephone: (412)393-6505  
FAX: (412) 393-6092

Before the  
PENNSYLVANIA PUBLIC UTILITY COMMISSION

In re: Letter of Notification of Duquesne Light :  
Company for the Construction of a 7.8 Mile Long :  
Single Circuit 345 kV Transmission Line in :  
The City of Pittsburgh, Municipality of Penn Hills, : Docket No.  
Verona Borough and Plum Borough, : Folder \_\_\_\_\_  
Allegheny County, PA :

**CERTIFICATE OF SERVICE**

I hereby certify that I have this day served a true copy of the Application and Exhibits upon the participants listed below in accordance with the requirements of 52 PA. Code § 57.74(b) (relating to service of copies):

Leonard F. Brennan  
Mayor  
Verona Borough  
736 East Railroad Avenue  
Verona, PA 15147

William Futules  
President of Council  
Verona Borough  
736 East Railroad Avenue  
Verona, PA 15147

Bonnie Conway  
Manager  
Verona Borough  
736 East Railroad Avenue  
Verona, PA 15147

Richard Hrivnak  
Mayor  
Plum Borough  
4575 New Texas Road  
Pittsburgh, PA 15239

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SECRETARY'S BUREAU**

Michael Thomas  
Plum Borough Manager  
4575 New Texas Road  
Pittsburgh, PA 15239

Greg Bachy  
Plum Borough Planning & Zoning  
4575 New Texas Road  
Pittsburgh, PA 15239

Anthony L. DeLuca  
Mayor  
Municipality of Penn Hills  
Municipal Building  
12245 Frankstown Road  
Penn Hills, PA 15235-2109

Mohammed F. Rayan, *Municipal Manager*  
Municipality of Penn Hills  
Municipal Building  
12245 Frankstown Road  
Penn Hills, PA 15235-2109

Howard Davidson  
Planning Director  
Municipality of Penn Hills  
Municipal Building  
12245 Frankstown Road  
Penn Hills, PA 15235-2109

Luke Ravenstahl  
Mayor  
Room 512  
City-County Building  
414 Grant Street  
Pittsburgh, PA 15219

Darlene Harris  
Council President  
510 City-County Building  
414 Grant Street  
Pittsburgh, PA 15219

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PA PUBLIC UTILITY COMMISSION  
SECRETARY'S BUREAU

Noor Ismail  
Planning Director  
200 Ross Street  
Fourth Floor  
Pittsburgh, PA 15219

Dan Onorato  
Allegheny County Chief Executive  
101 County Courthouse  
436 Grant Street  
Pittsburgh, PA 15219

Allegheny County Council  
119 County Courthouse  
436 Grant Street  
Pittsburgh, PA 15219

James Matta  
General Manager  
Municipal Authority of the  
City of New Kensington  
P.O. Box 577  
920 Barnes Street  
New Kensington, PA 15068

John Dunlap  
General Manager  
Oakmont Water Authority  
P.O. Box 73  
Oakmont, PA 15139

Michael Kenney  
Executive Director  
The Pittsburgh Water & Sewer Authority  
Penn Liberty Plaza I  
1200 Penn Avenue  
Pittsburgh, PA 15222

Anthony Russo, Jr.  
Executive Director  
Wilkesburg Penn Joint Water Authority  
2200 Robinson Boulevard  
Pittsburgh, PA 15221

Cheryl Stezoski  
Manager  
Plum Borough Municipal Authority  
4555 New Texas Road  
Pittsburgh, PA 15239

Harry Readshaw  
Chairman  
Alcosan  
3300 Preble Avenue  
Pittsburgh, PA 15233

Carol Fox  
President  
Columbia Gas of Pennsylvania  
501 Technology Drive  
Canonsburg, PA 15317

Morgan K. O'Brien  
President & CEO  
Peoples Natural Gas Company  
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Pittsburgh, PA 15222

Murry S. Gerber  
Chairman and CEO  
EQT  
225 North Shore Drive  
Pittsburgh, PA 15212

Paul J. Evanson  
Chairman, President & CEO  
Allegheny Energy, Inc.  
800 Cabin Hill Drive  
Greensburg, PA 15601-1689

Dennis Rachocki  
Manager OSP Engineering  
Windstream Pennsylvania, LLC  
11317 Mercer Pike  
Meadville, PA 16335

Ivan G. Seidenberg  
Chairman & CEO  
Verizon Communications, Inc.  
1095 Avenue of the Americas  
New York, NY 10036

Department of Environmental Protection  
Policy Office  
P.O. Box 2063 15<sup>th</sup> Floor  
RCSOB  
Harrisburg, PA 17105-2063

Dated this 11<sup>th</sup> day of February 2010.

*Krysa Kubiak*

Krysa Kubiak  
Pa. I.D. # 90619  
Duquesne Light Company  
411 Seventh Avenue  
Mail Drop 16-1  
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Telephone: (412) 393-6505  
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Before the  
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In re: Letter of Notification of Duquesne Light :  
Company for the Construction of a 7.8 Mile Long :  
Single Circuit 345 kV Transmission Line in :  
The City of Pittsburgh, Municipality of Penn Hills, : Docket No.  
Verona Borough and Plum Borough, : Folder \_\_\_\_\_  
Allegheny County, PA :

**CERTIFICATE OF SERVICE**

I hereby certify that I have this day served a true copy of the Notice of Filing and Exhibit 1 upon the participants listed below in accordance with the requirements of 52 PA. Code § 57.74(c) (relating to Notice of Service):

Eugene & Jane Abplanalp  
116 Friar Drive  
Verona, PA 15147

Angelo Development Company, Inc.  
100 Springwood Drive  
Verona, PA 15147

John Aquiline  
5227 Myakka Valley Trail  
Sarasota, FL 34241

Joseph E. Arendosh  
Jean E. Bauer  
100 Friar Drive  
Verona, PA 15147

John R. Arnold  
6919 Bishop Street  
Pittsburgh, PA 15206

Richard W. Atchison  
Mary Ann Atchison  
6421 Swan Drive  
Verona, PA 15147

Jasvinder Singh Bedi  
502 Eagle Court  
Wexford, PA 15090

Bessemer & Lake Erie RR Co.  
277 Front Street West  
Toronto Ontario  
M5V 2X4 Canada

Bertha Biber  
Richard & Linda Hey  
1346 Riverview Drive  
Verona, PA 15147

Paul & Edith Bigenho  
1649 Loretta Drive  
Verona, PA 15147

Paul & Edith Bigenho  
Leo & Mildred Frazier  
5023 Allegheny River Blvd.  
Pittsburgh, PA 15235

Leonard J. Blatnica  
Kenneth M. Blatnica  
6752 E. Barivista Drive  
Verona, PA 15147

Jacob & Janet Brocato  
360 Morath Lane  
Verona, PA 15147

Curtis A. & Cassandra Brown, Sr.  
6708 Barivista Drive  
Verona, PA 15147

George O. & Mary Louise Brown, Jr.  
1345 Riverview Drive  
Verona, PA 15147

Karen A. Bruno  
6712 E. Barivista Drive  
Verona, PA 15147

Mark A. Cahill  
5029 Allegheny River Boulevard  
Verona, PA 15147

Donald M. & Robert D. Campanella  
6744 E. Barivista Drive  
Verona, PA 15147

Dominico & Barbara G. Carchidi  
329 5<sup>th</sup> Street Ext.  
Verona, PA 15147

Joseph R. & Carol Casciato  
6792 Tunnelview Drive  
Pittsburgh, PA 15235

Egidio & Mary Cianelli  
6716 E. Barivista Drive  
Verona, PA 15147

Grace Ciorra  
6740 E. Barivista Drive  
Verona, PA 15147

Mary Jane Cipko &  
Samuel Radovitch  
1400 Elliott Street  
Verona, PA 15147

City of Pittsburgh  
414 Grant Street, Rm. 215  
Pittsburgh, PA 15219

Deborah Connelly  
108 Friar Drive  
Verona, PA 15147

Meagan J. & Brett C. Crowell-Shear  
104 Friar Drive  
Verona, PA 15147

Theodore J. & Dolores Croyle, Jr.  
Jennifer Croyle  
2148 Shady Lane  
Kittanning, PA 16201

Kelly A. Cuda  
Gary Kristan  
6533 Swan Avenue  
Verona, PA 15147

Ruth A. Davis Irrevocable  
Income Only Trust  
104 Ridge View Drive  
New Kensington, PA 15068

Konstantinos N. &  
Lynn A. Dedousis  
1346 Della Street  
Verona, PA 15147

Victor & Antoinette Defazio  
1390 Elliott Street  
Verona, PA 15147

Joseph M. Dellach  
541 4<sup>th</sup> Street  
Verona, PA 15147

Brittany M. Deriggi  
7334 Shannon Road  
Verona, PA 15147

Jeffrey & Denise Deshong  
258 5<sup>th</sup> Street, Ext.  
Verona, PA 15147

Anthony & Elizabeth Diana  
4048 Greenridge Drive  
Verona, PA 15147

Henry Dimarcelli  
529 4<sup>th</sup> Street  
Verona, PA 15147

Carl & Evelyn Dimmerling  
1447 Mount Avenue  
Verona, PA 15147

Charles T. Dinunzio  
200 Virginia Avenue  
Pittsburgh, PA 15215

Raymond & Frances Disanti  
6419 Swan Avenue  
Verona, PA 15147

Edward L. & Joan Donnelly  
6525 Swan Avenue  
Verona, PA 15147

David & Carole Duncan  
4550 Allegheny River Blvd.  
Verona, PA 15147

William Edgar  
1766 Hunter Road  
Verona, PA 15147

Brian E. Elinich  
1362 Mount Avenue  
Verona, PA 15147

Michael J. Ericksen  
1306 Hunter Road  
Verona, PA 15147

Family Links, Inc.  
250 Shady Avenue  
Pittsburgh, PA 15206

Dennis & Ramona Flecher  
Lydia K. Meshanko  
31 Wind Crest Drive  
Cecil, PA 15321

James & Holly Forsyth  
260 5<sup>th</sup> Street, Ext.  
Verona, PA 15147

Marie Futules Family  
Irrevocable Trust  
1401 Elliott Street  
Verona, PA 15147

William A. Futules  
716 Allegheny River Blvd.  
Verona, PA 15147

Thomas & Deborah Garscia  
321 Springwood Drive  
Verona, PA 15147

Angela H. Gigliotti  
109 Grace Street  
Verona, PA 15147

Green Oaks Country Club  
5741 3<sup>rd</sup> Street  
Verona, PA 15147

Brandon Greene &  
Anesha Smith-Greene  
4054 Greenridge Drive  
Verona, PA 15147

Gerald & Toni Grove  
4057 Greenridge Drive  
Verona, PA 15147

Regis J. Harvey  
6415 Swan Drive  
Verona, PA 15147

Rosanna Helsel  
6746 E. Barivista Drive  
Pittsburgh, PA 15147

Walton Lee Hendershot  
Lee D. Hendershot  
Lon J. Hendershot  
6720 Barivista Drive  
Verona, PA 15147

Charles J. & Donna Hostler, Jr.  
1450 Mount Avenue  
Verona, PA 15147

Janelle L. Howard  
4062 Greenridge Drive  
Verona, PA 15147

Joseph & Emily Huffman  
6433 Swan Drive  
Verona, PA 15147

Hulton Arbors Associates  
1670 Golden Mile Highway  
Monroeville, PA 15146

Hunter Garden Associates  
3535 Blvd. of the Allies  
Pittsburgh, PA 15213

Hunter Garden Associates  
100 Hunter Garden Court  
Verona, PA 15147

David & Rosemary Ireland  
4566 Allegheny River Blvd. #D  
Verona, PA 15147

James HRS Ireland  
Robert W. Ireland  
138 Clay Drive  
Pittsburgh, PA 15235

Raymond J. Jazbinsek, Sr.  
Georgina Jazbinsek  
Revocable Living Trust  
6425 Swan Drive  
Verona, PA 15147

Karen M. Jenkins  
6729 Sylvan Avenue  
Verona, PA 15147

Paul B. Jenkins, Jr.  
P.O. Box 403  
Oakmont, PA 15139

Clive Joseph  
6437 Swan Drive  
Verona, PA 15147

Ronald S. & Kathleen F. Kozera  
451 5<sup>th</sup> Street, Ext.  
Verona, PA 15147

Longue Vue Club  
400 Longue Vue Drive  
Verona, PA 15147

Charles A. & Virginia Lorence, Jr.  
114 Indian Creek Road  
Verona, PA 15147

Raymond & Elizabeth Lovelidge  
4049 Greenridge Drive  
Verona, PA 15147

Dwight & Judy Luther  
352 Morath Lane  
Verona, PA 15147

Richard S. Lydic  
6429 Swan Drive  
Verona, PA 15147

Enrico & Maria Marotta  
1385 Elliot Street  
Verona, PA 15147

Larry & Carleen Martin  
4061 Greenridge Drive  
Verona, PA 15147



Media Martin  
740 Trumbull Drive  
Pittsburgh, PA 15205

Renee Martino  
Joseph Antonucci  
580 Woodlawn Avenue  
Verona, PA 15147

John & Sandra McAndrew  
1353 Riverview Drive  
Verona, PA 15147

Kevin & Melanie McDermott  
6382 Verona Road  
Verona, PA 15147

Municipality of Penn Hills  
12245 Frankstown Road  
Pittsburgh, PA 15235

Anthony J. Nicassio/Ralph Nicassio  
Dominic Nicassio/Janet Nicassio  
& Maria Nicassio  
416 Glendale Court  
Monroeville, PA 15146

Dominic Nicassio/Ralph Nicassio  
Anthony Nicassio/Janet Nicassio  
& Maria Fioravanti  
1002 Attilio Court  
Harrison City, PA 15636

Dominic & Joann Nicassio  
416 Glendale Court  
Monroeville, PA 15146

Ralph & Gloria Nicassio  
1002 Attilio Court  
Harrison City, PA 15636

Donald J. Noonan, Jr.  
122 Friar Drive  
Verona, PA 15147

Donald J. & Joy Noonan, Jr.  
122 Friar Drive  
Verona, PA 15147

Numis Corporation  
RR 1, Box 295A  
Trafford, PA

Francis & Kathryn Odonnell  
6745 Sylvan Street  
Verona, PA 15147

Thomas & Jennie Odonnell  
6747 Sylvan Street  
Verona, PA 15147

Charles E. Oleson  
715 Old Mill Road  
Pittsburgh, PA 15238

Marian O. Parente  
3202 Riverfront Drive  
Pittsburgh, PA 15238

David & Lorraine Parrendo  
1617 Vista View Drive  
Verona, PA 15147

Joseph & Betty Pecze  
6724 E. Barivista Drive  
Verona, PA 15147  
Penhurst Partners Limited  
P.O. Box 6  
Verona, PA 15147

Penn Township Land Co.  
5741 3<sup>rd</sup> Street  
Verona, PA 15147

Pennsylvania Turnpike Commission  
P.O. Box 67676  
Harrisburg, PA 17106

Jeffrey & Kathryn Pepper  
Ronald & Katleen Kozera  
310 5<sup>th</sup> Street Ext.  
Verona, PA 15147

Vincent & Carole Petrocelli  
6732 Barivista Drive  
Verona, PA 15147

John & Rose Mary Petrucci  
1417 Riverview Drive  
Verona, PA 15147

Plum Creek Estates, LLC  
1411 Saw Mill Run Boulevard  
Pittsburgh, PA 15210

Presbyterian Association on Aging  
1215 Hulton Road  
Oakmont, PA 15139

Presbyterian Seniorcare  
1215 Hulton Road  
Oakmont, PA 15139

Edward J. Ramsey  
April Labertew  
1616 Vista View Drive  
Verona, PA 15147

Gia Roberta Regan  
1465 Beulah Drive  
Pittsburgh, PA 15235

Robert & Debra Remaley  
6521 Swan Avenue  
Verona, PA 15147

Rest Land Memorial Park, Inc.  
990 Patton Street  
Monroeville, PA 15146

Joseph & Bertha Ritchey  
110 Indian Creek Road  
Verona, PA 15147

Riverview School District  
100 Hulton Road  
Oakmont, PA 15139

Kevin D. Scanlan  
4041 Greenridge Drive  
Verona, PA 15147

Dolores K. Schnoes  
Declaration of Trust  
3151 Pearl City Road  
Freeport, IL 61032

School District of the Township  
of Penn Hills  
309 Collins Drive  
Pittsburgh, PA 15235

Colleen Elizabeth Schultheis  
333 5<sup>th</sup> Street Ext.  
Verona, PA 15147

Gray A. Secola  
Rosemarie Cappuccio  
2234 Manordale Drive  
Export, PA 15632

Joseph & Marlene Sentesi  
600 Woodlawn Avenue  
Verona, PA 15147

Frederick & Anita Smith  
6529 Swan Drive  
Verona, PA 15147

Roy Smith, Jr.  
760 Valemont Drive  
Verona, PA 15147

St. Peters Cemetery Co.  
6933 Lemington Avenue  
Pittsburgh, PA 15206

Brandon D. Stover  
Lindsey P. Albro  
6517 Swan Drive  
Verona, PA 15147

Pete & Helen Sucheovich  
6423 Swan Drive  
Verona, PA 15147

Robert & Melanie Tappe  
320 Springwood Drive  
Verona, PA 15147

John & Olga Tauro  
6736 Barivista Drive  
Verona, PA 15147

Township of Penn Hills  
12245 Frankstown Road  
Pittsburgh, PA 15235

James & Nancy Truschel  
467 5<sup>th</sup> Street Ext.  
Verona, PA 15147

David & Mara Tsymerman  
308 Springwood Drive  
Verona, PA 15147

Joshua D. Turley  
6411 Swan Drive  
Verona, PA 15147

Carl T. Valenti, Jr.  
750 Pier 2  
Quenemo, KS 66528-1453

James & Rose Marie Valenti  
237 Saylong Drive  
Pittsburgh, PA 15235

Valley Properties, Inc.  
P.O. Box 191  
Oakmont, PA 15139

Michael & Cindy Vento  
250 5<sup>th</sup> Street Ext.  
Verona, PA 15147

Michael & Cindy Vento  
320 Center Avenue  
Verona, PA 15147

Karen L. Vita  
1345 Della Street  
Verona, PA 15147

Nikki L. Walton  
4045 Greenridge Drive  
Verona, PA 15147

William E. Fritz &  
Barbara J. Fritz (Trustees)  
The Fritz Living Trust  
325 Springwood Drive  
Verona, PA 15147

Allen D. Biehler  
Secretary of Transportation  
Pennsylvania Department of Transportation  
Keystone Building, 8<sup>th</sup> Floor  
400 North Street  
Harrisburg, PA 17120-0095

Wayne S. Spilove  
Chairman of the Historical & Museum Commission  
State Museum Building  
300 North Street  
Harrisburg, PA 17120

Dated this 11<sup>th</sup> day of February 2010.

*Krysia Kubiak*

Krysia Kubiak

Pa. I.D. # 90619

Duquesne Light Company

411 Seventh Avenue

Mail Drop 16-1

Pittsburgh, PA 15219

Telephone: (412) 393-6505

FAX (412) 393-5897

**RECEIVED**

FEB 11 2010

PA PUBLIC UTILITY COMMISSION  
SECRETARY'S BUREAU

**EXHIBIT 1**

**TOPOGRAPHIC MAP SHOWING THE LOCATION OF THE LINE**

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FEB 11 2010

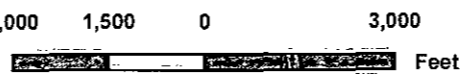
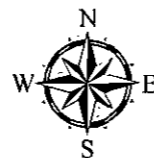
**PA PUBLIC UTILITY COMMISSION  
SECRETARY'S BUREAU**





**LEGEND**

● PROPOSED-STR-308	— 25ft CONTOURS	▭ BUILDINGS
● Proposed Substation Structure	— STREET CENTERLINES	▭ MUNICIPALITIES
○ Proposed Transmission Poles	— RAILROADS	— RIVERS
— Proposed Ckt 308		▭ SUB STATION



THIS DATA OF THE ALLEGHENY COUNTY GIS DATABASE (AGIS) AND DUQUESNE LIGHT COMPANY IS THE EXCLUSIVE PROPRIETARY INFORMATION OF ALLEGHENY COUNTY (COUNTY) AND DUQUESNE LIGHT COMPANY (DUQUESNE) AND SHALL NOT BE USED, TRANSMITTED, COPIED, OR DUPLICATED WITHOUT COUNTY'S AND DUQUESNE'S WRITTEN AUTHORIZATION. COUNTY AND DUQUESNE DISCLAIM ALL IMPLIED AND EXPRESS WARRANTIES AND/OR REPRESENTATIONS, INCLUDING WITHOUT LIMITATION, THE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. COUNTY AND DUQUESNE FURTHER DISCLAIM ALL POTENTIAL CLAIMS AND/OR LIABILITIES CONCERNING THE USE, TRANSMISSION, COPY OR DUPLICATION IN ANY MANNER OR FORM, CAUSED BY OR RESULTING FROM ANY ERRORS, MISTAKES, IRREGULARITIES, ACTS OR OMISSIONS OF COUNTY OR DUQUESNE SOLELY, AN EXPRESSLY AUTHORIZES PARTY, IF ANY, SHALL HAVE LIMITED USE OF THIS MAP ON ANY "AS IS" AND "WHERE IS" BASIS AS AGREED UPON IN A PRIOR WRITING BY COUNTY.



GIS Map Prepared By: Dan Antosik  
Engineering Dept. / GIS Section  
June 15, 2009

Approved By: J. A. Posey

**EXHIBIT 1**  
**PROPOSED HIGHLAND-LOGANS FERRY**  
**CIRCUIT 308**  
**TOPOGRAPHIC MAP**  
**PITTSBURGH EAST, PA**  
**BRADDOCK, PA**  
**NEW KENSINGTON EAST, PA**

**EXHIBIT 2**

**DUQUESNE LIGHT SYSTEM MAP**

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FEB 11 2010

PA PUBLIC UTILITY COMMISSION  
SECRETARY'S BUREAU

**EXHIBIT 3**

**DESCRIPTION OF THE LINE**

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**PA PUBLIC UTILITY COMMISSION  
SECRETARY'S BUREAU**

**EXHIBIT 3  
DESCRIPTION OF THE LINE**

The Line is approximately 7.8 miles long from the termination structure in Logans Ferry Substation to the termination structure in Highland Substation.

The Line will consist of 67 self-supporting single circuit tubular steel poles that will replace the single circuit lattice steel structures and wood pole structures of the existing 69kV line within the existing ROWs. The proposed poles will vary in height between 125 feet and 190 feet. The proposed span lengths will remain the same as those of the existing transmission line and range from 250 to 1312 feet with an average distance between supporting structures of approximately 640 feet. The Line will operate as a three-phase alternating current 345kV transmission line and will consist of three (3) phase conductors and one (1) shield wire. Each phase conductor will be twin-bundled 1024.5 kcmil 24/13 Aluminum Conductor Alloy Reinforced (ACAR) conductor and the shield wire will be a 7#8 Alumoweld conductor. A cross-sectional diagram showing the typical arrangement of the poles is attached hereto and incorporated herein as Exhibit 4.

The minimum line to structure clearance is 9.5 feet. The minimum conductor to ground clearance is 49 feet under normal load and average weather conditions and 45 feet under extreme load and temperature.

**RECEIVED**

**FEB 11 2010**

**PA PUBLIC UTILITY COMMISSION  
SECRETARY'S BUREAU**

**EXHIBIT 4**

**PROPOSED TYPICAL CROSS-SECTION - 345 kV STEEL POLE**

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PA PUBLIC UTILITY COMMISSION  
SECRETARY'S BUREAU

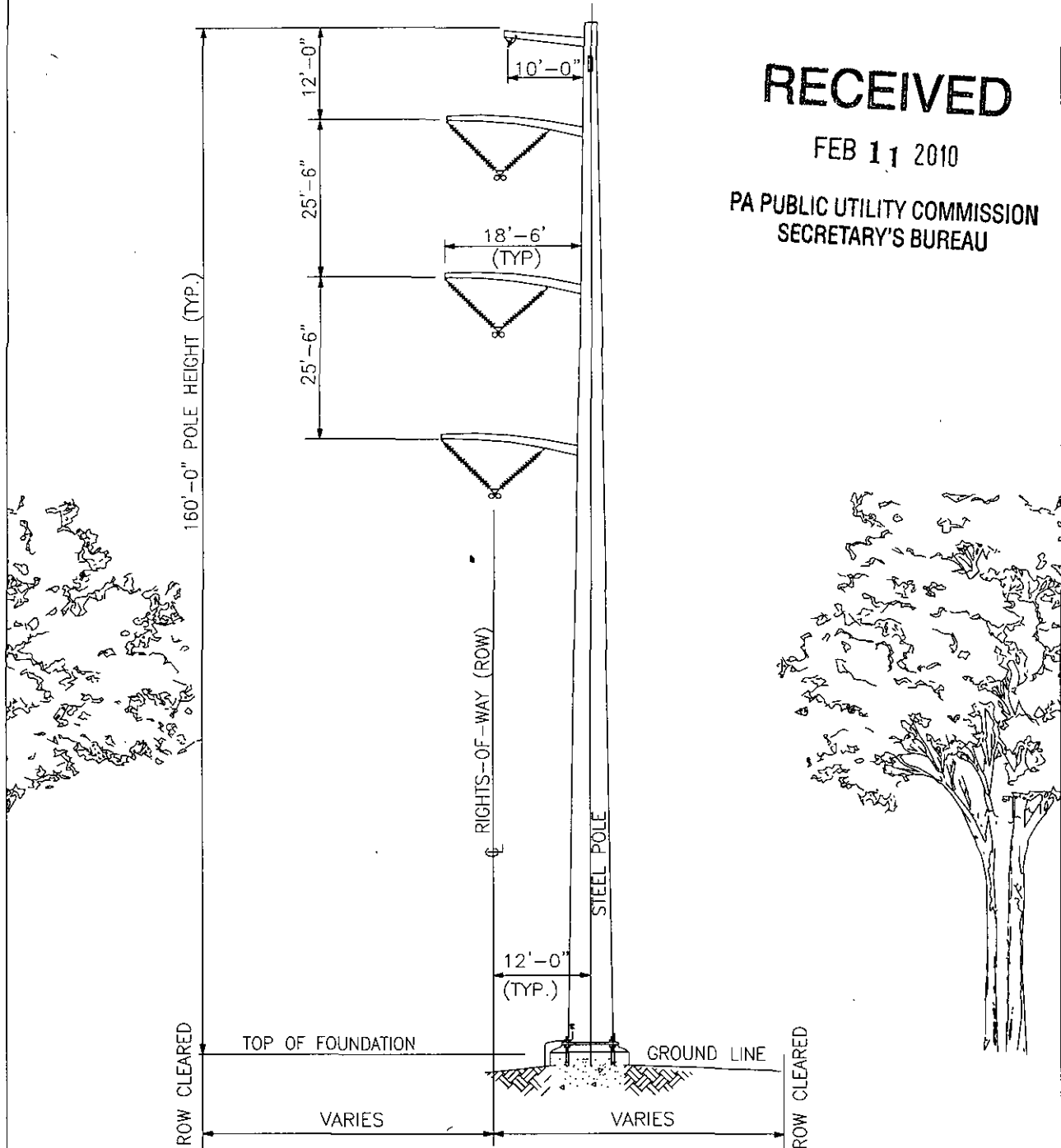


EXHIBIT 4



PROPOSED  
TYPICAL CROSS SECTION  
345kV STEEL POLE VEE-STRING

DUQUESNE LIGHT COMPANY  
ALLEGHENY COUNTY, PA

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PA PUBLIC UTILITY COMMISSION  
SECRETARY'S BUREAU

**EXHIBIT 5**

**PROPOSED TYPICAL CROSS-SECTION - PARALLEL 345 kV AND 138 kV LINE**

PROPOSED 345kV

EXISTING 138kV

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PA PUBLIC UTILITY COMMISSION  
SECRETARY'S BUREAU

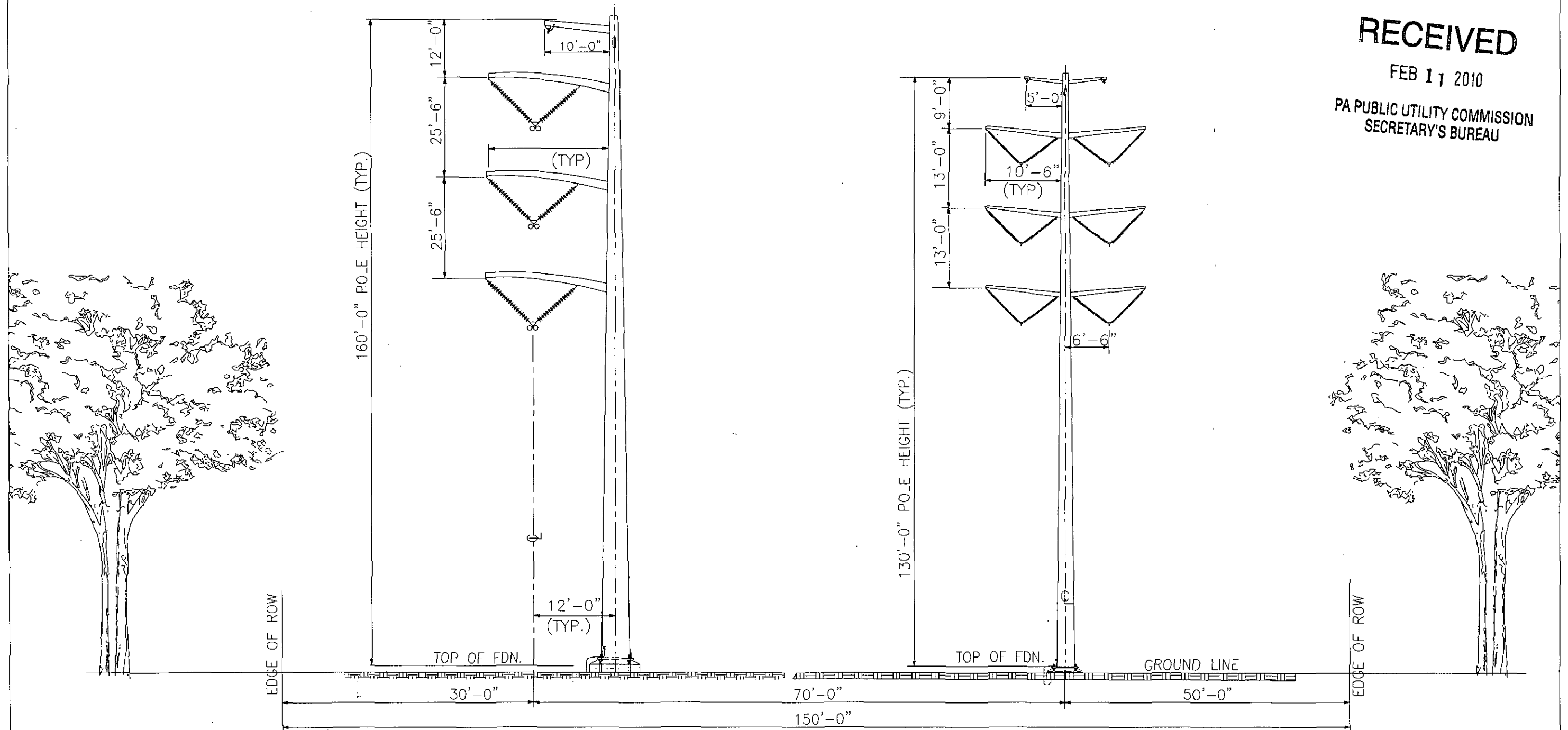


EXHIBIT 5



PROPOSED  
TYPICAL CROSS SECTION  
138kV & 345kV LINE

DUQUESNE LIGHT COMPANY  
ALLEGHENY COUNTY, PA



**RECEIVED**

FEB 11 2010

PA PUBLIC UTILITY COMMISSION  
SECRETARY'S BUREAU

**EXHIBIT 6**

**NAMES AND ADDRESSES OF PROPERTY OWNERS**

**Highland - Logan's Ferry 345kV Line**

Property List (within 50' of center line)

Sorted Alphabetically by Owner Name

Number	Parcel ID Number	Structure	Owner Name	Mailing Address	Muni/Twp/Boro
121	0445-S-00310-0000-00		Abplanalp Eugene & Jane L (W)	116 Friar Drive Verona, PA 15147	Penn Hills Twp
114	0446-D-00015-0000-00	225129	Angelo Development CO INC	100 Springwood Drive Verona, PA 15147	Penn Hills Twp
20	0229-C-00330-0000-00	225188	Aquiline John	5227 Myakka Valley Trail Sarasota, FL 34241	Penn Hills Twp
117	0445-R-00073-0000-00		Arendosh Joseph E & Jean E Bauer	100 Friar Drive Verona, PA 15147	Penn Hills Twp
31	0293-H-00098-0000-00	225169	Arnold John	6919 Bishop Street Pittsburgh, PA 15206	Penn Hills Twp
30	0293-H-00084-0000-00		Arnold John R	6919 Bishop Street Pittsburgh, PA 15206	Penn Hills Twp
46	0365-L-00277-0000-00		Atchison Mary Ann Richard W Atchison	6421 Swan Drive Verona, PA 15147	Penn Hills Twp
17	0229-C-00295-0000-00		Bedi Jasvinder Singh	502 Eagle Ct. Wexford, PA 15090	Penn Hills Twp
156	*0632-H-00392-0000-(01, 02, 03, or 04)		Bessemer & Lake Erie RR Co.	277 Front Street West Toronto Ontario M5V 2X4 Canada	Plum Boro
60	0365-G-00043-0000-00		Biber Bertha Biber Bertha 1/2 Int Richard Hey & Linda (W) 1/2 Int	1346 Riverview Drive Verona, PA 15147	Penn Hills Twp
35	0293-H-00186-0000-00	225167	Bigenho Paul B - Edith B - Mildred S Frazier - Leo M (Husb)	1649 Loretta Dr. Pittsburgh, PA 15235	Penn Hills Twp
32	0293-H-00124-0000-00		Bigenho Paul B & Edith B	1649 Loretta Drive Pittsburgh, PA 15235	Penn Hills Twp
83	0365-C-00333-0000-00		Blatnica Leonard J Kenneth M Blatnica	6752 E Barivista Drive Verona, PA 15147	Penn Hills Twp
154	0533-L-00072-0000-00	225103, 225101	Brocato Jacob S & Janet R (W)	360 Morath Lane Verona, PA 15147	Plum Boro
68	0365-G-00372-0000-00		Brown Curtis A Sr & Cassandra (W)	6708 E Barivista Drive Verona, PA 15147	Penn Hills Twp
62	0365-G-00064-0000-00		Brown George O Jr & Mary Louise	1345 Riverview Drive Verona, PA 15147	Penn Hills Twp
70	0365-G-00370-0000-00		Bruno Karen A	6712 E Barivista Drive Verona, PA 15147	Penn Hills Twp

Duquesne Light  
**Highland - Logan's Ferry 345kV Line**

Property List (within 50' of center line)  
 Sorted Alphabetically by Owner Name

Number	Parcel ID Number	Structure	Owner Name	Mailing Address	Muni/Twp/Boro
34	0293-H-00154-0000-00		Cahill Mark A	5029 Allegheny River Blvd. Verona, PA 15147	Penn Hills Twp
81	0365-C-00319-0000-00		Campanella Donald M Robert D Campanella	6744 E Barivista Drive Verona, PA 15147	Penn Hills Twp
111	0446-A-00288-0000-00		Carchidi Dominico & Barbara Grace	329 5th St Ext. Verona, PA 15147	Penn Hills Twp
130	0445-M-00225-0000-00		Casciato Joseph R & Carol (WF)	6792 Tunnelview Drive Pittsburgh, PA 15235	Penn Hills Twp
71	0365-G-00368-0000-00		Cianelli Egidio & Mary	6716 E Barivista Drive Verona, PA 15147	Penn Hills Twp
79	0365-G-00356-0000-00		Ciorra Grace	6740 E Barivista Drive Verona, Pa 15147	Penn Hills Twp
64	0365-G-00167-0000-00		Cipko Mary Jane Cipko Mary Jane 1/2 Int Samuel Radovitch Jr 1/2 Int	1400 Elliott Street Verona, PA 15147	Penn Hills Twp
2	0123-R-00012-0000-00		City of Pittsburgh	City-County Building 414 Grant St Rm. 215 Pittsburgh, PA 15219	City of Pittsburgh
3	0123-S-00030-0000-00		City of Pittsburgh	414 Grant St Rm. 215 Pittsburgh, PA 15219	City of Pittsburgh
120	0445-S-00280-0000-00		Connelly Deborah	108 Friar Drive Verona, PA 15147	Penn Hills Twp
119	0445-S-00275-0000-00		Crowell-Shear Meagan J & Brett C (H)	104 Friar Drive Verona, PA 15147	Penn Hills Twp
73	0365-G-00296-0000-00		Croyle Theodore J Jr. & Dolores V (W) Jennifer M Croyle	2148 Shady Ln. Kittanning, PA 16201	Penn Hills Twp
61	0365-G-00042-0000-00		Cuda Kelly A Gary Kristan	6533 Swan Avenue Verona, PA 15147	Penn Hills Twp
92	0365-C-00055-0000-00		Davis Ruth A Irrevocable Income Only Trust	104 Ridge View Dr. New Kensington, PA 15068	Penn Hills Twp
52	0365-L-00362-0000-00		Dedousis Konstantinos N & Lynn A Dedousis	1346 Della Street Verona, PA 15147	Penn Hills Twp
65	0365-G-00170-0000-00		Defazio Victor & Antoinette	1390 Elliott Street Verona, PA 15147	Penn Hills Twp
102	0364-S-00345-0000-00		Dellach Joseph M	541 4th Street Verona, PA 15147	Verona
97	0365-D-00303-0000-00		Deriggi Brittany M	7334 Shannon Road Verona, PA 15147	Penn Hills Twp

Duquesne Light  
**Highland - Logan's Ferry 345kV Line**

Property List (within 50' of center line)  
 Sorted Alphabetically by Owner Name

Number	Parcel ID Number	Structure	Owner Name	Mailing Address	Muni/Twp/Boro
108	0446-A-00232-0000-00		Deshong Jeffrey A & Denise K	258 5th St Ext. Verona, PA 15147	Penn Hills Twp
145	0534-B-00308-0000-00		Diana Anthony L & Elizabeth T (W)	4048 Greenridge Drive Verona, PA 15147	Penn Hills Twp
103	0446-A-00388-0000-00		Dimarcelli Henry	529 4th Street Verona, PA 15147	Penn Hills Twp
93	0365-C-00177-0000-00		Dimmerling Carl & Evelyn (W)	1447 Mount Avenue Verona, PA 15147	Penn Hills Twp
29	0293-L-00123-0000-00	225171	Dinunzio Charles T	200 Virginia Avenue Pittsburgh, PA 15215	Penn Hills Twp
44	0365-L-00280-0000-00		Disanti Raymond Robert & Frances Marie (W)	4749 Baum Blvd. Pittsburgh, PA 15213	Penn Hills Twp
58	0365-L-00255-0000-00		Donnelly Edward L & Joan	6525 Swan Avenue Verona, PA 15147	Penn Hills Twp
15	0229-C-00262-0000-00		Duncan David A & Carole A (W)	4550 Allegheny River Blvd. Verona, PA 15147	Penn Hills Twp
47	*0365-L, 365-G, 365-C	225147, 225145, 225143	Duquesne Light		
6	0172-L-00080-0000-00		Duquesne Light Co	1800 Seymour St. Pittsburgh, PA 15233	City of Pittsburgh
1	0123-R-00050-0000-00	856	DUQUESNE LIGHT CO (Highland SS)	1800 Seymour St. Pittsburgh, PA 15233	City of Pittsburgh
166	0629-B-00100-0000-00	321782, 315670	Duquesne Light Company	1800 Seymour Street Pittsburgh, PA 15233	Plum Boro
33	0293-H-00125-0000-00		Edgar William	1766 Hunter Road Verona, PA 15147	Penn Hills Twp
86	0365-C-00267-0000-00		Elinich Brian E	1362 Mount Avenue Verona, PA 15147	Penn Hills Twp
136	0534-B-00160-0000-00		Ericksen Michael J	1306 Hunter Road Verona, PA 15147	Penn Hills Twp
135	0534-F-00184-0000-00		Ericksen Michael J	1306 Hunter Road Verona, PA 15147	Penn Hills Twp
76	0365-G-00310-0000-00		Family Links Inc	250 Shady Avenue Pittsburgh, PA 15206	Penn Hills Twp
23	0293-P-00058-0000-00	225182, 225180, 225178, 225176	Fleeher Dennis & Ramona J (W) Lydia K Meshanko	31 Wind Crest Dr. Cecil, PA 15321	Penn Hills Twp

Duquesne Light  
**Highland - Logan's Ferry 345kV Line**  
 Property List (within 50' of center line)  
 Sorted Alphabetically by Owner Name

Number	Parcel ID Number	Structure	Owner Name	Mailing Address	Muni/Twp/Boro
24	0293-P-00058-0000-00	225182, 225180, 225178, 225176	Fleeher Dennis & Ramona J (W) Lydia K Meshanko	902 Field Club Rd. Pittsburgh, PA 15238	Penn Hills Twp
106	0445-N-00212-0000-00	225135	Forsyth Holly L & James S (H)	260 5th St Ext. Verona, PA 15147	Penn Hills Twp
107	0446-A-00222-0000-00		Forsyth Holly L & James S (H)	260 5th St Ext. Verona, PA 15147	Penn Hills Twp
66	0365-G-00183-0000-00		Futules Marie Family Irrevocable Trust	1401 Elliott Street Verona, PA 15147	Penn Hills Twp
36	0366-A-00190-0000-00	225165, 225162	Futules William A	716 Allegheny River Blvd. Verona, PA 15147	Penn Hills Twp
128	0445-M-00238-0000-00		Garscia Thomas C & Deborah A (W)	321 Springwood Drive Verona, PA 15147	Penn Hills Twp
69	0365-G-00299-0000-00		Gigliotti Angela H	109 Pavia Plaza Verona, PA 15147	Penn Hills Twp
27	0293-S-00350-0000-00		Green Oaks Country Club	5741 3rd Street Verona, PA 15147	Penn Hills Twp
41	0365-P-00026-0000-00		Green Oaks Country Club	5741 3rd Street Verona, PA 15147	Penn Hills Twp
40	0366-B-00261-0000-00	225152	Green Oaks Country Club	5741 3rd Street Verona, PA 15147	Penn Hills Twp
146	0534-B-00312-0000-00		Greene Brandon & Anesha Smith-Greene (W)	4054 Greenridge Drive Verona, PA 15147	Penn Hills Twp
143	0534-B-00229-0000-00		Grove Gerald J & Toni J (W)	4057 Greenridge Drive Verona, PA 15147	Penn Hills Twp
43	0365-L-00283-0000-00		Harvey Mary J	6415 Swan Drive Verona, PA 15147	Penn Hills Twp
82	0365-C-00323-0000-00		Helsel Rosanna	6746 E. Barivista Drive Pittsburgh PA 15147	Penn Hills Twp
72	0365-G-00366-0000-00		Hendershot Walton Lee & Lee D Hendershot Lon J Hendershot	6720 E. Barivista Drive Verona, PA 15147	Penn Hills Twp
91	0365-C-00062-0000-00		Hostler Charles J Jr & Donna L (W)	1450 Mount Avenue Verona, PA 15147	Penn Hills Twp
147	0534-B-00314-0000-00	225107	Howard Janelle L	4062 Greenridge Drive Verona, PA 15147	Penn Hills Twp
148	0534-B-00318-0000-00		Howard Janelle L	4062 Greenridge Drive Verona, PA 15147	Penn Hills Twp

**Highland - Logan's Ferry 345kV Line**

Property List (within 50' of center line)

Sorted Alphabetically by Owner Name

Number	Parcel ID Number	Structure	Owner Name	Mailing Address	Muni/Twp/Boro
53	0365-L-00267-0000-00		Huffman Joseph & Emily (W)	6433 Swan Drive Verona, PA 15147	Penn Hills Twp
150	0533-R-00097-0000-00	225105	Hulton Arbors Associates	1670 Golden Mile Hwy, Monroeville, PA 15146	Penn Hills Twp
133	0534-A-00050-0000-00		Hunter Garden Associates	3535 Blvd of the Allies, Pittsburgh, PA 15213	Penn Hills Twp
134	0534-F-00075-0000-00		Hunter Garden Associates	100 Hunter Garden Court Verona, PA 15147	Penn Hills Twp
18	0229-C-00305-0000-00		Ireland David J & Rosemary (W)	4566 Allegheny River Blvd #D Verona, PA 15147	Penn Hills Twp
14	0229-C-00225-0000-00	225190	Ireland James HRS	Robert W. Ireland 138 Clay Drive	Penn Hills Twp
50	0365-L-00273-0000-00		Jazbinsek Raymond J Sr & Georgina Jazbinsek Revoc Living Trust (The)	6425 Swan Drive Verona, PA 15147	Penn Hills Twp
80	0365-C-00314-0000-00		Jenkins Karen M	6729 Sylvan Avenue Verona, PA 15147	Penn Hills Twp
85	0365-C-00309-0000-00		Jenkins Paul B Jr	P.O. Box 403 Oakmont, PA 15139	Penn Hills Twp
54	0365-L-00264-0000-00		Joseph Clive	6437 Swan Drive Verona, PA 15147	Penn Hills Twp
110	0445-P-00397-0000-00	225133	Kozera Ronald S & Kathleen F (W)	451 5th St Ext. Verona, PA 15147	Penn Hills Twp
13	0294-K-00232-0000-00		Longue Vue Club	400 Longue Vue Drive Verona, PA 15147	Penn Hills Twp
25	0294-K-00232-0000-00	225174	Longue Vue Club	400 Longue Vue Drive Verona, PA 15147	Penn Hills Twp
99	0365-D-00164-0000-00		Lorence Virginia A & Charles A Lorence Jr (H)	114 Indian Creek Road Verona, PA 15147	Penn Hills Twp
142	0534-B-00231-0000-00		Loveldige Raymond G & Elizabeth M (W)	4049 Greenridge Drive Verona, PA 15147	Penn Hills Twp
141	0534-B-00233-0000-00		Loveldige Raymond G & Elizabeth M (W)	4049 Greenridge Drive Verona, PA 15147	Penn Hills Twp
155	0533-G-00020-0000-00		Luther Dwight H & Judy C (W)	352 Morath Lane Pittsburgh, PA 15239	Plum Boro
51	0365-L-00270-0000-00		Lydic Richard S	6429 Swan Drive Verona, PA 15147	Penn Hills Twp

**Highland - Logan's Ferry 345kV Line**

Property List (within 50' of center line)  
Sorted Alphabetically by Owner Name

Number	Parcel ID Number	Structure	Owner Name	Mailing Address	Muni/Twp/Boro
67	0365-G-00376-0000-00		Marotta Enrico & Maria	1385 Elliott Street Verona, PA 15147	Penn Hills Twp
144	0534-B-00227-000-00		Martin Larry J & Carleen B (W)	4061 Greenridge Drive Verona, PA 15147	Penn Hills Twp
11	0172-D-00020-0000-00	225192	Martin Media	740 Trumbull Dr. Pittsburgh, PA 15205	Penn Hills Twp
161	0533-D-00101-0000-00		Martino Renee & Joseph Antonucci	580 Woodlawn Ave. Verona, PA 15147	Plum Boro
63	0365-G-00067-0000-00		McAndrew John F & Sandra (W)	1353 Riverview Drive Verona, PA 15147	Penn Hills Twp
95	0365-C-00023-0000-00	225140	McDermott Kevin K & Melanie (W)	6832 Verona Rd. Verona, PA 15147	Penn Hills Twp
22	0228-S-00100-0000-00 (M.D. 100)	225186, 225184	Meshanko, Lydia K Fleher Dennis & Ramona J (W)	31 Wind Crest Dr. Cecil, PA 15321	Penn Hills Twp
138	0533-N-00120-0000-00		Municipality of Penn Hills	12245 Frankstown Road Pittsburgh, PA 15235	Penn Hills Twp
149	0533-N-00120-0000-00		Municipality of Penn Hills	12245 Frankstown Road Pittsburgh, PA 15235	Penn Hills Twp
137	0534-F-00325-0000-00	225112, 225110	Municipality of Penn Hills	12245 Frankstown Road Pittsburgh, PA 15235	Penn Hills Twp
131	0534-J-00176-0000-00	225118	Municipality of Penn Hills	12245 Frankstown Road Pittsburgh, PA 15235	Penn Hills Twp
89	0365-C-00151-0000-00		Nicassio Anthony J 1/4 Int Ralph Nicassio 1/4 Int Dominic Nicassio 1/4 Int Janet Nicassio 1/12 Int Maria Nicassio	416 Glendale Court Monroeville, PA 15146	Penn Hills Twp
90	0365-C-00153-0000-00		Nicassio Dominic & Joann (W)	416 Glendale Court Monroeville, PA 15146	Penn Hills Twp
100	0365-D-00047-0000-00		Nicassio Ralph & Gloria K (W)	1002 Attilio Court Harrison City, PA 15636	Penn Hills Twp
96	0364-S-00140-0000-00		Nicassio Ralph & Gloria Nicassio	1002 Attilio Court Harrison City, PA 15636	Verona
84	0365-C-00279-0000-00		Nicassio Dominic 1/4 & Ralph Nicassio 1/4 & Anthony Nicassio 1/4 & Janet Nicassio 1/12 & Maria Fioravanti 1/12	1002 Attilio Court Harrison City, PA 15636	Penn Hills Twp
125	0445-M-00018-0000-00		Noonan Donald J Jr	122 Friar Drive Verona, PA 15147	Penn Hills Twp
123	0445-M-00031-0000-00		Noonan Donald J JR & Joy (W)	122 Friar Drive Verona, PA 15147	Penn Hills Twp

Duquesne Light  
**Highland - Logan's Ferry 345kV Line**

Property List (within 50' of center line)  
Sorted Alphabetically by Owner Name

Number	Parcel ID Number	Structure	Owner Name	Mailing Address	Muni/Twp/Boro
157	0533-D-00339-0000-00	224942	Numis Corporation	RR 1 Box 295A Trafford PA 15085	Plum Boro
88	0365-C-00292-0000-00		Odonnell Franics D & Kathryn B (W)	6745 Sylvan Street Verona, PA 15147	Penn Hills Twp
87	0365-C-00296-0000-00	867	Odonnell Thomas J & Jennie A	6747 Sylvan Street Verona, PA 15147	Penn Hills Twp
19	0229-C-00320-0000-00		Oleson Charles E	715 Old Mill Road Pittsburgh, PA 15238	Penn Hills Twp
7	0172-G-00100-0000-00	849-1	Parente Marian O	3202 Riverfront Drive Pittsburgh, PA 15238	City of Pittsburgh
8	0172-M-00325-0000-00		Parente Marian O	3202 Riverfront Drive Pittsburgh, PA 15238	Penn Hills Twp
48	0365-L-00348-0000-00		Parrendo David A & Lorraine E (W)	1617 Vista View Drive Verona, PA 15147	Penn Hills Twp
74	0365-G-00364-0000-00		Pecze Josph E & Betty	6724 E Barivista Drive Verona, PA 15147	Penn Hills Twp
26	0293-L-00048-0000-00		Penhurst Partners Limited	P.O. Box 6, Verona, PA 15147	Penn Hills Twp
94	0365-C-00158-0000-00		Penhurst Partners Limited	P.O. Box 6, Verona, PA 15147	Penn Hills Twp
28	0366-L-00225-0000-00		Penn Twp Land CO	5741 3rd Street Verona, PA 15147	Penn Hills Twp
37	0366-L-00225-0000-00	225160	Penn Twp Land CO	5741 3rd Street Verona, PA 15147	Penn Hills Twp
158	0854-B-00150-0000-00		Penna Turnpike Commission	500 Pleasant Valley Rd. Harrisburg, PA 17106	Plum Boro
112	0446-B-00150-0000-00		Pepper Jeffrey A & Kathryn K (W) & Ronald S Kozera & Kathleen F (W)	310 5th St Ext. Verona, PA 15147	Penn Hills Twp
77	0365-G-00360-0000-12		Petrocelli Vincent D & Carole Lynn (W)	6732 E. Barivista Drive Verona, Pa 15147	Penn Hills Twp
16	0229-C-00340-0000-00		Petrucci Rose Mary & John (H)	1417 Riverview Drive Verona, PA 15147	Penn Hills Twp
21	0229-C-00340-0000-00		Petrucci Rose Mary & John (H)	1417 Riverview Drive Verona, PA 15147	Penn Hills Twp
151	0533-G-00175-0000-00		Plum Creek Estates LLC	1411 Saw Mill Run Blvd. Pittsburgh, PA 15210	Penn Hills Twp



**Highland - Logan's Ferry 345kV Line**

Property List (within 50' of center line)

Sorted Alphabetically by Owner Name

Number	Parcel ID Number	Structure	Owner Name	Mailing Address	Muni/Twp/Boro
153	0533-G-00180-0000-00		Plum Creek Estates LLC	1411 Saw Mill Run Blvd. Pittsburgh, PA 15210	Plum Boro
162	0629-E-00243-0000-00		Presbyterian Assoc on Aging	1215 Hulton Road Oakmont, PA 15139	Plum Boro
164	0629-E-00243-0000-00		Presbyterian Assoc on Aging	1215 Hulton Road Oakmont, PA 15139	Plum Boro
163	0532-D-00223-0000-00	224935, 224932, 224930	Presbyterian Seniorcare	1215 Hulton Road Oakmont, PA 15139	Plum Boro
45	0365-L-00326-0000-00		Ramsey Edward J & April Labertew	1616 Vista View Drive Verona, PA 15147	Penn Hills Twp
75	0365-G-00362-0000-00		Regan Gia Roberta	1465 Beulah Road Pittsburgh, PA 15235	Penn Hills Twp
57	0365-L-00258-0000-00		Remaley Robert W & Debra D (W)	6521 Swan Avenue Verona, PA 15147	Penn Hills Twp
10	0229-J-00177-0000-00	225199, 225196, 225194	Rest Land Memorial Park Inc	990 Patton Street Monroeville, PA 15146	Penn Hills Twp
98	0365-D-00157-0000-00		Ritchey Joseph R & Bertha T	110 Indian Creek Road Verona, PA 15147	Penn Hills Twp
101	0364-S-00276-0000-00		Riverview School District	707 Grant Street #1730 Pittsburgh, Pa 15219	Verona
139	0534-B-00237-0000-00		Scanlan Kevin D	4041 Greenridge Drive Verona, PA 15147	Penn Hills Twp
159	0630-E-00284-0000-00	224940	Schoes Dolores K Declaration of Trust	3151 Pearl City Road Freeport, IL 61032	Plum Boro
9	0172-D-00010-0000-00	849	School Dist of the Township of Penn Hills	309 Collins Drive Pittsburgh, PA 15235	Penn Hills Twp
109	0446-A-00293-0000-00		Schultheis Colleen Elizabeth	333 5th St Ext. Verona, PA 15147	Penn Hills Twp
118	0445-S-00284-0000-00		Secola Gray A & Rosemarie Cappuccio (W)	2234 Manordale Drive Export, PA 15632	Penn Hills Twp
160	0533-D-00220-0000-00	224937	Sentesi Joseph G & Marlene J	600 Woodlawn Avenue Verona, PA 15147	Plum Boro
59	0365-L-00252-0000-00		Smith Frederick D & Anita R (W)	6529 Swan Drive Verona, PA 15147	Penn Hills Twp
116	0445-S-00262-0000-00	225126, 225124	Smith Roy JR	760 Valemont Drive Verona, PA 15147	Penn Hills Twp

Duquesne Light  
**Highland - Logan's Ferry 345kV Line**  
 Property List (within 50' of center line)  
 Sorted Alphabetically by Owner Name

Number	Parcel ID Number	Structure	Owner Name	Mailing Address	Muni/Twp/Boro
4	0123-S-00100-0000-00	855, 854	St Peters Cemetery Co	6833 Lemington Avenue Pittsburgh, PA 15206	City of Pittsburgh
56	0365-L-00261-0000-00		Stover Brandon D Lindsey P Albro	6517 Swan Drive Verona, PA 15147	Penn Hills Twp
49	0365-L-00274-0000-00		Suhevich Pete & Helen P (WF)	6423 Swan Drive Verona, PA 15147	Penn Hills Twp
126	0445-M-00043-0000-00		Tappe Robert W & Melanie (W)	320 Springwood Drive Verona, PA 15147	Penn Hills Twp
78	0365-G-00358-0000-00		Tauro John J & Olga P	6736 E. Barivista Drive Verona, PA 15147	Penn Hills Twp
39	0365-L-00323-0000-00	225158, 225156, 225154, 225150	Township of Penn Hills	12245 Frankstown Road Pittsburgh, PA 15235	Penn Hills Twp
38	0366-A-00052-0000-00		Township of Penn Hills	12245 Frankstown Road Pittsburgh, PA 15235	Penn Hills Twp
127	0445-M-00245-0000-00	225120	Township of Penn Hills	12245 Frankstown Road Pittsburgh, PA 15235	Penn Hills Twp
113	0445-P-00368-0000-00	225131	Truschel James & Nancy (W)	467 5th St Ext. Verona, PA 15147	Penn Hills Twp
124	0445-M-00041-0000-00		Tsymerman David & Mara (W)	308 Springwood Drive Verona, PA 15147	Penn Hills Twp
122	0445-S-00316-0000-00		Tsymerman David & Mara (W)	308 Springwood Drive Verona, PA 15147	Penn Hills Twp
42	0365-L-00284-0000-00		Turley Joshua D	6411 Swan Drive Verona, PA 15147	Penn Hills Twp
5	0172-K-00170-0000-00	853, 852, 851, 850, 849-2	United States of America	1001 Liberty Avenue Pittsburgh, PA 15222	City of Pittsburgh
115	0446-C-00239-0000-00		Valenti Carl T JR	750 Pier 2 Quenemo, KS 66528-1453	Penn Hills Twp
132	0534-A-00080-0000-00	225116, 225114	Valenti James Vincent & Rose Marie (W)	237 Saylong Drive Pittsburgh, PA 15235	Penn Hills Twp
165	0532-D-00115-0000-00		Valley Properties Inc	P.O. Box 191 Oakmont, PA 15139	Plum Boro
105	0446-A-00125-0000-00	225137	Vento Michael R & Cindy S (W)	320 Center Avenue Verona, PA 15147	Penn Hills Twp
104	0446-A-00190-0000-00		Vento Michael R & Cindy S (W)	250 5th St Ext. Verona, PA 15147	Penn Hills Twp

### Highland - Logan's Ferry 345kV Line

Property List (within 50' of center line)

Sorted Alphabetically by Owner Name

Number	Parcel ID Number	Structure	Owner Name	Mailing Address	Muni/Twp/Boro
55	0365-L-00387-0000-00		Vita Karen L	1345 Della Street Verona, PA 15147	Penn Hills Twp
140	0534-B-00235-0000-00		Walton Nikki L	4045 Greenridge Drive Verona, PA 15147	Penn Hills Twp
12	0229-B-00116-0000-00		Wilkinsburg Penn Water Authority	2200 Robinson Blvd. Pittsburgh, PA 15221	Penn Hills Twp
129	0445-M-00230-0000-00		William E. Fritz & Barbara J. Fritz (Trustees) Fritz Living Trust (The)	325 Springwood Drive Verona, PA 15147	Penn Hills Twp
54.1	Delia St.				
120.1	East Friar Dr.				
65.1	Elliott St.				
105.1	Fifth St.				
144.1	Greenridge Dr.				
164.1	Hulton & Logan's Ferry Rd (Coxcomb Hill Rd)				
153.1	Hulton Rd.				
134.1	Hunter Rd.				
152	Kirk Drive				
92.1	Mount Ave.				
12.1	Nadine Road				
100.1	Orphan's Lane				
158.1	PA Turnpike				
61.1	Riverview Dr.				
25.1	Sandy Creek Road				

Duquesne Light  
**Highland - Logan's Ferry 345kV Line**  
 Property List (within 50' of center line)  
 Sorted Alphabetically by Owner Name

Number	Parcel ID Number	Structure	Owner Name	Mailing Address	Muni/Twp/Boro
95.1	Shannon Rd.				
126.1	Springwood Dr.				
88.1	Sylvan St.				
94.1	Verona Rd.				
46.1	Vista View Dr.				

\* requires further research to verify parcel number

**RECEIVED**

**FEB 11 2010**

**PA PUBLIC UTILITY COMMISSION  
SECRETARY'S BUREAU**

**EXHIBIT 7**

**ENVIRONMENTAL ASSESSMENT AND LINE ROUTE STUDY**

**(UNDER SEPARATE COVER)**

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Exhibit 7, Environmental Assessment and Line Route Study, Duquesne Light Company  
 Highland-Logans Ferry 69 kV to 345 kV Rebuild/Upgrade Project, City of Pittsburgh,  
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Exhibit 7, Environmental Assessment and Line Route Study, Duquesne Light Company  
Highland-Logans Ferry 69 kV to 345 kV Rebuild/Upgrade Project, City of Pittsburgh,  
Municipality of Penn Hills, Verona Borough, and Plum Borough, Allegheny County, Pennsylvania

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## EXECUTIVE SUMMARY

### Overview

Duquesne Light Company (DLC) proposes to upgrade the existing Colfax-Highland 69 kV Line #1 (existing Line #1) to a single-circuit 345 kV line in the City of Pittsburgh, Municipality of Penn Hills, Verona Borough, and Plum Borough, Allegheny County, Pennsylvania. The Preferred Alternative is 7.8 miles in length and extends from the Highland Substation in the City of Pittsburgh, passes eastward through the Municipality of Penn Hills and Plum Borough, and terminates at the existing Logans Ferry Substation.

The proposed single-circuit 345 kV lines will be constructed as a replacement to the existing Line #1. Existing wooden poles and lattice steel structures will be replaced with single steel pole structures, and the existing 69 kV line will be replaced by a single-circuit 345 kV line.

Reasonable alternatives for siting the single-circuit 345 kV circuits have been studied in order to provide the best alternatives with the least environmental and socio-economic impacts. A Study Area was chosen between the Highland Substation and Logans Ferry Substation that provides a reasonable area within which to locate several alternative routes, with an extended Study Area within two miles of the centerlines of each of the alternatives to accommodate certain state and federal requirements. A total of six alternatives have been established within the Study Area. Figure ES-1 is an aerial map identifying the Study Area and the alternatives. Photographs 1 through 10 in Appendix C show characteristics of existing Line #1 and the Study Area.

## Project Need

DLCo's transmission system consists of facilities rated at 69 kV, 138 kV, and 345 kV. DLCo depends on several generating stations to maintain system reliability, and particularly two power stations located in the eastern portion of its system.

Transmission system analyses revealed numerous North American Electric Reliability Corporation (NERC) Reliability Standard contingency violations in the 2009 to 2014 time frame, with forecasted violations increasing in number and severity in the later time period in the sensitivity analyses.

DLCo concluded that extensive upgrades would be needed to its transmission system to ensure reliability. DLCo's plan to construct a backbone of 345 kV transmission lines through overhead and underground construction arose from these system analyses and from analyses considering other existing and projected limitations on the transmission system's physical or operational capability or performance. The engineering studies identified a number of interrelated alternatives that involved upgrading 69 kV circuits to 138 kV, upgrading 138 kV circuits to 345 kV, installation of new overhead and underground 138 kV and 345 kV transmission lines, and significant upgrades to several substations. The alternatives described in the studies required further analysis of cost and technical feasibility, and those subsequent evaluations ultimately resulted in the Duquesne Transmission Enhancement Plan (DTEP) that was presented to PJM and later to the Federal Energy Regulatory Commission. PJM approved the DTEP projects as part of its 2005 Regional Transmission Expansion Planning (RTEP) process.

In a continued effort to bring supply from the western portion of the service territory into its eastern load centers, DLCo plans to extend its 345 kV creating a 345 kV backbone through

the center of its system. Along the way, 345 kV buses are being established in order to supply critical 345/138 kV autotransformers at multiple locations.

The central feature of DLCo's plan is a new 345 kV transmission backbone and related facilities between the Brunot Island and Logans Ferry Substations using a combination of existing, new, and up-rated transmission lines. Work on the DTEP is well underway with the installation of a new 345/138 kV autotransformer at Arsenal Substation completed and with a new 345 kV switching station at Brunot Island under construction. Furthermore, eastern substations such as North, Pine Creek, Wilmerding, and Highland have all been converted to 138 kV supply, thus eliminating the area's 69 kV and making room for the proposed Line.

The 69 kV to 345 kV conversion of the existing Line # 1 is instrumental in accomplishing DLCo's plan. The existing Line #1 is constructed of wooden H-frames and lattice towers.

The steel lattice structures were largely constructed in 1927 as part of an original Colfax-Highland line. The wood H-frame construction occurred in 1953. Aside from maintenance-based replacements, the line has not undergone any significant modifications since it was originally built. All of the hardware and insulators on the lattice steel portion are in need of replacement. A portion of the shield wire on the lattice tower portion is Copperweld. It too, requires immediate replacement. The entire line was inspected in detail in 1989 and 2003. As a result of the 1989 inspections many of the wood poles, guys, and anchors on the H-frame portion were replaced. Additional maintenance occurred in 2004, replacing other poles, guys, and anchors requiring immediate attention. DLCo decided against continuing with maintenance-based replacement of the line since most of the line is at or has exceeded the expected lifetime of the materials.

Furthermore, the former existing Line #1 lines were inadequate to support the capacity necessary to achieve the desired voltage and contingency support required by the northeastern portion of the territory. Given the small conductor size and the age of these lines, loss of one would result in an overload on the remaining line.

In addition to solving the low voltage conditions and contingency overload scenarios, the 345 kV at Logans Ferry is one of the final steps to completing the transition of area transmission supply from 69 kV to 138 kV. The overall plan, including the addition of the proposed Line, will increase the capacity of the transmission system, decrease the number of transformations to 69 kV and consequently reduce transformer losses and investment in 69 kV autotransformers, while addressing the need for extensive rehabilitation of aging lines and substations.

### **Alternative Routes**

To adequately supply power to the Highland Substation, a higher capacity transmission line needs to be constructed from the Logans Ferry Substation in Plum Borough. Six alternative routes have been established within the Study Area. The six alternatives consist variously of the right-of-way (ROW) of the existing Line #1 and modifications to the ROW of this existing line. The densely populated nature of the urban area precludes the siting of a number of totally independent alternative line routes. The six alternatives (Alternatives 1, 3, 4, 5, 6, and 9) are identified on Figure ES-1 and include the following:

#### **Alternative 1**

Alternative 1 entirely follows the existing Line #1 ROW. This 7.8-mile long alternative begins at the Highland Substation, extends eastward and passes over property of St. Peter's Cemetery and the Veterans Administration (VA) Hospital to mile point (MP) 1.1. Here it

proceeds on a hilltop above the Allegheny River past the Riverview Memorial Park Cemetery, Longue Vue Country Club, and Green Oaks Country Club, to MP 3.4. It then proceeds up the Quigley Creek stream valley and turns north, then east, crossing an urban section of Penn Hills adjacent to Verona to MP 5.0. Alternative 1 then extends through open land turning northward to cross a portion of the Valemont Heights subdivision in Penn Hills, across a wooded area to another crossing of a small subdivision, crosses the Bessemer and Lake Erie Railroad and the Pennsylvania Turnpike at about MP 6.7, and then proceeds through essentially vacant land to the Logans Ferry Substation in Plum. DLCo currently owns the entire ROW: no new ROW is required with this alternative.

#### Alternative 3

This 8.6-mile long alternative was sited to avoid areas of slope instability along the Allegheny River and as much urban area along existing Line #1 as possible. In doing so, considerable new ROW will be required. This route begins at the Highland Substation and extends eastward, passing over property of the St. Peter's Cemetery and the VA Hospital. It leaves existing Line #1 to join Segment D (see Figure 3-1 for segment identifications) located on pipeline and railroad ROWs adjacent to the Allegheny River from MP 1.6 to MP 3.5 in order to avoid areas of slope instability within the ROW of existing Line #1. It then turns eastward and continues on Segment N and then northward on Segment P (MP 3.5 to MP 5.8) on new ROW, first over the Green Oaks Country Club and intermittent residential development, and then northward down a tributary to Plum Creek. From MP 5.8 to MP 7.4, Segment Q is used on new ROW to continue to avoid urban areas by following wooded stream valleys and hilltops. At MP 7.4, this alternative follows Segment U and continues northward across the Bessemer and Lake Erie Railroad and the Pennsylvania Turnpike at about MP 7.6 to the Logans Ferry Substation on new ROW.

#### Alternative 4

This 7.7-mile long alternative follows existing Line #1 northeastward from the Highland Substation passing over property of the St. Peter's Cemetery and the VA Hospital and then through essentially non-urban terrain to MP 3.6. It then continues northeast on new ROW using Segment O to MP 4.8 (see Figure 3-1 for segment identifications), crossing Verona Road at a location where there is less development than is encountered along existing Line #1. From MP 4.8 to MP 6.4, Segment Q is used on new ROW to continue to avoid urban areas by following wooded stream valleys and hilltops. From MP 6.4, it proceeds northward on existing Line #1 to cross the Bessemer and Lake Erie Railroad and the Pennsylvania Turnpike at about MP 6.5, then to the Logans Ferry Substation.

#### Alternative 5

This 7.6-mile long alternative uses portions of existing Line #1 ROW and proceeds northeastward from the Highland Substation, passing over property of the St. Peter's Cemetery and the VA Hospital, and then through essentially non-urban terrain to MP 3.6. Here it uses Segment O on new ROW to MP 4.8 (see Figure 3-1 for segment identifications), crossing Verona Road at a location where there is less development than is encountered along existing Line #1. Alternative 5 then reconnects with existing Line #1 and proceeds through vacant land turning northward to cross a portion of Valemont Heights subdivision in Penn Hills, across a wooded area to another crossing of a small subdivision, and then proceeds through essentially vacant land to the Logans Ferry Substation. In this section, it crosses the Bessemer and Lake Erie Railroad and the Pennsylvania Turnpike at about MP 6.5.

#### Alternative 6

This 7.9-mile long alternative begins at the Highland Substation and proceeds eastward on a common alignment with existing Line #1, passing over property of the St. Peter's Cemetery and the VA Hospital. The alternative then proceeds through essentially non-urban land prior to crossing an urbanized section of Verona from MP 3.6 to MP 5.0. This alternative then leaves the existing Line #1 common alignment and uses Segment Q to MP 6.7 (see Figure 3-1 for segment identifications), avoiding the need to cross a portion of Valemont Heights subdivision in Penn Hills and the crossing of a small subdivision. From MP 6.7, Alternative 6 proceeds northward on existing Line #1 crossing the Bessemer and Lake Erie Railroad and the Pennsylvania Turnpike at about MP 6.8, then extends to the Logans Ferry Substation.

#### Alternative 9

This 7.8-mile long alternative was sited to avoid steep terrain on the slopes along the Allegheny River. This route begins at the Highland Substation and extends eastward, on a common alignment with existing Line #1 and passes over property of the St. Peter's Cemetery and the VA Hospital. It leaves existing Line #1 to join Segment D (see Figure 3-1 for segment identifications) located on railroad ROW adjacent to the Allegheny River from MP 1.6 to MP 3.5. At MP 3.5, it rejoins existing Line #1 which proceeds up the Quigley Creek stream valley and turns north, then east, crossing an urban section of Penn Hills adjacent to Verona to MP 5.1. It then continues on existing Line #1 through open land turning northward to cross a portion of the Valemont Heights subdivision in Penn Hills, across a wooded area to another crossing of a small subdivision, crosses the Bessemer and Lake Erie Railroad and



the Pennsylvania Turnpike at about MP 6.8, and then proceeds through essentially vacant land to the Logans Ferry Substation.

### **Environmental Studies**

A total of 25 environmental and socioeconomic resource criteria were evaluated to determine potential impacts projected for each of the six alternative routes. The 25 resource criteria were based on Pennsylvania Public Utility Commission (PaPUC) regulations as well as traditional environmental impact assessment criteria. To facilitate the selection of the Preferred Alternative, three areas were evaluated: 1) the immediate construction ROW; 2) the area adjacent to the proposed ROW that would be in view of sensitive resources; and 3) a four-mile wide corridor based on the centerline of the ROW. The four-mile corridor was used to evaluate potential impacts on archaeological and historic resources, scenic areas, unique geologic areas, wilderness areas and airports, as is required by current PaPUC regulations. With the exception of houses within 100 feet of the alternative centerlines and historic resources in the viewshed, only those resources within or adjacent to portions of the alternatives that are on new ROW were tabulated for evaluation. This procedure is based on the premise that sections of the alternatives that are located on existing electrical transmission line ROW are not considered to generate substantial new impacts. The resource measurements are put on a mathematically proportioned scale (relative scale from one to 10) to obtain an impact score that can be compared across the different alternatives. Table ES-1 presents the scores of environmental studies for the existing Line #1 alternatives. The scores are also illustrated on Figure ES-2. Higher scores indicate greater environmental impact.

## Findings

The analysis compared the environmental and socioeconomic resources among Alternatives 1, 3, 4, 5, 6, and 9 to determine the Preferred Alternative. The results of this analysis are summarized below.

### Alternative 1

Alternative 1 is the lowest scoring (most desirable alternative) from an environmental resource perspective. This alternative is located on the existing Line #1 ROW for its entire length which minimizes potential impacts by avoiding those usually associated with the establishment of new ROW. This alternative has the second highest number (89) of houses within 100 feet of the centerline of the existing Line #1 alternatives. However, since this alternative is located on an existing ROW, the impacts to residential communities have already been experienced and should not be substantial from upgrading the line. The taller poles will be visible from a larger area than are the existing structures. There is no new clearing of forested land required for ROW purposes.

### Alternative 3

Alternative 3 is the least desirable alternative (sixth) considering overall effects on environmental resources. This alternative avoids steep terrain by using Segment D adjacent to the Allegheny River. It avoids the residential areas in Segments N, P, and Q, and is tied with Alternative 4 for having the lowest number of houses (38) within 100 feet of the centerline. However, it requires the most new ROW (5.32 miles), with all of the houses within 100 feet on new ROW and requires the highest acreage of forest clearing (49.5 acres). This alternative requires the crossing of a small number of commercial areas (0.14-mile in total), and has one historic site adjacent or within view.

#### Alternative 4

Alternative 4 is the fifth most desirable alternative considering effects on environmental resources. This alternative uses Segments O and Q to avoid residential impacts and is tied with Alternative 3 for having the lowest number (38) of houses within 100 feet of the centerline. However, it is the second highest of the five alternatives for the miles of new ROW required (2.8 miles), with all of the houses within 100 feet on new ROW. It requires the second highest amount of forest clearing (28.4 acres).

#### Alternative 5

Alternative 5 is the fourth most desirable alternative considering the environmental impacts. This alternative uses Segment O to avoid residential areas and has the second lowest number (59) of houses within 100 feet of the centerline, 32 of which are on new ROW. However, only 1.2 miles of new ROW is required, and the amount of forest clearing required is relatively small (9.7 acres).

#### Alternative 6

Alternative 6 is the third most desirable alternative considering the effects on environmental resources. This alternative uses Segment Q to avoid residential areas and has the third lowest number (68) of houses within 100 feet of the centerline, only six of which are on new ROW. This alternative has moderate impacts for forested land cleared (18.6 acres) and requires approximately 1.7 miles of new ROW.

#### Alternative 9

Alternative 9 is the second most desirable alternative considering the effects on environmental resources. It has the highest number (106) of houses within 100 feet of the

ROW. Seventeen of these houses are associated with existing ROW. This alternative requires 0.4-mile of new ROW, has low impacts for steep slopes, and very low impacts for forest clearing.

#### Preferred Alternative

The most suitable alternatives are Alternatives 1 and 9 based upon the overall environmental rankings analysis shown in Tables ES-1 and Figure ES-2. The differences between these two alternatives include the number of residential structures within 100 feet of the centerline, new ROW, forest acreage, archeological sites, major road or railway crossings, and stream crossings. Alternative 1 is entirely on existing ROW, requires no additional forest clearing, and does not cross any new major roads or railways not already affected by the existing Line #1. There are also new stream crossings. Alternative 9 requires 0.4-mile of new ROW, the clearing of 2.5 acres of forest, and adds four new road and railway crossings and a new stream crossing. In addition to these factors, Alternative 9 contains the highest number of residential structures within 100 feet of the centerline of any alternative considered.

Alternative 1 contains 17 fewer residential structures within 100 feet of the centerline than Alternative 9.

Alternative 9 requires the use of Segment D, which partially runs alongside the existing Allegheny Valley Railroad ROW. Initial discussions between Carload Express, Inc., owner of the Allegheny Valley Railroad, and DLCo have indicated that the use of Segment D is not a viable option for use in the proposed 345 kV upgrade.

Therefore, Alternative 1 has been identified as the most suitable alternative for the project.

Alternative 9 is also environmentally acceptable, though not suitable as a licensable alternative route due to the inability to utilize Segment D along the existing railroad ROW.

Exhibit 7, Environmental Assessment and Line Route Study, Duquesne Light Company  
Highland-Logans Ferry 69 kV to 345 kV Rebuild/Upgrade Project, City of Pittsburgh,  
Municipality of Penn Hills, Verona Borough, and Plum Borough, Allegheny County, Pennsylvania

**Figure ES-1**  
**STUDY AREA AND ROUTE ALTERNATIVES**



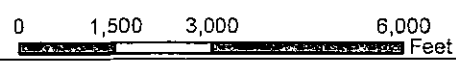


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 PA PUBLIC UTILITIES COMMISSION  
 SECRETARY'S BUREAU


**LEGEND**

- ALTERNATIVE 1 (EXISTING LINE #1)
- ALTERNATIVE 3
- ALTERNATIVE 4
- ALTERNATIVE 5
- ALTERNATIVE 6
- ALTERNATIVE 9
- STUDY AREA

REFERENCE:  
 PAMAP PROGRAM CYCLE 1,  
 HIGH RESOLUTION ORTHOIMAGE, 2006.



**FIGURE ES-1  
 STUDY AREA AND  
 ROUTE ALTERNATIVES**


**DUQUESNE LIGHT COMPANY**  
**HIGHLAND-LOGANS FERRY**  
 69kV TO 345 kV  
 REBUILD/UPGRADE
 

BY: BRH                      DATE: 01/11/2010

CHECKED: MDO              APPROVED: GTR

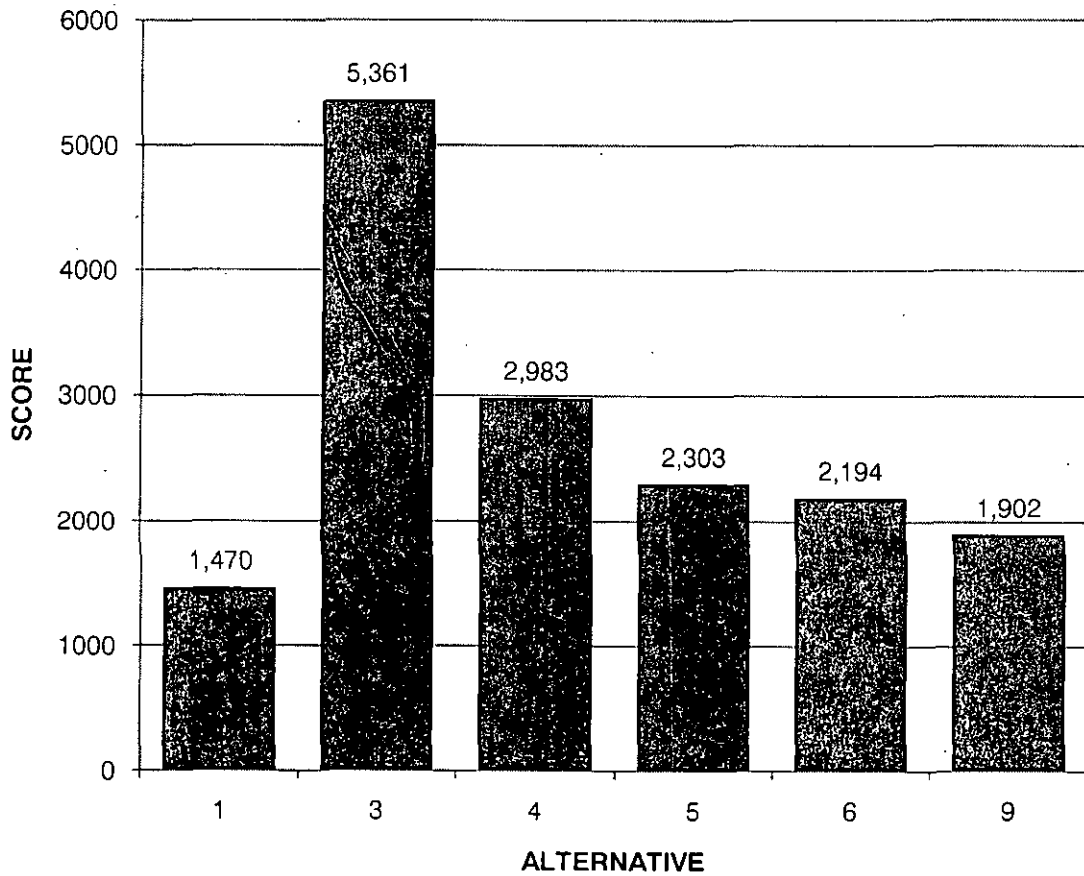
Table ES-1

SCORES OF ENVIRONMENTAL STUDIES

Alternative	Total Score	Rank
1	1470.0	1
3	5360.9	6
4	2982.7	5
5	2303.1	4
6	2193.6	3
9	1902.0	2

Figure ES-2

RANKING ANALYSIS - ALTERNATIVES 1, 3, 4, 5, 6, AND 9





## 1.0 INTRODUCTION

### 1.1 Overview

Duquesne Light Company (DLC) proposes to upgrade the existing Colfax-Highland 69 kV Line #1 (existing Line #1) to a single-circuit 345 kV line in the City of Pittsburgh, the Municipality of Penn Hills, Verona Borough, and Plum Borough, Allegheny County, Pennsylvania. Six line alternatives were sited and studied. The alternatives variously extend from the Highland Substation in the City of Pittsburgh eastward through the municipality of Penn Hills, Verona Borough, and Plum Borough and terminate at the Logans Ferry Substation in Plum Borough. The length of the alternatives ranges from 7.6 to 8.6 miles.

The proposed single-circuit 345 kV line will be constructed as a replacement to the existing Line #1. Existing wooden poles and steel lattice structures will be replaced with single steel pole structures and the existing 69 kV line will be replaced by the single-circuit 345 kV line. The proposed poles will vary in height between approximately 125 and 190 feet.

Reasonable alternatives for siting the single-circuit 345 kV line have been studied to provide the best routings with the least environmental and socio-economic impacts. A Study Area was chosen between the Highland Substation and Logans Ferry Substation that provides a reasonable area within which to locate several alternatives, with an extended Study Area within two miles of the centerlines of each of the existing alternatives to accommodate certain state and federal requirements. A total of six alternatives have been established within the Study Area. The six alternatives were sited using segments of either existing transmission line right-of-way (ROW) or segments placed on new ROW. Figure 3-1 identifies all of the segments used in this study. Following are brief descriptions of the line alternatives.



- Alternative 1 - This alternative follows for its entirety the existing Line #1 ROW and includes building within the existing Line #1 ROW with the single-circuit 345 kV line on single, steel pole structures at or near the centerline of the existing ROW.
- Alternative 3 - This is an alternative to existing Line #1 ROW in which a segment from mile point (MP) 1.6 to MP 3.5 (Segment D) is located adjacent to the Allegheny River to avoid steep slopes that might require deep foundations within the ROW of existing Line #1. In addition, segments from MP 3.5 to MP 5.8 (Segments N and P) and from MP 5.8 to the Logans Ferry Substation (Segment Q and U) are used to avoid urban areas.
- Alternative 4 - This alternative follows existing Line #1 ROW from the Highland Substation to MP 3.6, and then uses Segments O and Q (MP 3.6 to MP 6.4) to avoid urban areas.
- Alternative 5 - Alternative 5 uses existing Line #1 ROW along with Segment O (MP 3.6 to MP 4.8) to avoid urban areas.
- Alternative 6 - This alternative uses existing Line #1 ROW along with Segment Q (MP 5.0 to MP 6.7) to avoid some urban areas.
- Alternative 9 - This is an alternative to existing Line #1 ROW in which a segment from MP 1.6 to MP 3.5 (Segment D) is located adjacent to the Allegheny River to avoid steep slopes that might require deep foundations within the ROW of existing Line #1.

The transmission line will be constructed using single steel pole structures, replacing the 69 kV transmission line structures in the existing Line #1 ROW or, on a new ROW. A Study Area was chosen that encompasses the existing Line #1 as well as additional areas beyond

to facilitate the siting of additional alternatives, with extended Study Area within two miles of the centerlines of each of the Alternatives for the evaluation of several resources in accordance with PUC requirements (airports, historic resources, etc.). Figure ES-1 (found in the Executive Summary) is an aerial photograph identifying the Study Area and line Alternatives. Photographs 1 through 10 in Appendix C show characteristics of existing Line #1 and the general Study Area.

This report documents the results of the environmental assessment and line alternative study, which has been performed in accordance with the Pennsylvania Public Utility Commission (PaPUC) regulations (Title 52, Part 1, Subpart C, Chapter 57). This document has been prepared by GAI Consultants, Inc. (GAI), at the request of DLCo. The proposed transmission line will be constructed as soon as all approvals are obtained.

GAI assembled a team consisting of land use planners, environmental specialists, design engineers, historians, and archaeologists to prepare this environmental assessment and line Alternative study. Established professional procedures were used to survey the alternative ROWs for potential impacts by means of field reconnaissance, recent aerial photographs, topographic maps, literature review and contacts with federal, state, and local government agencies.

To select a Preferred Alternative for the line, three areas were evaluated: the immediate construction ROW; the area adjacent to the proposed ROW (including sensitive resources that are in view); and a four-mile wide corridor including the area two miles on either side of the centerline of each ROW. The four-mile corridor was used to evaluate potential impacts on archaeological and historic resources, scenic areas, unique geologic areas, wilderness areas, and airports. With the exception of residences within 100 feet of the ROW centerline and

landslide-prone areas in which construction would be required, only those portions of the Alternatives that are within or adjacent to new ROW were evaluated for impacts that would result from the acquisition, clearing and construction of a transmission line on new ROW.

This procedure is based on the premise that sections of the Alternatives that are located on existing electrical transmission line ROW are not considered to generate substantial new impacts. No land use changes will occur, and few additional impacts to natural resources will be realized, other than during construction when temporary disturbances will take place at new structure locations and for access roads as needed. Minor disturbances may also occur where old structures are removed. Residential and commercial areas crossed have developed adjacent to or have adapted to the location of the existing lines. GAI studied 25 environmental and socioeconomic resource criteria to determine impacts for the six alternatives. The 25 resource criteria were based on PaPUC regulations as well as traditional environmental impact assessment criteria.

Section 1 of this report presents the need for the transmission line, the design features and the description of the alternatives. The existing environment and predicted environmental effects of the six alternatives and any required mitigation measures are discussed in Section 2. Section 3 presents a comparison of the alternatives and the methodology for selection of the Preferred Alternative.

## **1.2 Project Need**

DLCO's transmission system consists of facilities rated at 69 kV, 138 kV, and 345 kV. DLCO depends on several generating stations to maintain system reliability, and particularly two power stations located in the eastern portion of its system.

Transmission system analyses revealed numerous North American Electric Reliability Corporation (NERC) Reliability Standard contingency violations in the 2009 to 2014 time frame, with forecasted violations increasing in number and severity in the later time period in the sensitivity analyses.

DLCO concluded that extensive upgrades would be needed to its transmission system to ensure reliability. DLCO's plan to construct a backbone of 345 kV transmission lines through overhead and underground construction arose from these system analyses and from analyses considering other existing and projected limitations on the transmission system's physical or operational capability or performance. The engineering studies identified a number of interrelated alternatives that involved upgrading 69 kV circuits to 138 kV, upgrading 138 kV circuits to 345 kV, installation of new overhead and underground 138 kV and 345 kV transmission lines, and significant upgrades to several substations. The alternatives described in the studies required further analysis of cost and technical feasibility, and those subsequent evaluations ultimately resulted in the Duquesne Transmission Enhancement Plan (DTEP) that was presented to PJM and later to the Federal Energy Regulatory Commission. PJM approved the DTEP projects as part of its 2005 Regional Transmission Expansion Planning (RTEP) process.

In a continued effort to bring supply from the western portion of the service territory into its eastern load centers, DLCO plans to extend its 345 kV creating a 345 kV backbone through the center of its system. Along the way, 345 kV buses are being established in order to supply critical 345/138 kV autotransformers at multiple locations.

The central feature of DLCO's plan is a new 345 kV transmission backbone and related facilities between the Brunot Island and Logans Ferry Substations using a combination of

existing, new, and up-rated transmission lines. Work on the DTEP is well underway with the installation of a new 345/138 kV autotransformer at Arsenal Substation completed and with a new 345 kV switching station at Brunot Island under construction. Furthermore, eastern substations such as North, Pine Creek, Wilmerding, and Highland have all been converted to 138 kV supply, thus eliminating the area's 69 kV and making room for the proposed Line.

The 69 kV to 345 kV conversion of the existing Line # 1 is instrumental in accomplishing DLCo's plan. The existing Line #1 is constructed of wooden H-frames and lattice towers. The steel lattice structures were largely constructed in 1927 as part of an original Colfax-Highland line. The wood H-frame construction occurred in 1953. Aside from maintenance-based replacements, the line has not undergone any significant modifications since it was originally built. All of the hardware and insulators on the lattice steel portion are in need of replacement. A portion of the shield wire on the lattice tower portion is Copperweld. It too, requires immediate replacement. The entire line was inspected in detail in 1989 and 2003. As a result of the 1989 inspections many of the wood poles, guys, and anchors on the H-frame portion were replaced. Additional maintenance occurred in 2004, replacing other poles, guys, and anchors requiring immediate attention. DLCo decided against continuing with maintenance-based replacement of the line since most of the line is at or has exceeded the expected lifetime of the materials.

Furthermore, the former existing Line #1 lines were inadequate to support the capacity necessary to achieve the desired voltage and contingency support required by the northeastern portion of the territory. Given the small conductor size and the age of these lines, loss of one would result in an overload on the remaining line.

In addition to solving the low voltage conditions and contingency overload scenarios, the 345 kV at Logans Ferry is one of the final steps to completing the transition of area transmission supply from 69 kV to 138 kV. The overall plan, including the addition of the proposed Line, will increase the capacity of the transmission system, decrease the number of transformations to 69 kV and consequently reduce transformer losses and investment in 69 kV autotransformers, while addressing the need for extensive rehabilitation of aging lines and substations.

### 1.3 Line Alternative Descriptions

Six alternative routes were developed for detailed investigation. PaPUC regulations (52 PA Code 57.1) define an alternative route as, "*a reasonable right-of-way which includes not more than 25 percent of the right-of-way of an applicant's preferred route*". Based on the PaPUC definition, two primary alternatives were developed, Alternatives 1 and 3. The remaining alternatives are derivations of these primary corridors and represent options to optimize line location.

#### 1.3.1 Alternative 1

Alternative 1 entirely follows the existing Line #1 ROW. This 7.8-mile long Alternative begins at the Highland Substation, extends eastward and passes over property of St. Peter's Cemetery and the Veterans Administration (VA) Hospital to MP 1.1. Here it proceeds on a hilltop above the Allegheny River past the Riverview Memorial Park Cemetery, Longue Vue Country Club, and Green Oaks Country Club, to MP 3.4. It then proceeds up the Quigley Creek stream valley and turns north, then east, crossing an urban section of Penn Hills adjacent to Verona to MP 5.0. Alternative 1 then extends through open land turning northward to cross a portion of the Valemont Heights subdivision in Penn Hills, across a

wooded area to another crossing of a small subdivision, crosses the Bessemer and Lake Erie Railroad and the Pennsylvania Turnpike at about MP 6.7, and then proceeds through essentially vacant land to the Logans Ferry Substation in Plum. DLCo currently owns the entire ROW: no new ROW is required with this alternative.

### 1.3.2 Alternative 3

This 8.6-mile long alternative was sited to avoid areas of slope instability along the Allegheny River and as much urban area along existing Line #1 as possible. In doing so, considerable new ROW will be required. This route begins at the Highland Substation, extends eastward and passes over property of the St. Peter's Cemetery and the VA Hospital. It leaves existing Line #1 on Segment D on new ROW (see Figure 3-1 for segment identifications) from MP 1.6 to MP 3.5 that has been located adjacent to the Allegheny River to avoid areas of slope instability within the ROW of existing Line #1. It then turns eastward and continues on Segment N and then northward on Segment P (MP 3.5 to MP 5.8) on new ROW, first over the Green Oaks Country Club and intermittent residential development, and then northward down a tributary to Plum Creek. From MP 5.8 to MP 7.4, Segment Q on new ROW is used to continue to avoid urban areas by following wooded stream valleys and hilltops. At MP 7.4, this alternative utilizes new ROW on Segments U to avoid several residential areas along the existing Line #1 and continues northward across the Bessemer and Lake Erie Railroad and the Pennsylvania Turnpike at about MP 7.6 to the Logans Ferry Substation.

### 1.3.3 Alternative 4

This is a 7.7-mile long alternative that occupies existing Line #1 northeastward from the Highland Substation passing over property of the St. Peter's Cemetery and the VA Hospital and then through essentially non-urban terrain to MP 3.6. It then continues northeast on new

ROW using Segment O to MP 4.8 (see Figure 3-1 for segment identifications), crossing Verona Road at a location where there is less development than is encountered along existing Line #1 ROW. From MP 4.8 to MP 6.4, Segment Q on new ROW is used to continue to avoid urban areas by following wooded stream valleys and hilltops. From MP 6.4, it proceeds northward on existing Line #1 to cross the Bessemer and Lake Erie Railroad and the Pennsylvania Turnpike at about MP 6.5, then to the Logans Ferry Substation.

#### 1.3.4 Alternative 5

This 7.6-mile long Alternative uses portions of existing Line #1 ROW and proceeds northeastward from the Highland Substation, passing over property of the St. Peter's Cemetery and the VA Hospital and then through essentially non-urban terrain to MP 3.6. Here it uses Segment O on new ROW to MP 4.8, crossing Verona Road at a location where there is less development than is encountered along existing Line #1 ROW. Alternative 5 then reconnects with existing Line #1 and proceeds through vacant land turning northward to cross a portion of Valemont Heights subdivision in Penn Hills, across a wooded area to another crossing of a small subdivision, and then proceeds through essentially vacant land to the Logans Ferry. In this section, it crosses the Bessemer and Lake Erie Railroad and the Pennsylvania Turnpike at about MP 6.5.

#### 1.3.5 Alternative 6

This 7.9-mile long Alternative begins at the Highland Substation and proceeds eastward, passing over property of the St. Peter's Cemetery and the VA Hospital. It then proceeds on through essentially non-urban land prior to crossing an urbanized section of Verona from MP 3.6 to MP 5.0. This alternative then uses Segment Q on new ROW to MP 6.7, avoiding the need to cross a portion of Valemont Heights subdivision in Penn Hills and the crossing of



a small subdivision. From MP 6.7, Alternative 6 proceeds northward on existing Line #1, crossing the Bessemer and Lake Erie Railroad and the Pennsylvania Turnpike at about MP 6.8, then extends to the Logans Ferry Substation.

### 1.3.6 Alternative 9

This 7.8-mile long Alternative was sited to avoid steep terrain and geologic hazards on the slopes along the Allegheny River. This route begins at the Highland Substation, extends eastward and passes over property of the St. Peter's Cemetery and the VA Hospital. It leaves existing Line #1 on Segment D on new ROW from MP 1.6 to MP 3.5 that has been located adjacent to the Allegheny River to avoid areas of slope instability within the ROW of existing Line #1. At MP 3.5, it rejoins existing Line #1 which proceeds up the Quigley Creek stream valley and turns north, then east, crossing an urban section of Penn Hills adjacent to Verona to MP 5.1. It then extends through open land, turning northward to cross a portion of the Valemont Heights subdivision in Penn Hills, through a wooded area to another crossing of a small subdivision, crosses the Bessemer and Lake Erie Railroad and the Pennsylvania Turnpike at about MP 6.8, and then proceeds through essentially vacant land to the Logans-Ferry Substation.

## 2.0 ENVIRONMENTAL EFFECTS AND MITIGATION

### 2.1 Land Use

Current land use is described in this section within and adjacent to the Alternatives, as well as the changes to land uses which will occur as a result of construction of any of the six Alternatives for the single-circuit 345 kV transmission line. Impacts have been considered within the proposed ROW and for urban development within 50 feet of the centerline (100-foot

ROW corridor). Land use/cover types within and adjacent to the ROWs of each of the Alternatives were classified according to criteria developed in *A Land Use and Land Cover Classification System for Use with Remote Sensor Data* (Anderson, et al., 1976).

The Anderson System provides a standardized, multilevel procedure for classifying land use and land cover, primarily based upon remote sensor data (i.e., aerial photography) and field confirmation. The various levels (I through IV, with IV being the most detailed) provide increasing levels of refinement in relation to resolution of data and required level of detail. For example, Level I identifies forest lands; Level II differentiates between deciduous forest, evergreen forest, and mixed forest; Level III differentiates between the size of the timber (sampling, pole, and mature stages) and the density of the understory (sparse or moderate to dense). Level IV distinguishes between dominant canopy species groups (i.e., White Oak, Black Oak, and Northern Red Oak; and Black Cherry Maple). An Anderson Level II evaluation provides the appropriate amount of detail for the environmental assessment of the project.

A GIS-based Anderson Level II evaluation was conducted for each of the Alternatives. Table 2-1 presents a description of land use classifications used for this analysis. Present land use patterns were identified from aerial photographs, by examining United States Geological Survey (USGS) 1:24,000 scale topographic mapping (7.5-minute quadrangles), and from field reconnaissance. Lands to be affected by the project were determined based on aerial photographs, field visits, and augmented data from USGS maps for stream, pond, road, and utility crossings.

The Anderson Level II analysis provides a breakdown of land use into the following classifications:

Exhibit 7, Environmental Assessment and Line Route Study, Duquesne Light Company  
Highland-Logans Ferry 69 kV to 345 kV Rebuild/Upgrade Project, City of Pittsburgh,  
Municipality of Penn Hills, Verona Borough, and Plum Borough, Allegheny County, Pennsylvania

- Residential Lands;
- Deciduous Forests;
- Croplands/Pasture;
- Mixed Forests;
- Orchards/Vineyards;
- Herbaceous Rangeland;
- Shrub-Brush Rangeland;
- Mixed Rangeland;
- Urban Lands (Commercial or Industrial Lands);
- Evergreen Forests;
- Palustrine Emergent Wetlands;
- Palustrine Scrub-Shrub Wetlands;
- Palustrine Forested Wetlands;
- Streams; and
- Lakes/Ponds and Reservoirs.

A GIS database was established using the above classifications for land use and other criteria for other resource categories. The database was used to evaluate the six alternatives proposed for the project and includes all of the environmental resources studied to select the Preferred Alternative. Land use and environmental resources were identified within the

prescribed distances for each alternative as identified in the Summary of Environmental Effects later in this report.

For purposes of this study, "new ROW" denotes land that is not currently used for any type of utility ROW and that will require an agreement from the current property owner. "Existing ROW" denotes land that is currently used for electrical transmission ROW.

#### 2.1.1 Existing Environment

The following land use descriptions were developed from west to east along each alternative route, starting at the Highland Substation and continuing to the Logans Ferry Substation. Alternative locations, ROW segments, and nearby resources in the Study Area are shown on aerial photography on Figure 3-1 and on topographical mapping on Figure 3-2. Figure 3-3 shows resources in the extended Study Area on topographical mapping.

##### 2.1.1.1 *Alternative 1*

Alternative 1 is approximately 7.8 miles long and throughout its length occupies the existing Line #1 ROW. This Alternative begins at the Highland Substation and proceeds eastward through wooded terrain; it then passes adjacent to the St. Peter's Cemetery and the VA Hospital to MP 1.1, crossing the edge of an athletic field on the VA Hospital grounds. Here Alternative 1 proceeds across the wooded Shades Run valley to a wooded hilltop above the Allegheny River. It then skirts to the north of the Riverview Memorial Park Cemetery, Longue Vue Country Club, and Green Oaks Country Club through wooded terrain, crossing the Sandy Creek valley to MP 3.4. Alternative 1 then proceeds up the forested Quigley Creek valley and turns north, then east, crossing an urban section of Penn Hills adjacent to Verona and continues through wooded, upstream areas of Indian Creek to MP 5.0. Alternative 1 then proceeds through intermittent wooded and open land turning northward to cross a portion of

Valemont Heights subdivision in Penn Hills, then extends across a wooded area to another crossing of a small subdivision, and then a trailer court and adjacent Plum Creek. Leaving Penn Hills Township and entering Plum Borough, Alternative 1 crosses the Bessemer and Lake Erie Railroad and the Pennsylvania Turnpike at about MP 6.7 and proceeds through essentially vacant, wooded terrain to terminate at the Logans Ferry Substation. DLCo currently owns the entire ROW: no new ROW is involved with this alternative.

#### *2.1.1.2 Alternative 3*

This is 8.6-mile long alternative was sited to avoid as much urban area and areas of slope instability along existing Line #1 as possible. In doing so, considerable new ROW (5.32 miles) will be required. This alternative begins at the Highland Substation and proceeds eastward through wooded terrain, passing over property of the St. Peter's Cemetery and the VA Hospital to MP 1.1, crossing the edge of an athletic field on the VA Hospital grounds. Here Alternative 3 proceeds across the wooded Shades Run valley to a wooded hilltop above the Allegheny River. It then skirts to the north of the Riverview Memorial Park Cemetery and leaves existing ROW onto Segment D, located adjacent to the Allegheny River. Segment D extends along the railroad ROW between Allegheny River Boulevard and the Allegheny River. The mouth of Sandy Creek is crossed in this section. This alternative then assumes Segment N at MP 3.5 extending eastward on new ROW crossing a wooded area, a portion of the Green Oaks Country Club, and wiggling through residential subdivisions near Penn Hills' Shannon Heights areas. Turning north, Segment P on new ROW is used which crosses houses adjacent to several roads, then continues along wooded hilltops and hillsides of a tributary to Plum Creek to MP 5.8. Turning northeastward on Segment Q (new ROW), Alternative 3 proceeds across a wooded valley of a Plum Creek tributary and continues across hilltops and valleys in the Plum Creek Watershed to a crossing of Plum Creek and

existing Line #1 at MP 7.4. Leaving Penn Hills Township at the crossing of Plum Creek and entering Plum Borough, Alternative 3 then proceeds along Segment U, across the Bessemer and Lake Erie Railroad and the Pennsylvania Turnpike at MP 7.6, and through essentially vacant, wooded terrain to the Logans Ferry Substation in Plum on new ROW.

#### *2.1.1.3 Alternative 4*

This is an 7.7-mile long alternative that occupies existing Line #1 ROW for long distances but has 2.8 miles of new ROW. This alternative begins at the Highland Substation and proceeds eastward through wooded terrain. It then passes over property of the St. Peter's Cemetery and the VA Hospital to MP 1.1, crossing the edge of an athletic field on the VA Hospital grounds. Alternative 4 then proceeds across the wooded Shades Run valley to a wooded hilltop above the Allegheny River. It then skirts to the north around the Riverview Memorial Park Cemetery, Longue Vue Country Club, and Green Oaks Country Club, and through wooded terrain. It extends across the Sandy Creek valley, and then continues along a wooded hillside adjacent to the Allegheny River to a crossing of Quigley Creek. At MP 3.6, Alternative 4 uses Segment O on new ROW to cross residential development in the vicinity of Quincy Drive and Shannon Road, and then extends through wooded terrain to MP 4.8. Continuing northeastward on new Segment Q ROW, Alternative 4 proceeds across a wooded valley of a Plum Creek tributary and continues across hilltops and valleys in the Plum Creek Watershed to a crossing of Plum Creek (first crossing an adjacent trailer court), and shortly reconnects with existing Line #1 at MP 6.4. Leaving Penn Hills Township at the crossing of Plum Creek and entering Plum Borough, Alternative 4 proceeds through essentially vacant, wooded terrain to the Logans Ferry Substation in Plum. In this section Alternative 4 crosses the Bessemer and Lake Erie Railroad and the Pennsylvania Turnpike at about MP 6.5.

#### 2.1.1.4 *Alternative 5*

This 7.6-mile long alternative that occupies existing Line #1 ROW for long distances but has 1.2 miles of new ROW (primarily on Segment O). Alternative 5 begins at the Highland Substation and proceeds eastward through wooded terrain. It then passes over property of the St. Peter's Cemetery and the VA Hospital to MP 1.1, crossing the edge of an athletic field on the VA Hospital grounds. Here Alternative 5 proceeds across the wooded Shades Run valley to a wooded hilltop above the Allegheny River. It then skirts to the north around the Riverview Memorial Park Cemetery, Longue Vue Country Club, and Green Oaks Country Club through wooded terrain, crosses the Sandy Creek valley, and then crosses Quigley Creek and proceeds up that valley in wooded terrain to MP 3.6. Alternative 5 then proceeds along Segment O on new ROW to cross residential development in the vicinity of Quincy Drive and Shannon Road, crosses upstream areas of Indian Creek, and continues through wooded terrain to rejoin existing Line #1 ROW at MP 4.8. Alternative 5 then proceeds through intermittent wooded and open land continuing northward to cross a portion of Valemont Heights subdivision in Penn Hills. It then crosses a wooded area to another crossing of a small subdivision, and then a trailer court and adjacent Plum Creek. Leaving Penn Hills Township and entering Plum Borough, Alternative 5 crosses the Bessemer and Lake Erie Railroad and the Pennsylvania Turnpike at about MP 6.5, and proceeds through essentially vacant, wooded terrain to the Logans Ferry Substation in Plum.

#### 2.1.1.5 *Alternative 6*

This 7.9-mile long alternative that occupies existing Line #1 ROW for long distances but has 1.7 miles of new ROW (primarily on Segment Q). Alternative 6 begins at the Highland Substation and proceeds eastward through wooded terrain. It then passes over property of the St. Peter's Cemetery and the VA Hospital to MP 1.1, crossing the edge of an athletic field

on the VA Hospital grounds. Here Alternative 6 proceeds across the wooded Shades Run valley to a wooded hilltop above the Allegheny River. It then skirts to the north around the Riverview Memorial Park Cemetery, Longue Vue Country Club, and Green Oaks Country Club through wooded terrain, crossing the Sandy Creek valley to MP 3.4. Alternative 6 then proceeds along existing Line #1 up the forested Quigley Creek valley and turns north, then east, crossing an urban section of Penn Hills adjacent to Verona and continues through wooded, upstream areas of Indian Creek to MP 5.0. Turning northeastward on new Segment Q ROW, avoiding the need to cross a portion of Valemont Heights subdivision in Penn Hills and a crossing of a small subdivision, Alternative 6 proceeds across a wooded valley of a Plum Creek tributary and then continues across wooded hilltops and valleys in the Plum Creek Watershed to a crossing of Plum Creek. It shortly reconnects with existing Line #1 at MP 6.7. Leaving Penn Hills Township at the crossing of Plum Creek and entering Plum Borough, Alternative 6 proceeds through essentially vacant, wooded terrain to the Logans Ferry Substation in Plum. In this section it crosses the Bessemer and Lake Erie Railroad and the Pennsylvania Turnpike at about MP 6.8.

#### *2.1.1.6 Alternative 9*

This 7.8-mile long alternative was sited to avoid areas of slope instability and landslide-prone areas along existing Line #1. Alternative 9 contains 0.4-mile of new ROW. This alternative begins at the Highland Substation and proceeds eastward through wooded terrain, passing over property of the St. Peter's Cemetery and the VA Hospital to MP 1.1 and then crossing the edge of an athletic field on the VA Hospital grounds. Here Alternative 9 proceeds across the wooded Shades Run valley to a wooded hilltop above the Allegheny River. It then skirts to the north of the Riverview Memorial Park Cemetery and leaves existing ROW onto Segment D, located adjacent to the Allegheny River. Segment D extends along the railroad



ROW between Allegheny River Boulevard and the Allegheny River. The mouth of Sandy Creek is crossed in this section. At MP 3.5, Alternative 9 rejoins existing Line #1 proceeds up the forested Quigley Creek valley and turns north, then east, crossing an urban section of Penn Hills adjacent to Verona and continues through wooded, upstream areas of Indian Creek to MP 5.1. This alternative then proceeds through intermittent wooded and open land continuing northward to cross a portion of Valemont Heights subdivision in Penn Hills. It then crosses a wooded area to another crossing of a small subdivision, and then a trailer court and adjacent Plum Creek. Leaving Penn Hills Township and entering Plum Borough, Alternative 9 crosses the Bessemer and Lake Erie Railroad and the Pennsylvania Turnpike at about MP 6.8, and proceeds through essentially vacant, wooded terrain to the Logans Ferry Substation in Plum.

#### 2.1.2 Impacts and Mitigation

Construction on new ROW will require the clearing and maintenance of a 100-foot wide ROW. Generally, Alternative 1 will generate only minor disturbances to existing land use since this alternative is located on the existing ROW. Residential areas in the vicinity, most built after the lines were in place, have adapted to the location of these lines. Any impacts such as visual quality, structures in yards, and vegetation height limitations have already been absorbed into owner considerations and property valuations. No land use change will occur, and few additional impacts to natural resources will be realized, other than during construction when temporary disturbances will take place at new structure locations and for the construction of access roads, as needed. Minor disturbances may also occur where old structures are removed. Alternative 3 will likely have the greatest land use impacts since this alternative requires the most new ROW. Alternatives 5 and 6 will have moderate impact in keeping with their reduced requirements for new ROW.

Earth disturbance and selected tree trimming may occur at pole locations and along existing ROW for all of the alternatives if necessary.

Alternative 1 is located entirely on existing ROW and only selective side trimming of vegetation will be required in areas where the existing ROW is adjacent to forest land.

Alternatives 3, 4, 5, 6, and 9 will have 49.5, 28.4, 9.7, 18.6, and 2.5 acres of forest land cleared, respectively, on new ROW.

All of the alternatives will have secondary impacts during construction, especially in residential areas and some business areas. These impacts involve noise and other construction-related disturbances, including disruptions to vehicular traffic. All of the alternatives are adjacent to or will impact residential property where new ROW is required. Also, the number of residences within 100 feet of the centerline of each alternative was determined in order to better evaluate potential urban impacts.

The most substantial land use effects associated with construction of the proposed line include a reduction in woodland and effects upon residential areas for areas not on existing ROW. Total rangeland area will be increased as a result of construction, although a temporary reduction in this land use will occur during the construction phase until vegetation becomes re-established. The construction of new ROW in wooded areas will result in the removal of a number of mature trees. Some side trimming of woody vegetation may be necessary to widen the existing maintained areas along all of the alternatives. Both new and established roads will provide access to Alternative 1. New access roads would be required on new ROW segments. No loss of wetland areas will be incurred as a result of project implementation for any alternative. Avoidance of wetlands is fully discussed in Section 2.2.2.

#### *2.1.2.1 Alternative 1*

This 7.8 mile-long alternative is located entirely on the existing ROW of Line #1, which considerably lessens impacts. Alternative 1 has one-mile of residential areas adjacent to the existing ROW, 0.5-mile of commercial areas adjacent to the existing ROW, and 89 houses within 100 feet of the centerline of the ROW. Near the beginning of the alternative, the grounds of the St. Peter's Cemetery and the VA Hospital are crossed on existing ROW: no impacts will result. Many, if not most, of the residences have been built after the existing Line #1 had been constructed, and are located in proximity to the transmission line. The major urban areas crossed include an urban section of Penn Hills adjacent to Verona (0.6-mile), Valemont Heights subdivision in Penn Hills (0.2-mile), with the remainder in a rural subdivision and along rural roads. Other than the existing ROW restrictions, the land can be used by the property owner as desired. This alternative also skirts on existing ROW to the north of the Riverview Memorial Park Cemetery, Longue Vue Country Club, and Green Oaks Country Club, again resulting in no change to land use. Most of the remainder of this alternative has woodlands adjacent to the existing ROW, with the transmission corridor ROW kept in shrub-brush rangeland for maintenance requirements. Some of this low vegetation will be temporarily removed for access and to construct the structures to carry the new single-circuit 345 kV transmission line. The majority of land use impacts will be secondary in nature (removing ROW vegetation, pruning adjacent trees, etc.), since virtually no change in land use will occur as a result of constructing Alternative 1. No special mitigation measures are required.

#### *2.1.2.2 Alternative 3*

This 8.6-mile long alternative was sited to avoid steep slope areas and as many urban areas along existing Line #1 as possible. It contains 5.3 miles of new ROW. Alternative 3 has

0.6-mile of residential areas crossed (0.5-mile on new ROW), 0.3-mile of commercial areas crossed (0.1-mile on new ROW), and 38 houses within 100 feet of the centerline of the ROW, all of which are on new ROW. Near the beginning of the alternative, the grounds of the St. Peter's Cemetery and the VA Hospital are crossed on existing ROW: no land use impacts will result. At MP 1.6, Segment D on new ROW is used (see Figure 3-1 for segment identifications) which is 1.9 miles long and almost entirely dedicated to transportation use (rail and highway): no land use change will result. The major urban areas crossed, all on new ROW, include residential subdivisions near Penn Hills' Shannon Heights area (0.2-mile) and houses adjacent to Poketa Road and Shannon Road (0.3-mile). Some of these residential buildings and properties are likely to require acquisition to provide ROW for this alternative. Most of the remaining new ROW passes through woodlands; approximately 49.5 acres of woodland will be converted to rangeland. No special mitigation measures are required.

#### *2.1.2.3 Alternative 4*

This 7.7-mile long alternative occupies the ROW of existing Line #1 for long distances but also has 2.8 miles of new ROW. Alternative 4 crosses 0.4-mile of residential areas (0.3-mile on new ROW), 0.1-mile of commercial areas crossed (none on new ROW), and 38 houses within 100 feet of the centerline of the ROW, all of which are on new ROW. Near the beginning of the alternative, the grounds of the St. Peter's Cemetery and the VA Hospital are crossed on existing ROW: no land use changes will result. This alternative also skirts on existing ROW to the north of the Riverview Memorial Park Cemetery, Longue Vue Country Club, and Green Oaks Country Club. Again, no change to land use will result. Segments O and Q on new ROW are then used. The major urban areas crossed (0.3-mile), all on new ROW, include residential areas along Verona Road, Quincey Drive and Shannon Road in Penn Hills. Some of these residential buildings and properties are likely to require acquisition

to provide for ROW. Nearly all of the remainder of Alternative 4 on Segments O and Q are through forested land use, which will be converted into rangeland. The remaining sections of Alternative 4 are within existing ROW and the majority of land use impacts will be secondary in nature (removing ROW vegetation, pruning adjacent trees, etc.). No special mitigation measures are required.

#### 2.1.2.4 Alternative 5

This 7.6-mile long alternative occupies the ROW of existing Line #1 for long distances but has 1.2 miles of new ROW. Alternative 5 has 0.7-mile of residential areas crossed (0.3-mile on new ROW), 0.1-mile of commercial areas crossed (none on new ROW), and 59 houses within 100 feet of the centerline of the ROW, 32 of which are on new ROW. Near the beginning of the alternative, the grounds of the St. Peter's Cemetery and the VA Hospital are crossed on existing ROW: no land use changes will result. This alternative also skirts on existing ROW to the north of the Riverview Memorial Park Cemetery, Longue Vue Country Club, and Green Oaks Country Club. Again, no change to land use will result. Segment O on new ROW is then used. The major urban areas crossed (0.3-mile), all on new ROW, include residential areas along Verona Road, Quincey Drive, and Shannon Road in Penn Hills. Some of these residential buildings and properties are likely to require acquisition to provide for ROW. Nearly all of the remainder of Alternative 5 on Segment O is through forested land use, which will be converted into rangeland. The remaining sections of Alternative 5 are within existing ROW and the majority of land use impacts will be secondary in nature (removing ROW vegetation, pruning adjacent trees, etc.). Valemont Heights subdivision (0.2-mile), a rural subdivision and a trailer court along Plum Creek Road in Penn Hills are crossed on existing ROW. No special mitigation measures are required.

#### *2.1.2.5 Alternative 6*

This 7.9-mile long alternative occupies the ROW of existing Line #1 for long distances, but has 1.7 miles of new ROW, primarily on Segment Q. Alternative 6 has 0.7-mile of residential areas crossed (0.1-mile on new ROW), 0.1-mile of commercial areas crossed (none on new ROW), and 68 houses within 100 feet of the centerline of the ROW, 32 of which are on new ROW. Near the beginning of the alternative, the grounds of the St. Peter's Cemetery and the VA Hospital are crossed on existing ROW: no land use changes will result. Alternative 6 also skirts (on existing ROW) to the north of the Riverview Memorial Park Cemetery, Longue Vue Country Club, and Green Oaks Country Club. Again, no change to land use will result. An urban section of Penn Hills is then crossed on existing ROW (0.6-mile) adjacent to Verona. This includes crossings of Riverview Drive, Elliot Street, and several other subdivision streets, before continuing through a wooded section to MP 5.0. Segment Q on new ROW is then used, passing almost exclusively through forested areas. This new ROW will be converted into rangeland. A small mobile home development and a few houses are encountered near the crossing of Plum Creek. Alternative 6 has low impacts to residential lands, and that is almost all on existing ROW. The majority of Alternative 6 is within existing ROW and the major land use impacts will be secondary in nature (removing some ROW vegetation, pruning adjacent trees, etc.). No special mitigation measures are required.

#### *2.1.2.6 Alternative 9*

This 7.8-mile-long alternative occupies the ROW of existing Line #1 for most of its length, but uses Segment D along a railroad ROW adjacent to the Allegheny River to avoid steep slopes on the existing Line #1 ROW. Approximately 0.4-mile of new ROW is required. A small amount of forest land will be crossed on new ROW on Segment D at MP 1.6 near the Allegheny River Boulevard crossing. Alternative 9 has one-mile of residential areas crossed

(none on new ROW), 0.1-mile of commercial areas crossed (none on new ROW), and 106 houses within 100 feet of the centerline of the ROW, most of which (89) are on existing ROW (17 on new ROW). On existing ROW, the major urban areas crossed include an urban section of Penn Hills adjacent to Verona (0.60-mile), Valemont Heights subdivision in Penn Hills (0.16-mile), with the remainder in a rural subdivision and along rural roads. Many, if not most, of the occupied structures and urban areas have been built after the existing Line #1 had been constructed, and are located in proximity to the transmission line: no additional impacts are expected. At the beginning of this alternative, the grounds of the St. Peter's Cemetery and the VA Hospital are crossed on existing ROW: no impacts will result. This alternative also skirts on existing ROW to the north of the Riverview Memorial Park Cemetery, Longue Vue Country Club, and Green Oaks Country Club, again resulting in no change to land use. Most of the remainder of this alternative has woodlands adjacent to the existing ROW, with the transmission corridor ROW kept in shrub-brush rangeland for maintenance requirements. Some of this low vegetation will be temporarily removed for access and to construct the structures to carry the new single-circuit 345 kV transmission line. The majority of land use impacts will be secondary in nature (removing ROW vegetation, pruning adjacent trees, etc.). Very little change in land use will occur as a result of constructing Alternative 9. No special mitigation measures are required.

## **2.2 Plant and Wildlife Habitat**

This section presents an overview of terrestrial and wetland ecosystems in the project area. Unique plant and animal communities in the Study Area are discussed. The Study Area was examined during field visits in 2005, 2009, and 2010 by biologists from GAI. These biologists conducted a survey of the alternatives and characterized the various ecological features. Vegetative communities were identified and species dominance estimated. A wetland

delineation was conducted within the areas potentially affected by the Preferred Alternative in 2009, including the ROW and potential access roads for permitting purposes. No additional wetland resources were located.

The terrestrial land use/cover types were identified in accordance with Anderson, et al. (1976) (see Table 2-1, Section 2.1). Wetland identification was based on the guidelines presented in the United States Army Corps of Engineers (USACE) *Wetlands Delineation Manual*. Preliminary wetland locations were identified by reviewing the United States Department of Agriculture's (USDA's) *Soil Survey of Allegheny County, Pennsylvania*, the United States Fish and Wildlife Service's (USFWS) National Wetlands Inventory (NWI) maps, aerial photography, topographic mapping, and from field investigations.

Wetlands that were identified were classified according to the USFWS *Classification of Wetlands and Deepwater Habitats in the United States* (Cowardin, et al., 1979). The potential wetland locations identified as a result of this investigation are preliminary. Additional detailed wetland delineations would be required in the field in order to thoroughly define potential wetland impacts.

The field surveys were also used to identify unique habitat and wildlife species utilizing the Study Area. Additional information was collected on vegetative and wildlife communities in the Study Area through review of literature, 2004 aerial photography, and contacts with natural resource agencies.

### 2.2.1 Existing Environment

Vegetation and wildlife that occur in the Study Area's terrestrial and wetland ecosystems are identified in this section. Any unique ecosystems or communities, federal or state-listed threatened or endangered species, including critical habitat, are also described. Listings of



plant and wildlife species observed during field visits and expected to occur are presented in Tables A-1 and A-2 in Appendix A.

The flora and fauna in and near the Study Area are generally well documented.

Identifications of vegetation found in Braun (1950) and Genoways and Brenner (1985) have been reviewed. Information on birds, mammals, and reptiles and amphibians were obtained from *Mammals of Pennsylvania* (Doutt, et al., 1980), *Species of Special Concern in Pennsylvania* (Genoways and Brenner, 1985), *A Field Guide to the Birds* (Peterson, 1980), *Understanding Predation and Northeastern Birds of Prey* (Bonney, et al., 1981), and *Pennsylvania Birds* (Wakely and Wakely, 1989). A check list of Pennsylvania amphibians and reptiles including a bibliography and atlas of species distribution found in McCoy (1982) was also reviewed. The field reconnaissance visits focused on areas identified as being potentially sensitive through map and aerial photography review.

The Study Area lies within the northern limits of the Mixed Mesophytic Forest Region on the unglaciated portion of the Appalachian Plateau (Braun, 1950). The historic climax association has a variety of dominant species in the arboreal layer. These include Sugar Maple (*Acer saccharum*), Red Oak (*Quercus rubra*), White Oak (*Quercus alba*), American Beech (*Fagus grandifolia*), Yellow Poplar (*Liriodendron tulipifera*), Basswood (*Tilia americana*), and Black Cherry (*Prunus serotina*). Distinctive understory tree species include Redbud (*Cercis canadensis*), Ironwood (*Carpinus caroliniana*), Flowering Dogwood (*Cornus florida*), and Hop Hornbeam (*Ostrya virginiana*). Shrubs typically found in this forest region are Witch hazel (*Hamamelis virginiana*), Spicebush (*Lindera benzoin*), and several dogwood species (*Cornus* spp.).

Deciduous forest associations in and near the Study Area are typically dominated by pole sized Sugar Maple, Black Cherry, and White Ash (*Fraxinus americana*). Shagbark Hickory (*Carya ovata*), Black Locust (*Robinia pseudo-acacia*), Red Oak, and White Oak are locally abundant. The understory typically contains Sassafras (*Sassafras albidum*), Slippery Elm (*Ulmus rubra*), and White Ash saplings. The herbaceous layer is sparse with White Wood Aster (*Aster divaricatus*), Sassafras (*Sassafras albidum*), White Ash saplings, Spinulose Wood Fern (*Dryopteris spinulosa*), and Avens (*Geum canadense*) as the common species.

Forested areas in the Study Area generally provide fair quality bird and wildlife habitat. Many species of birds utilize forest areas as breeding residents, permanent residents, and migrants. Typical breeding species in deciduous woodlands include Eastern Wood Pewee (*Conotopus virens*), Wood Thrush (*Hyla mustelina*), Red-eyed Vireo (*Vireo olivaceus*), American Redstart (*Setophaga rusticilla*), and Summer Tanager (*Piranga rubra*). Typical year round residents include Black-capped Chickadee (*Perus atricapillus*), Blue Jay (*Cyanocitta cristata*), and Northern Cardinal (*Cardinalis cardinalis*).

Numerous species of reptiles and amphibians occur in wooded areas. The Eastern Box Turtle (*Terrapene carolina carolina*), American Toad (*Bufo americana*), and Red-backed Salamander (*Plethodon cinerus*) inhabit upland deciduous forest. Mammalian species occurring in forested areas in the vicinity of the alternatives include several species of shrews (Family Soricidae), White-footed Mouse (*Peromyscus leucopus*), Eastern Chipmunk (*Tamias striatus*), and several weasel species (Family Mustelidae). Important game species in forested areas include White-tailed Deer (*Odocoileus virginianus*), Gray Squirrel (*Sciurus carolinensis*), and furbearers such as Raccoon (*Procyon lotor*) and Gray Fox (*Urocyon cinereoargenteus*).

Large areas of herbaceous rangeland are found within and adjacent to the alternatives, since much of the routing is replacing lines in existing ROW. Ground cover plant species in these areas include grasses (Family Graminae), asters (*Aster* spp.), goldenrods (*Solidago* spp.), Dogbane (*Apocynum androsaemifolium*), and Japanese Honeysuckle (*Lonicera japonica*). Also, seedlings of Red Maple (*Acer rubrum*), Allegheny Blackberry (*Rubus allegheniensis*), Sassafras, and Black Cherry are locally abundant.

Wildlife species utilizing the existing ROWs consist primarily of those species typical of forest edge and forest habitats. The species that are most common along existing maintained ROW are Eastern Garter Snake (*Thamnophis sirtalis*), Black Rat Snake (*Elaphe obsoleta*), Common Yellowthroat (*Geothlypis trichas*), Gray Catbird (*Dumetella carolinensis*), Eastern Cottontail (*Sylvilagus floridanus*), and Meadow Vole (*Microtus pennsylvanicus*). Numerous species occurring in the adjacent forest habitats, as described above, would be expected to utilize rangeland areas within the existing ROW for feeding and nesting.

Five types of wetlands are found near the alternatives including palustrine open water, palustrine emergent, palustrine scrub-shrub, palustrine forested, and riverine wetlands. The palustrine open water wetlands in the Study Area consist of man-made ponds. Most of these are located in recreation areas. Palustrine emergent, scrub-shrub and forested wetlands are primarily located along Sandy Creek, Plum Creek and their tributaries, as well as along the Allegheny River in the Study Area. Palustrine emergent wetlands are typically dominated by stands of Reed Canary Grass (*Phalaris arundinacea*), Touch-me-nots (*Impatiens* sp.), and Sedges (*Carex* spp.). Rugose-veiny Goldenrod (*Solidago rugosa*), Cut-leaf Coneflower (*Rudbeckia laciniata*), and Tearthumb (*Polygonum* sp.) are locally abundant. Palustrine scrub-shrub wetlands are typically dominated by saplings of Slippery Elm, Silky Dogwood (*Cornus amomum*), Gray Dogwood (*Cornus foemina*), Red Maple, and Allegheny Blackberry.

The woody vine layer is composed of Japanese Honeysuckle, Wild Grape (*Vitis* spp.), and Poison Ivy (*Toxicodendron radicans*). Sedges, Reed Canary Grass, and Touch-me-nots are common in the herbaceous layer. Palustrine forested wetlands in the Study Area are typically dominated by Black Cherry trees. Black Willow (*Salix nigra*) and American Sycamore (*Platanus occidentalis*) are locally abundant. The shrub layer is typically composed of Slippery Elm, European Privet (*Ligustrum vulgare*), and Ninebark (*Physocarpus opulifolius*). Japanese Honeysuckle, Spinulose Woodfern, and Velvet Grass (*Holcus lanatus*) are common on the forest floor.

Wetlands in the Study Area were identified in two ways: by the use of the USFWS's NWI maps for the entire Study Area and by field reconnaissance in and adjacent to proposed transmission line routes. The NWI maps identify four palustrine wetlands and two riverine wetlands, Plum Creek and the Allegheny River, in the Study Area. The five NWI palustrine wetlands are all open water intermittently exposed/permanent wetlands. A palustrine emergent wetland will be spanned by Alternatives 1, 6, and 9. However, no structures will be located in wetland areas, and no permanent impacts will occur. No other palustrine wetlands are spanned.

Riverine wetlands are restricted to stream channels. Riverine wetlands are located along Shades Run, Sandy Creek, Quigley Creek, Indian Creek, Plum Creek, and their tributaries, as well as the Allegheny River. The NWI mapping classifies Plum Creek specifically as riverine upper perennial open water intermittently exposed/permanent wetland (R30WZ) and the Allegheny River as a riverine, lower perennial, open-water, intermittently exposed/permanent wetland (R20WZ).

Most of the alternative routes cross Shade Run, Sandy Creek, Quigley Creek, Indian Creek, and Plum Creek. These watersheds have steep, wooded side-slopes, flat hilltops, and most of the watercourses are in ravines. Segment D of Alternatives 3 and 9 parallels the Allegheny River.

The Allegheny County Natural Heritage Inventory (Western Pennsylvania Conservancy, 1994) notes that a portion of the Plum Creek Biological Diversity Area is located within the Study Area. This area is characterized by a meandering stream bordered to the south by gradual to very steep forested slopes. A biological diversity area is a site recognized in the inventory as supporting special species, relatively large numbers and kinds of species, or entire communities and ecosystems. These designations have no regulatory status. Rather, the Western Pennsylvania Conservancy recommends that actions impacting biological diversity areas should take into account the ecological requirements of the species/community that is the feature of the area. No other unique environmental resources were identified in the Study Area.

Frequent areas of residential and/or urban land are found adjacent to all routes in this heavily urbanized portion of Pittsburgh's eastern suburbs. Vegetative cover in these areas is generally restricted to closely mowed grassland and ornamental tree and shrub planting, with occasional small wood lots. Mature native trees have been selectively retained in some neighborhoods. In general, these areas are of very limited value to wildlife.

### 2.2.2 Impacts and Mitigation

Transmission line construction can have impacts upon natural resources and wildlife. Generally, the longer the sections of new ROW that are involved, the greater the potential for adverse impacts. In order to minimize impacts, existing ROW was used to route the

proposed transmission line wherever possible, and environmentally sensitive areas were avoided where possible. All of the six route alternatives primarily follow existing ROW, with Alternative 3 and Alternative 4 having the largest requirements of new ROW.

Where alternatives are located within the existing Line #1 ROW, the effects of construction and operation on wildlife populations are expected to be minimal. Construction activities will utilize the existing ROW to the extent possible, and replacement of existing lines will minimize impacts to surrounding vegetation and animals. A maximum of 100 feet of clearing when on new ROW will be typical, thereby minimizing disturbance to adjacent habitats. Existing access roads will be used to the extent possible. Although some loss of individual animals may be incurred within the new ROW, it is anticipated that most animals can relocate to suitable adjacent habitat during construction. Depending on the habitat type in question, these displaced animals may be able to re-establish in the maintained ROW following construction. For example, the Eastern Cottontail is a typical resident of power line ROWs in Pennsylvania and should be able to relocate to adjacent areas for the duration of construction. Although some wildlife population decreases may be experienced in response to limits upon carrying capacity of adjacent habitats, these decreases should be minimal due to the small area of disturbance.

With the exceptions of Alternatives 3, 4, and 6, the total size of individual forest tracts on new ROW will not be substantial. Clearing new ROW will result in somewhat higher predation rates, increased nest parasitism, and human disturbances associated with forest edges. This may have a minor negative effect upon forest birds (Brittingham and Temple, 1983; Bushman and Therres, 1988). Local populations of some forest interior species may also decrease as a result of the project. Typical forest interior species in Pennsylvania include the Hooded Warbler (*Wilsonia citrina*) and the Ovenbird (*Seiurus aurocapilus*).

Areas that were previously forested will be maintained as rangeland within new ROW.

Because forest cannot be allowed to regenerate within the ROW, the potential effects of construction are greater in forested areas than for any other terrestrial land use. Rangeland areas will increase as a result of project implementation. A maximum of 100 feet of ROW will be maintained as rangeland. This additional rangeland will provide foraging areas for numerous wildlife species.

The maintenance of ROW, including tree trimming and brush clearing, may have an effect upon terrestrial animal species occurring in the area. Maintenance may destroy the nests and young of some species if it coincides with the breeding season; driving over the ROW for inspection purpose can also destroy nests and young. However, these impacts should be minimal and should not have any adverse effect upon wildlife populations.

Typical methods that will be used by DLCo to minimize impacts to vegetation and wildlife include, but are not limited to:

- plant cover in the ROW wire zone will be maintained as a low shrub-herb-fern-grass community;
- implement selective clearing, based on stem density, in the ROW border zone and allow compatible herbaceous and shrub species to grow in the ROW border zone. Use selective herbicide applications to manage undesirable vegetation in and along the ROW corridor;
- considering span length, allow tree growth in deep valleys and ravines where the conductor height exceeds the mature height of the surrounding trees, factoring for minimum allowable electrical safety clearance requirements;

- all disturbed areas will be restored to their original contours. Seeding and mulching will immediately follow seedbed preparation;
- all cutting in and along the ROW less than five inches in diameter, other than buffer areas, will be piled and crushed or disposed of by chipping or shredding. Cutting larger than five inches in diameter will be stacked behind the edge of the ROW or removed, as directed by the landowner; and
- tree pruning and removal and wood disposal efforts in and along the ROW edge will be performed in such a manner as to minimize, as much as possible, damage to desirable plant species.

Wetlands are environmentally sensitive and highly productive habitat areas that have been avoided whenever practicable during alternative site selection. Wetlands provide a number of significant benefits to the ecological and human site environments. With the exception of forested wetlands, transmission line construction, operation and maintenance do not change the wetlands' basic ecological function; any unavoidable effects would be minimal and temporary. No structures are located in wetlands for any alternative routes. Only emergent wetlands are located along the alternatives. Emergent wetlands will become re-established as emergent wetlands following construction. No net loss of wetlands will occur.

Early in the project, coordination was initiated with the USFWS, Pennsylvania Fish and Boat Commission (PFBC), Pennsylvania Game Commission (PGC), and the Pennsylvania Department of Conservation and Natural Resources (PADCNR) - Pennsylvania Natural Diversity Inventory (PNDI) concerning the potential for occurrence of endangered, threatened, and rare species within the Study Area. This correspondence has been updated several times through the course of project development. Initial coordination conducted in 2005 and



2007 concerned potential species occurrences within the Study Area. Additional coordination conducted in 2009 and 2010 focused on potential for impacts associated with the Preferred Alternative. This included an on-line PNDI review of the southernmost 1.1 miles of Alternative 1 that parallels the existing 138 kV line, and individual agency coordination concerning the remainder of Alternative 1. Additional updated information concerning the potential for impacts associated with Alternatives 3, 4, 5, 6, and 9 has been requested from the agencies and will be provided to the PaPUC when received. Appendix B contains correspondence received from these agencies as of February 2, 2010.

Responses to date from the USFWS have indicated that except for occasional transient species, no federally-listed or proposed threatened or endangered species are known to occur in the Study Area or in the vicinity of Alternative 1. No protected bird or mammal species under the jurisdiction of the PGC are known to occur in the Study Area or in the vicinity of Alternative 1. The PFBC has indicated that several rare or protected fish species are known from the vicinity of the project area. Coordination specific to Alternative 1 indicated that no adverse impacts are expected.

An Erosion and Sedimentation (E&S) Control Plan will be executed during the construction phase for any alternative that is selected for construction, minimizing impacts from erosion and resulting sedimentation. Specific impacts to vegetation and wildlife for each alternative are discussed below.

#### *2.2.2.1 Alternative 1*

Because Alternative 1 is located on an existing 69 kV transmission line ROW (existing Line #1) for its entire length, no substantial effects upon terrestrial or wetland vegetation or on wildlife are expected to result from construction and operation of this alternative. Both

existing and new access roads would be required. Alternative 1 crosses the valleys and watercourses of Shades Run, Sandy Creek, Quigley Creek, Indian Creek, Plum Creek, and their tributaries. Crossings are most often through wooded terrain. However, there are few associated wetlands in the generally steep-sloped valleys that these streams have established. The Plum Creek Biological Diversity Area is crossed on existing ROW, and no impacts to this area are anticipated. Any minor earth disturbances will be controlled through an E&S Control Plan executed during the construction phase. No mitigation measures are required.

#### *2.2.2.2 Alternative 3*

This alternative was sited to avoid urban areas and is located on new ROW for 5.3 miles (62 percent of the alternative). It presents high impacts to wooded and undeveloped areas. Therefore, impacts to vegetation and wildlife are greatest for this route. Construction of the alternative will require converting 49.5 acres of forest to rangeland. It crosses all of the streams that Alternative 1 crosses and is located near the Allegheny River for a long section. It also affects both wooded hilltop locations for long stretches as well as several undeveloped stream valleys, most being headwaters of Plum Creek. While service roads are available to most of the proposed line location, some access roads are likely to be required. No wetland impacts have been identified. The Plum Creek Biological Diversity Area is crossed on existing ROW, and no impacts to this area are anticipated. Earth disturbances will be controlled through an E&S Control Plan executed during the construction phase. There are sufficient wooded areas near this alternative to absorb displaced wildlife; however, some forest fragmentation will occur and will lessen the value of the impacted area as wildlife habitat. No mitigation is required.

#### *2.2.2.3 Alternative 4*

This alternative attempts to minimize conflict with urban areas by using Section O (replacing Section M of existing Line #1) to reduce residential areas traversed in parts of Verona and adjacent Penn Hills, and Section Q (replacing Section R of the existing line) to avoid the Valemont Heights area of Penn Hills. Approximately 2.8 miles of Alternative 4 (37 percent of the alternative) is on new ROW, passing mostly through wooded areas. Construction of the alternative will require converting 28.4 acres of forest to rangeland. It crosses all of the streams that Alternative 1 crosses, including Indian Creek upstream near its headwaters. Alternative 4 affects both wooded hilltop locations for stretches and several undeveloped stream valleys, most being headwaters of Plum Creek. The Plum Creek Biological Diversity Area is crossed on new ROW, and forest clearing within this area would be necessary. While service roads appear to be available for most of the proposed line location, some access roads could be required. No wetlands impacts have been identified. Earth disturbances will be controlled through an E&S Control Plan executed during the construction phase and approved by the Allegheny County Conservation District (ACCD). There are sufficient wooded areas near this alternative to absorb displaced wildlife; however, some forest fragmentation will occur and will lessen the value of the impacted area as wildlife habitat. No mitigation is required.

#### *2.2.2.4 Alternative 5*

This alternative occupies existing Line #1 ROW, except for using Section O (replacing Section M of the existing line), to reduce proximity to residential areas traversed in parts of Penn Hills near the boundary with Verona. Approximately 1.2 miles of Alternative 5 (16 percent of the alternative) is located on new ROW, passing almost equally through residential and wooded areas. Construction of the alternative will require converting 9.7 acres

of forest to rangeland. Alternative 5 crosses all of the streams that Alternative 1 does, including Indian Creek upstream near its headwaters. This alternative presents minimum impacts to forested areas considering the small section of new ROW required and the availability of roads for new construction access. The Plum Creek Biological Diversity Area is crossed on new ROW, and forest clearing within this area would be necessary. Any earth disturbance will be controlled through an E&S Control Plan executed during the construction phase and approved by the ACCD. No mitigation is required.

#### *2.2.2.5 Alternative 6*

Alternative 6 occupies existing Line #1 ROW, except for using Section Q (replacing Section R of the existing line), to reduce the length of adjacent residential areas traversed in the Valemont Heights area of Penn Hills. Approximately 1.7 miles of Alternative 6 (21 percent of the alternative) is on new ROW, with nearly all of this length passing through wooded hilltops and valleys. Construction of this alternative will require converting 18.6 acres of forest to rangeland. Alternative 6 crosses all of the streams that Alternative 1 does. While service roads appear to be available for most of the proposed alternative locations, some new access roads could be required. The Plum Creek Biological Diversity Area is crossed on existing ROW, and no impacts to this area are anticipated. Earth disturbances will be controlled through an E&S Control Plan executed during the construction phase and approved by the ACCD. There are sufficient wooded areas near the new ROW to absorb displaced wildlife; however, some forest fragmentation will occur and will lessen the value of the impacted area as wildlife habitat. No mitigation is required.

#### 2.2.2.6 *Alternative 9*

This alternative uses existing Line #1 for all but 1.86 miles along Segment D to avoid landslide prone areas. Approximately 0.4-mile (five percent of the alternative) is located on new ROW, mostly passing through a wooded area before crossing Nadine Road and Allegheny River Boulevard to join the railroad ROW. No substantial effects upon terrestrial or wetland vegetation or on wildlife are expected to result from construction and operation of this alternative. Access roads to the existing Line #1 have been established. Alternative 9 crosses the valleys and watercourses of Shades Run, Sandy Creek, Quigley Creek, Indian Creek, Plum Creek, and their tributaries. Crossings are most often through wooded terrain. However, there are few associated wetlands in the generally steep-sloped valleys that these streams have established. The Plum Creek Biological Diversity Area is crossed on existing ROW, and no impacts to this area are anticipated. Any minor earth disturbances will be controlled through an E&S Control Plan executed during the construction phase. No mitigation measures are required.

### 2.3 **Hydrology**

An overview of aquatic environments traversed by the alternatives is presented in this section. The existing environment is discussed in Section 2.3.1. Potential impacts upon water resources and measures to avoid or mitigate adverse environmental effects are presented in Section 2.3.2.

#### 2.3.1 Existing Environment

As in most areas of southwestern Pennsylvania, the drainage basins located within the Study Area are characterized by dendritic patterns. Typically, steep ravines located on ridges collect storm water runoff and deposit it in intermittent streams. These collect within valley

bottoms and form perennial streams. Average annual runoff ranges from 14 to 20 inches and is primarily influenced by the distribution of precipitation. Other factors, however, such as land use, vegetative cover, geology, and physiography also influence the variability of flow within individual watersheds. Runoff exhibits distinct seasonal variation, with the period of highest runoff occurring in early spring, late summer, and early fall. Seasonal differences in evapo-transpiration account for most of the variation.

The proposed project is located within Subbasin 18, Lower Allegheny River, of the Pennsylvania Department of Environmental Resources (PaDER) State Water Plans (1982). The only watercourse in the project area classified as navigable is the Allegheny River (PA Code 2002).

A number of streams within the Study Area are traversed by project alternatives. The largest streams include Sandy Creek and Plum Creek that generally flow northward into the Allegheny River. Starting from the Highland Substation and proceeding eastward, Shades Run is crossed by the ROW of the existing Line #1. Proceeding easterly along existing Line #1, Sandy Creek is crossed near its confluence with the Allegheny River, then Quigley Creek is traversed, also near its mouth. After passing through developed portions of Penn Hills, Indian Creek is crossed (a tributary to Plum Creek); and then Plum Creek, the largest watershed in the Study Area, is traversed.

The Study Area is located in the Allegheny River Basin of the Ohio Valley Study Area (Area No. 9) of the Commonwealth of Pennsylvania's Comprehensive Water Quality Management Planning (COWAMP). Over 40 percent (751 miles out of approximately 1,840 miles) of the major streams in the Ohio Valley Study Area exhibit chronic or occasional violations of Pennsylvania Water Quality Standards. Approximately 66 percent of these water

quality violations are due to non-point source pollution, primarily acid drainage from abandoned coal mines. In the Ohio Valley Study Area, mine drainage by itself or in combination with other types of pollution accounts for over 85 percent of the 751 major stream miles having water quality problems. Other significant pollution problems include inadequately treated industrial waste discharges and municipal discharges (PaDER, 1984).

The Study Area is located in COWAMP Subbasin 18A. That subbasin is identified as affected by acid mine drainage, urban runoff, sewage, and industrial waste (PaDER, 1982).

The Pennsylvania Department of Environmental Protection (PaDEP) classifies and establishes water quality standards and criteria for all surface waters within the state. These standards include general water use categories and corresponding water quality standards. According to these standards, Shades Run, Quigley Creek, Sandy Creek, Indian Creek, Plum Creek, and their tributaries are classified as warm water fisheries (WWF). The Allegheny River is one of the main recreational rivers in the region and has good water quality. It is classified as a WWF with navigation use in the project area (PA Code 2002).

The City of Pittsburgh and many Allegheny County municipalities use the Allegheny River as the source for their potable water. Approximately eight water intakes are located within two miles of the Study Area along the Allegheny River (USACE, 1993). Otherwise, there is no evidence of use of the smaller streams for drinking water or irrigation. None of these streams exhibit major acidic degradation. Concentrated amounts of acidic water sourced from old mines may occur after heavy rainstorms, as may sewage from overflow devices built into municipal systems. Water quality in Plum Creek has been affected by acid mine drainage and sewage (COWAMP, 1984).

### 2.3.2 Impacts and Mitigation

The perennial streams identified from USGS mapping crossed by each of the alternatives on new ROW are identified in Table 2-2. All of the alternatives cross Sandy Creek and Plum Creek, or their tributaries. However impacts will generally be minor since most of the overhead line crossings of these streams and perennial tributaries will be on existing ROW. The transmission line poles will be constructed using measures to prevent sedimentation from entering nearby streams. Field investigations were conducted in 2009 to identify additional streams within the areas potentially affected by the Preferred Alternative, including the ROW and potential access roads. This information was used for subsequent permitting efforts.

#### 2.3.2.1 *Alternative 1*

All of the streams and rivers crossed by Alternative 1 are along existing ROW. Starting from the Highland Substation and proceeding eastward, Alternative 1 crosses Shades Run and Sandy Creek near its confluence with the Allegheny River. Quigley Creek is then traversed three times as Alternative 1 proceeds up the Quigley Creek valley. After passing through developed portions of Verona, Indian Creek, a tributary to Plum Creek and the main stem of Plum Creek are traversed. These streams will be spanned by the proposed line within existing ROW. Access roads may cross streams at various locations for construction of the project. Equipment crossings will be installed to minimize impacts.

#### 2.3.2.2 *Alternative 3*

This alternative crosses Shades Run before leaving existing Line #1 to assume a position along the Allegheny River on Segment D. No impacts to the river are expected. In this segment, the mouth of Sandy Creek is crossed. Then the alternative proceeds from its mouth up along the Quigley Creek, crossing that stream. The alternative continues on Segment N



and crosses a tributary to Quigley Creek. Turning northward on Segment P, the headwaters of Indian Creek is crossed. Proceeding on Segment Q, two tributaries to Plum Creek are crossed and Plum Creek is crossed on Segment U. These streams will be spanned by the proposed line. Access roads may cross streams at various locations for construction of the project. Equipment crossings will be installed to minimize impacts.

#### *2.3.2.3 Alternative 4*

Starting from the Highland Substation and proceeding eastward, Alternative 4 crosses Shades Run and Sandy Creek near its confluence with the Allegheny River. Quigley Creek is then traversed as Alternative 4 proceeds up the Quigley Creek valley. Switching to Segment O, Quigley Creek is crossed two times, and Indian Creek is crossed once. Continuing on Segment Q, two tributaries to Plum Creek are crossed. Reconnecting to existing Line #1 at MP 6.4, Alternative 4 proceeds to cross Plum Creek. These streams will be spanned by the proposed line. Access roads may cross streams at various locations for construction of the project. Equipment crossings will be installed to minimize impacts.

#### *2.3.2.4 Alternative 5*

This alternative is the same as Alternative 1 up to MP 3.6 where Segment O is assumed to MP 4.8. Accordingly, from the Highland Substation, Alternative 5 proceeds eastward crossing Shades Run and across Sandy Creek near its confluence with the Allegheny River. Quigley Creek is then traversed as Alternative 5 proceeds up the Quigley Creek valley. Switching to Segment O, Quigley Creek tributaries are crossed two times, and Indian Creek is crossed once. Existing Line #1 is rejoined at MP 4.8. Alternative 5 crosses a tributary to Plum Creek and then the main stem of Plum Creek. These streams will be spanned by the proposed line.

Access roads may cross streams at various locations for construction of the project.

Equipment crossings will be installed to minimize impacts.

#### *2.3.2.5 Alternative 6*

This alternative is the same as Alternative 1 up to MP 5.0 where Segment Q is followed.

From the Highland Substation, Alternative 6 proceeds eastward crossing Shades Run and across Sandy Creek near its confluence with the Allegheny River. Quigley Creek is then traversed three times as Alternative 6 proceeds up the Quigley Creek valley. After passing through developed portions of Verona, Indian Creek is crossed. Switching to Segment Q, two tributaries to Plum Creek are crossed. Reconnecting to existing Line #1 at MP 6.7, Alternative 6 proceeds to cross Plum Creek. These streams will be spanned by the proposed line. Access roads may cross streams at various locations for construction of the project.

Equipment crossings will be installed to minimize impacts.

#### *2.3.2.6 Alternative 9*

This alternative crosses Shades Run before leaving existing Line #1 ROW to follow the railroad ROW adjacent to the Allegheny River on Segment D at MP 1.6. No impacts to the Allegheny River are expected. In this segment, the mouth of Sandy Creek is crossed. Alternative 9 rejoins existing Line #1 at MP 3.5. Quigley Creek is then traversed three times as Alternative 9 proceeds up the Quigley Creek valley. After passing through developed portions of Verona, Indian Creek, a tributary to Plum Creek, and the main stem of Plum Creek are traversed. These streams will be spanned by the proposed line. Access roads may cross streams at various locations for construction of the project. Equipment crossings will be installed to minimize impacts.

### 2.3.3 Mitigation

Measures for mitigation on all alternatives include preparation of an E&S Control Plan, which will be included in the construction documents and available for review by the ACCD. Since plans call for all waterbodies to be spanned, no long-term impacts are anticipated from any of the alternatives. Any impacts during construction will be minimized by implementation of the E&S Control Plan.

Among the protection measures included in this plan are:

- stream crossings by vehicles will be restricted. Access to structures will be gained from upland locations wherever possible;
- stream crossings will be used for access, if needed, consisting of either mudboard or gravel pads. If needed, culverts will be constructed with stone and gravel fill;
- any required construction roads will be laid out to prevent sediments from reaching streams. A strip of undisturbed land will be left between the construction road and the stream (filter strip). The width of the filter strip will be greater in steep slope areas than on level areas;
- straw or hay bales will be placed along the stream banks to prevent entry of sediment into the stream;
- during construction drainage ditches, creeks and waterways will be kept free of obstructions;
- where available, existing access roads will be used to avoid the fording of streams;
- and

- appropriate controls will be used at structure locations to prevent sediments from entering streams.

## 2.4 Scenic and Recreational Areas

A description of scenic and recreational resources within the Study Area is presented in this section. A list of scenic and recreation areas crossed, adjacent to, or nearby the Alternatives on new ROW is presented in Table 2-3. A list of recreation areas in the Study Area is presented in Table 2.4.

### 2.4.1 Existing Environment

The *Outstanding Scenic Geologic Features of Pennsylvania, Parts 1 and 2* (Geyer and Bolles, 1979 and 1987), and USGS 1:24,000 topographic maps were used to identify scenic areas in and near the proposed project area. Scenic areas listed in these sources represent some of the most distinguished scenic geologic features of the Commonwealth. Field evaluations were also used to identify any notable resources.

Recreation areas include those lands managed for the maximization of recreational opportunities. These areas include state parks, county and municipal parks and playgrounds, athletic fields, golf courses and reservoirs maintained by the USACE. The only state park located in the vicinity of the project area is Allegheny Islands, which are undeveloped islands in the Allegheny River near the Pennsylvania Turnpike Overpass (PA Bureau of State Parks, 2002). Three groups of hiking trails are also located in the project vicinity. The Blacks Run area contains a series of trails that are located near Lock #3 on the Allegheny River and along Blacks Run. Penn Hills Community Park and Dark Hollow Woods include hiking trails and are located in the same valley on the south side of Plum Creek east of Oakmont. Penn Hills Community Park is a municipal park, and Dark Hollow Woods is a nature reserve also known

as Karl E. Satler Memorial Park (Sundquest and Hams, 1988; Bureau of State Parks, 2002).

Crescent Hill Park is located off of Sycamore Drive in Penn Hills. Other recreation areas were identified from USGS 1:24,000 topographic mapping, 1:12,000 aerial photography (1993) and from field surveys. Recreation areas located adjacent to portions of the alternatives that are on new ROW are presented in Table 2-3. Portions of the Alternatives that are located on existing electric line ROW are not considered to generate substantially new impacts.

#### 2.4.2 Impacts and Mitigation

There are no outstanding scenic geologic features in the Study Area (Geyer and Bolles, 1979 and 1987). All six of the alternatives cross the athletic fields at the VA Hospital complex in the existing ROW between Highland Substation and MP 1.14. The alternatives will replace the existing 69 kV lines and no function of the VA athletic fields will be affected.

Alternatives 1, 4, 5 and 6 cross a portion of the Longue Vue Golf Club property within existing ROW. No part of the golf course is affected. Alternative 3 crosses a portion of the property of the Green Oaks Country Club; however, no part of the golf course is affected. Alternative 3 affects only areas used as a driving range. No functions of the golf course will be impacted by the crossings of Alternative 3. No mitigation is required. Alternative 6 is located adjacent to the Crescent Hills Park. No functions of the park will be impacted by this alternative.

Alternatives 1, 5, and 9 cross Turner Friendship Park on existing ROW. No new impacts to this park are anticipated.

### 2.5 Wilderness and Natural Areas

This section presents an overview of wilderness and natural areas for the Study Area.

### 2.5.1 Existing Environment

Wilderness areas and natural areas were identified under three general classifications: wilderness areas, national natural landmarks, and designated natural areas. No wilderness areas designated by the Wilderness Act (16 United States Code, Section 1172) are located in the Study Area.

National natural landmarks have been recognized by the National Park Service as areas of outstanding biologic or geologic importance. No national natural landmarks are located in the Study Area (Federal Register, 1983-1991).

Designated natural areas are maintained as wild areas by governmental agencies or private organizations. The hiking trail in Dark Hollow Woods (also known as the Karl E. Satler Memorial Park/nature reserve) is three miles long. The area of the park/nature reserve is approximately 34.5 acres. The locations of designated natural areas were determined from several sources (DeLorme, 2003; Pennsylvania Bureau of State Parks, 2002; USGS, 1993 and 1960; Western Pennsylvania Conservancy, 1994; and Sundquist and Hams, 1986).

The Allegheny County Natural Heritage Inventory (Western Pennsylvania Conservancy, 1994) notes that a portion of the Plum Creek Biological Diversity Area is located within the Study Area. This area is characterized by a meandering stream bordered to the south by gradual to very steep forested slopes. This area has no formal protective status as discussed in Section 2.2.

### 2.5.2 Impacts and Mitigation

No federal wilderness areas or National Natural Landmarks are located within two miles of any of the alternatives. The Dark Hollow Park/nature reserve is not crossed by any of the alternatives. Therefore, no impacts to these resources will occur.

Alternatives 1, 3, 6 and 9 cross the Plum Creek Biological Diversity Area on existing ROW, and no impacts to this area are anticipated. Alternatives 4 and 5 cross the Plum Creek Biodiversity Area on new ROW, and forest clearing within this area would be necessary.

## **2.6 Terrain and Landscape**

### **2.6.1 Existing Environment**

The Study Area terrain generally consists of hilltops, steep slopes, and narrow valleys adjacent to the well-entrenched valley of the Allegheny River. Development varies with densely developed communities adjacent to the Allegheny River and suburban residential development on hilltops and on benches of ridges (see Photograph 1, Appendix C), interspersed with considerable open spaces. A mixture of commercial and light industrial development is found along the Allegheny River and in the lower Sandy Creek valley.

Commercial uses are often located at major road intersections throughout the Study Area. A dominant topographic feature is the Allegheny River hill that extends north-northeast at the northern edge of the Study Area (see Photograph 2, Appendix C). Prominent, but less dominant are the deeply entrenched valleys made by Sandy Creek and Plum Creek.

A prominent man-made feature on the landscape is the four-lane Pennsylvania Turnpike that extends through the northeastern portion of the Study Area.

Except for the Allegheny River Valley, no one terrain feature or land feature dominates the visual environment. Each land use type has an influence on the overall visual character adjacent to any of the Alternatives. Both terrain and vegetation can influence the extent of visual impact, while the existing land use can determine the type and number of viewers that would be affected by the proposed transmission line. For example, transmission lines located

on level, open terrain (such as fields and golf courses) can be seen for longer distances than transmission lines located in hilly, wooded areas.

Study Area terrain is typical of Western Pennsylvania, with hilly areas and wooded side slopes dominating (see Photograph 3, Appendix C). The typical local elevation differences in the Study Area is approximately 500 feet, which ranges from approximately 721 feet mean sea level (MSL) along the Allegheny River near the southwestern edge of the Study Area to a hilltop of 1,273 feet MSL on a hill above the Allegheny River in the north part of the project area. In most cases, the hilly nature of the Study Area prevents long views of ROWs.

Alternatives 3 and 4 cross the most steep-sloped terrain (20 percent or greater) on new ROW (1.2 and one-mile, respectively), followed by Alternative 6 (0.7-mile). The remaining alternatives cross less than 0.5-mile of steep-sloped terrain. Except for some roads along the Allegheny River, most roads in the Study Area have many curves, restricting long viewsheds. However, all of the alternatives must cross the Pennsylvania Turnpike on an existing transmission line ROW in a long valley. With the exception of the Longue Vue Golf Course and the Green Oaks Country Club on hilltops above the Allegheny River, most of the viewing opportunities are from roadways.

Many of the roads in the Study Area have adjacent electric distribution, telephone and cable service lines, and many have anchors and guy wires that are installed across the roads. Both steel lattice towers and wooden poles are located on the existing Line #1 transmission line (see Photograph 4, Appendix C).

#### 2.6.2 Impacts and Mitigation

At the southwest terminus, the Highland Substation is situated on a hill removed from most viewers and surrounded by vegetation. At the northern terminus, towers with lines extending



from the Logans Ferry Substation are a common sight and an additional line would be in keeping with the existing electrical transmission corridor. Therefore, the terminal points for the proposed transmission line project would present low visual impact.

For the proposed transmission line itself, the impact on the existing visual environment is partially related to its scale and physical design properties. The transmission lines to be replaced are carried on either double, wood pole structures or lattice steel structures. The replacements will be on taller, single, steel pole structures. The following definitions were used during the visual impact assessment:

- Minimal. Visual impact is low because the existing terrain and/or vegetation will limit the visual impact. Visual impact is also considered low when a limited number of viewers or viewpoints are involved.
- Moderate. Visual impact is moderate when the existing terrain and/or vegetation will only partially limit the visual impact, and multiple viewers and/or viewpoints are involved.
- Severe. Visual impact is severe because the existing terrain and/or vegetation will not limit the visual impact and large numbers of viewers or viewpoints, or scenic areas are involved.

#### 2.6.2.1 *Alternative 1*

Alternative 1 is located entirely within an existing electrical transmission corridor and viewers are accustomed to seeing transmission lines at that location (see Photograph 5, Appendix C).

This alternative requires no new ROW. Alternative 1 starts on a secluded hilltop at the Highland Substation and proceeds past the St. Peter's Cemetery and VA Hospital (see Photograph 6, Appendix C) and then proceeds high on a wooded Allegheny River hillside

(see Photograph 7, Appendix C) for approximately two miles. It passes, with low visibility, the Longue Vue and Green Oaks County Clubs and proceeds up the wooded valley of Quigley Creek. Alternative 1 then crosses a residential area of Shannon Heights in Penn Hills for two-thirds of a mile (see Photograph 8, Appendix C) and continues intermittently over wooded valleys and hilltops. Viewsheds are normally short in this locale. Proceeding over two developed roadways of the Valemont Heights subdivision in Penn Hills (see Photograph 9, Appendix C) the alternative continues primarily in wooded terrain as it approaches the Pennsylvania Turnpike. This high-use road is located in a broad section of the Plum Creek Valley. Another small subdivision is crossed prior to the Turnpike, along with a trailer court along Plum Creek. North of the Pennsylvania Turnpike, wooded hilly terrain with very few viewing opportunities is encountered up to the Allegheny Valley. Since this is an existing transmission line ROW, visual impacts are essentially established, although the taller poles will be visible from a wider area. The overall visual impacts for Alternative 1 are judged to be low, owing to the existing ROW and the screening provided by the rough terrain.

#### *2.6.2.2 Alternative 3*

This alternative has 5.3 miles of new ROW and crosses 1.2-mile of steep-sloped terrain on new ROW. It will present a new transmission corridor to viewers traveling many of the local roads. After passing the St. Peter's Cemetery and VA Hospital, this alternative locates near the railroad along the Allegheny River. It proceeds up the Quigley Creek Valley and crosses urban areas of Penn Hills on a segment (Segment N) that crosses fewer residential areas than Alternative 1. Alternative 3 then uses Segment Q over wooded hilltops and valleys of Plum Creek to avoid other residential development. It then proceeds over the Pennsylvania Turnpike using Segment U and continues in rural terrain to the Logans Ferry Substation. Viewing points are few in this section of the alternative. While this Alternative avoids some

residential areas, the longer length of new ROW along (1) Allegheny River Boulevard, (2) undisturbed wooded areas, and (3) currently unaffected residential areas make this a high visual impact alternative.

#### *2.6.2.3 Alternative 4*

This alternative stays on existing Line #1 ROW from the Highland Substation, through the Quigley Creek valley, to the edge of Verona. It has the same terrain and visual impacts as Alternative 1 to this point. Using Segment O, Alternative 4 passes through a residential area of Penn Hills on new ROW before entering a wooded headwater area of Indian Creek. It then proceeds on Segment Q on new ROW avoiding residential subdivisions by relocating to hilltops and valleys of Plum Creek and its tributaries. Alternative 4 will present a new transmission corridor to some homeowners and travelers on local roads. Near the Bessemer and Lake Erie Railroad and the Pennsylvania Turnpike, it follows the ROW of existing Line #1 on Segment T to the Logans Ferry Substation, passing through rural, wooded terrain. This alternative has 2.80 miles of new ROW and crosses one-mile of steep-sloped terrain on new ROW. It is judged as having moderate to high visual impact due to the large amount of new ROW that would impact the landscape and the affect it would have on urban areas not currently crossed by an electrical transmission corridor.

#### *2.6.2.4 Alternative 5*

This alternative stays on existing Line #1 from the Highland Substation up through the Quigley Creek valley and has the same visual impact as Alternative 1 to this point. It then uses Segment O to avoid Verona and Penn Hills development, passing through a residential area of Penn Hills on new ROW before entering a wooded headwater area of Indian Creek. At MP 5.01 it reconnects with the existing Line #1 ROW, crosses the Bessemer and Lake Erie

Railroad and the Pennsylvania Turnpike, and continues in rural, wooded terrain to the Logans Ferry Substation. This alternative has 1.2 miles of new ROW and crosses 0.4-mile of steep-sloped terrain on new ROW. It is judged as having moderate visual impact due to the limited amount of new ROW that would impact the landscape, and considering the affect it would have on an urban area not currently crossed by an electrical transmission corridor.

#### *2.6.2.5 Alternative 6*

Alternative 6 stays on existing Line #1 ROW from the Highland Substation through Penn Hills and has the same visual impact as Alternative 1 to this point. It then uses Segment Q to avoid crossing several residential areas of Penn Hills, proceeding on new ROW over hilltops and valleys of Plum Creek. Alternative 6 then connects to the existing Line #1 ROW, crosses the Bessemer and Lake Erie Railroad and the Pennsylvania Turnpike and continues to the Logans Ferry Substation in rural, wooded terrain. Segment Q offers few viewing opportunities. This alternative has 1.7 miles of new ROW and crosses 0.7-mile of steep-sloped terrain on new ROW. The overall visual impact is judged as low, owing to the large amount of existing ROW followed, the fact that no new ROW passes through urban areas, and the screening provided by the hilly terrain in the new ROW sections.

#### *2.6.2.6 Alternative 9*

Most of Alternative 9 is located entirely within the existing Line #1 corridor and viewers are accustomed to seeing transmission lines in these various locations (see Photograph 5, Appendix C). As with all of the alternatives, it starts on a secluded hilltop at the Highland Substation and proceeds past the St. Peter's Cemetery and VA Hospital (see Photograph 6, Appendix C). It leaves the Line #1 ROW at MP 1.6 and uses Segment D which, after crossing wooded terrain, Nadine Road, and Allegheny River Boulevard on new ROW, follows

an existing railroad ROW and Allegheny River Boulevard. Although this segment has higher visibility than other alternatives, road users are accustomed to viewing urban features in this location, including overhead utilities, and impacts from construction of a transmission line would be minimal. This alternative rejoins the existing Line #1 ROW at MP 3.5, and has the same visual impact as Alternative 1 up until its terminus at Logans Ferry Substation. In those sections of Alternative 9 on existing transmission line ROW, visual impacts are essentially established although the taller poles will be visible from a wider area. The overall visual impacts for Alternative 9 are considered to be low, owing to the existing ROW and the screening provided by the hilly terrain.

## **2.7 Archaeological and Historical Resources**

### **2.7.1 Existing Environment**

GAI identified known cultural resources, including National Register of Historic Places (NRHP)-listed historic properties, previously recorded archaeological sites, and previously recorded architectural and historical resources in the Study Area and within two miles of the centerlines of the project alternatives. Table 2-5 identifies the previously recorded NRHP-listed and eligible architectural and historic resources in the Study Area and Table 2-6 identifies those within two miles of project alternatives. These resources are shown within the Study Area on Figures 3-1 and 3-2. Resources outside of the Study Area, but within two miles of project alternatives, are shown on Figure 3-3. Table 2-7 identifies previously recorded archaeological sites in the Study Area. Because of the large number of previously recorded resources within two miles of the proposed alternatives, these are not considered in detail in this initial assessment. Information was collected on all known cultural resources in the vicinity of the Study Area through review of the Pennsylvania Historical and Museum

Commission-Bureau for Historic Preservation's (PHMC-BHP's) online Cultural Resources Geographic Information System (CRGIS).

The distribution of archaeological and historical resources identified throughout the Study Area provides a broad indication of prehistoric and historic settlement patterns. However, this distribution of known resources only partly illustrates cultural resource sensitivity within the Study Area (i.e., numbers, locations, and types of sites). In a broader context, this area is rich in cultural resources, as indicated by 102 previously surveyed historical and archaeological sites in the Study Area (including listed, eligible, and unevaluated resources), as well as numerous additional resources located within two miles of the project's alternatives.

#### *2.7.1.1 National Register of Historic Places-Listed Resources*

Three NRHP-listed resources are located in the Study Area: the Lemington Elementary School in the Lemington section of Pittsburgh; the Lehner Grain-and-Cider Mill and House in Verona; and the Longue Vue Club and Golf Course in Penn Hills. Alternatives 1, 4, 5, and 6 pass through the historic property boundary of the Longue Vue Club and Golf Course, although on the existing ROW for Line #1. Neither of the two remaining NRHP-listed resources in the Study Area is located near the project alternatives.

#### *2.7.1.2 Archaeological Sites*

There are 11 known archaeological sites recorded within the Study Area. These are scattered throughout the extent of the project area, although no sites are located in the vicinity of any alternatives. Therefore, none of the known archaeological sites in the Study Area will be affected by either construction or operation of any alternative.

### 2.7.1.3 *Historic Standing Structures*

There are six previously recorded NRHP-eligible resources in the Study Area. These include the Oakmont Historic District in Oakmont; the Allegheny River Boulevard Commemorative Pylons in Verona; the Sylvan Canoe Club in Verona; the Bessemer and Lake Erie Railroad/ Union Railroad Roundhouse in Penn Hills; the Allegheny Valley Railroad along the Allegheny River; and the Pennsylvania Turnpike Western Extension in multiple municipalities. Although each of the project alternatives spans the Pennsylvania Turnpike Western Extension, since this resource is spanned numerous times along its length by various modern infrastructure, no adverse effects to the Pennsylvania Turnpike will result as part of this project, regardless of alternative.

## 2.7.2 *Impacts and Mitigation*

### 2.7.2.1 *National Register of Historic Places Sites*

The historic property boundary of the Longue Vue Club and Golf Course is crossed by the existing Line #1, but no contributing elements to the golf club property are affected.

Alternatives 1, 4, 5, and 6 are located on the existing Line #1 ROW and would be within the existing historic property boundary for this resource. While this may potentially constitute a visual effect, detailed viewshed modeling and photo simulations will be necessary to assess the potential for an *adverse* visual effect resulting from the additional height of proposed structures. This analysis will be conducted for the Preferred Alternative and coordinated with the PHMC-BHP.

### 2.7.2.2 *Archaeological Sites*

None of the project alternatives have known archaeological sites within the proposed ROW.

The proposed ROW and potential access road locations associated with Alternative 1 were reviewed for archaeological potential. The majority of the ROW, including potential access roads, has little or no potential to contain intact archaeological deposits, due to excessive slope and extensive disturbance from utility installation and residential development. However, two discrete areas near the northern terminus remain intact and therefore, could contain archaeological materials. These two areas are located both north and south of the Pennsylvania Turnpike overlooking Plum Creek, a high-order tributary of the Allegheny River. Given that these two areas are situated on landforms favorable for prehistoric and historic habitation, and since there are several known archaeological and historical sites on neighboring landforms along the creek, Phase I archaeological shovel testing will be conducted in these two areas to confirm presence or absence of previously unrecorded archaeological deposits.

#### *2.7.2.3 Architectural and Historical Resources*

There are 91 previously surveyed architectural and historical resources greater than 50 years of age within the Study Area. When the existing Line #1 was constructed in the mid-twentieth century, it was located in the most practicable open areas. Much of the existing housing stock in the vicinity of this line dates from post-1960, and therefore, does not meet the NRHP age criterion. The alternative siting process was conducted to avoid urban areas as much as possible and to reduce or minimize potential impacts to architectural and historical resources greater than 50 years of age. In consultation with the PHMC-BHP, an architectural and historical survey will be conducted to identify resources greater than 50 years of age that are eligible for NRHP listing and that may be affected by the preferred route. However, since the Study Area has been compromised by numerous modern



infrastructure projects, including a number of existing transmission lines, no additional impacts from construction or operation of any of the alternatives are anticipated.

## 2.8 Airports

The PaPUC requires that all airports be identified within two miles of a proposed transmission line. Also, Federal Aviation Administration (FAA) regulations provide for a review process and for making a "Determination of Hazard or No Hazard" for all structures that might constitute a hazard to aeronautical operations. Moreover, FAA regulations provide for a review of all electrical structures and devices that might interfere with the navigation aids (NAVAIDS) and communication facilities for air operations. The primary NAVAIDS of concern include:

- VORTAC 360 degree directional beams; and
- airport instrument landing system.

### 2.8.1 Existing Environment

The Pennsylvania Aeronautical Chart (1990) was used to locate aeronautical features important to the proposed project. There are no airports within two miles of the Study Area.

Air navigation directional beacons may be affected if a high voltage line is directly in the line-of-sight between the facility and its airborne receiver. There are no navigational directional beacons within two miles of the Study Area.

### 2.8.2 Impacts and Mitigation

There are no impacts to airports or navigation facilities and no mitigation is required.

## 2.9 Unique Geologic Resources

There are no unique geologic resources in the Study Area (Geyer and Bolles, 1979 and 1987). No mitigation is required.

## 2.10 Soil and Sedimentation

Identified in this section are the soils which are located along the alternative routes and the effects upon soils resulting from the project. Erosion potential associated with the project is expected to be minimal because little land surface will be disturbed. Erosion potential is associated with the following:

- structure construction; and
- construction of access roads.

The data regarding soils was obtained from the county soil survey generated by the USDA Soil Conservation Service for Allegheny County (1981).

### 2.10.1 Existing Environment

All six alternatives cross the Gilpin-Upshur-Atkins, Gilpin-Wharton-Upshur, Urban land-Philo-Rainsboro, and Urban land-Rainsboro-Allegheny soil associations. The soils in the Gilpin-Upshur-Atkins soil association are moderately deep and deep, well drained soils underlain by red and gray shale on uplands and deep, poorly drained soils on flood plains. This association is generally found in long, narrow contour areas on valley sides that parallel the streams. Gilpin soils consist of moderately deep, nearly level to very steep, well drained soils on uplands. These soils are located on the sides of valleys in the Study Area. The Upshur soils consist of deep, gently sloping to very steep, well drained soils on uplands.

These soils formed in material that weathered from red clay and shale bedrock. Atkins soils are deep, poorly drained with a high water table and are found on flood plains.

Soils in the Gilpin-Wharton-Upshur association are moderately deep to deep, well drained soils underlain by red and gray shale on uplands. This association is situated on gently rolling to hilly uplands and is highly dissected by small streams and drainage ways. The Gilpin soils are moderately well drained and are deep to gray clay shale bedrock. Minor soils in this association include the deep, well drained Clymer, Hazleton, and Rayne soils. Also included are the deep and moderately well drained Ernest and Vandergrift soils, the deep and somewhat poorly drained Cavode soils and the deep and poorly drained Brinkerton soils.

The Urban land-Philo-Rainsboro association includes deep, moderately well drained soils and Urban land on flood plains and terraces. The Urban land-Rainsboro-Allegheny soil association is deep, well drained and moderately well drained soils and Urban land on terraces.

#### 2.10.2 Impacts and Mitigation

The potential effects upon soils from the proposed project include the loss of excavated soil from either water or wind erosion, reduction of soil quality from mixing topsoil and subsoil, and soil compaction caused by the passage of construction equipment.

Some E&S may be generated from vegetative clearing, structure placement, and construction of access roads. Following existing ROWs will minimize the potential for erosion and resulting sedimentation. Also, the limited area of denuded soils and the erosion controls that DLCo traditionally uses during transmission system construction will help to reduce the generation and movement of sediments.

Wetland areas present special construction difficulties due to their sensitivity to compaction, the lack of soil cohesion, and the saturated nature of their hydric soils. Unless a new construction road goes through them (and these occasions will be temporary), construction of the line will typically not affect wetlands since the distances between structures allow wetlands to be spanned. No transmission structures are expected to be located in wetland areas.

E&S impacts resulting from construction of the line will be minimal for Alternative 1, since all of the length is within existing ROW. Since Alternative 9 requires only 0.4-mile of new ROW, E&S impacts will also be minimal. Construction of new access roads has the potential to create E&S impacts for both alternatives. Although trees and shrubbery may be removed from the ROW, the herbaceous vegetation for the most part will be preserved. Therefore, vegetation will be removed and soils disturbed only at the structure locations. For all of the alternatives with new ROW segments, vegetation will be removed from the new ROW width of 100 feet for their lengths. Alternative 3 requires the most new ROW (5.3 miles), with Alternative 4 (2.8 miles), Alternative 6 (1.7 miles), and Alternative 5 (1.2 miles) also requiring new ROW. While access to the new ROW is likely available on existing roads for most sections, new access roads may be required for the more remote portions.

The following are some of the steps that DLCo will use, among others, to minimize soil and sedimentation impacts:

- existing roads and ROWs will be used to access structure locations wherever possible;

- appropriate National Pollutant Discharge Elimination System permits will be obtained as required and site-specific E&S Control Plans will be prepared which may be submitted to the ACCD for their review prior to the commencement of the project;
- at construction locations, typical controls may include an uphill diversion ditch to protect the construction site from runoff and staked haybales to control erosion. In special cases where the potential for erosion is great, a small sediment trap may also be used;
- generally, for construction roads and marshalling yards, a combination of diversion ditches and staked hay bales or silt fence will be used; and
- stream crossings by vehicles will be minimized where possible. Access to structures will be gained from upland locations wherever possible. Construction roads will be laid out to prevent sediment from reaching streams. A strip of undisturbed land will be left between the road and streams (called filter strips). If the road or structure location is close and/or the slope is steep, straw bales or silt fence will be used.

### **3.0 SELECTION OF THE PREFERRED ALTERNATIVE**

#### **3.1 Overview**

Following in this section are the methods and study results of the alternative selection process. The overall objective of the alternative selection process was to site environmentally sound, economically feasible, and licensable alternatives within the Study Area between the Highland Substation and the Logans Ferry Substation. After an analysis of the environmental constraints imposed by the Study Area, six alternatives were sited and analyzed for environmental impacts. No other alternatives appeared to meet the overall project objective

as well as these six. For the purposes of alternative selection, environmental resources are defined as particular environmental features that may be impacted by construction of an electric transmission line, or may affect its operation. The occurrence of environmental resources is the key factor that determined the selection of the Preferred Alternative.

### 3.2 Resource Categories

A list of Resource Evaluation Criteria was developed in order to compare the suitability of the six alternatives. This list contains 25 resource categories, as identified later in this section. The resources were chosen based on federal and state requirements, their sensitivity to impact by electric transmission lines, and sources of data available. Some examples of resources evaluated include airports, unique geological resources, state parks, and archaeological sites. The 25 categories of resources were identified and analyzed along each of the six alternatives during the siting process.

To evaluate resource impacts, each was measured in units such as acres, miles, or number of crossings by the proposed transmission line alternative. Some of the references and sources used to identify the resources included aerial photographs, USGS mapping at 1:24,000 scale, publications of the PaDEP, and private publications such as the Pennsylvania Atlas and Gazetteer. Field surveys augmented the library data.

The 25 resource categories used in the evaluation to select the Preferred Alternative are briefly described as follows:

- State Forests: These areas are multiple-use lands owned and maintained by the PADCNR.
- State Parks: These areas offer recreational opportunities and are protected by the PADCNR.

- State Game Lands. These areas are set aside for public hunting and game propagation and are protected by the PGC.
- Other Recreational Areas. These areas include county and local parks, as well as golf courses that could be identified from the field reconnaissance, USGS maps and aerial photography.
- National Natural Landmarks. These areas are listed and protected by the National Park Service, and represent outstanding natural areas or geologic features.
- Designated Natural Areas. These are areas recognized for their special natural features and are listed and protected by the PADCNr or by private conservation organizations.
- Wilderness Areas. Wilderness areas are federal lands protected by the Wilderness Act.
- Unique Geologic Resources. These features offer outstanding scenic opportunities and are listed by PADCNr.
- Historic Sites. These resources include sites listed on the NRHP or previously determined as eligible for the NRHP as identified from the PHMC's CRGIS database.
- Designated Scenic Areas. Although not necessarily protected by PADCNr, these areas have scenic and natural significance, and are listed in a variety of publications. Some areas are located in state parks.
- National Wild and Scenic Rivers. These streams have received national recognition for their recreational and scenic value, and are also protected by the PADCNr.

- State Scenic Rivers. Many of these rivers are being studied for inclusion on the federal list of Wild and Scenic rivers, and are protected by the PADCNR.
- Hiking and Biking Trails. Although these are linear resources that could easily be spanned by the transmission line, they also have scenic value.
- Steep Terrain. These areas were identified from USGS topographical mapping. Steep terrain was defined as slopes greater than 20 percent.
- Airports. Electric transmission lines can potentially interfere with present physical obstructions; the safety zone depends upon terrain and runway configuration. The FAA protects airports.
- Streams. Only crossings of perennial streams were used in the evaluation. Perennial streams were identified from USGS topographic mapping.
- Archaeological Sites. These areas include previously recorded both unregistered and registered sites designated by the NRHP and Pennsylvania Museum Commission.
- Commercial/Densely Populated Areas. These areas are defined by industrial, commercial, and closely spaced residential development, including apartment buildings and multi-story office complexes.
- Residential Areas. These areas are characterized by suburban and scattered residential development and were identified from examining road networks on the USGS and aerial photographs and through field investigations.
- Houses (within 100 feet of Alternative Centerlines). These houses have been counted from aerial photographs; field investigations have identified these structures as occupied residences.



- Highway, Railroad and Road Crossings. These were identified from highway, local, and USGS maps.
- Institutional Complexes. These areas include schools, churches, nursing homes, and hospitals.
- Forested Land Cleared. This represents areas that are presently tree covered that will be cleared for construction and maintained as rangeland. Forest land includes plant and wildlife habitat that is valuable for food and cover, and is disappearing in the Study Area.
- Wetland Cleared. Wetlands are valuable plant and wildlife habitat. This represents forested wetland areas that would be cleared for construction and maintained as emergent wetland.
- Non-Existing ROW. These include all undisturbed land required for transmission line construction and operation that does not follow or parallel an existing electrical transmission line ROW.

Figure 3-1 identifies the Study Area and the alternatives on an aerial photograph, along with location information. Existing electric transmission lines, the alternatives, and the 25 resources were mapped on USGS 7.5-minute quadrangle maps at a scale of 1:24,000. The specific environmental resources (tabulated in Tables 3-1 and 3-4) were mapped for an approximate 15.1-square-mile Study Area. The resources in the Study Area near the alternatives are shown in Figure 3-2. Figure 3-3 identifies resources within two miles of the alternatives, but outside the Study Area.

Four measurements were used during the selection of the Preferred Alternative: linear distance adjacent, acres cleared, number of resources crossed and/or adjacent, and the number of resources within a specified distance of the centerline (50 feet, 100 feet, 1,000 feet, 2,000 feet or two miles depending on the resource).

The following parameters were used during the measurement of the 25 resources:

- the linear distance adjacent, acres cleared, number of resources crossed and/or adjacent were determined (as appropriate) based on a 100-foot wide ROW;
- the number within a specified distance was determined for resources within that distance in any direction from the centerline, but outside of the 100-foot ROW for each alternative. (Golf courses were double counted since they are both recreation and commercial areas);
- the number of houses was identified within 100 feet of each centerline; and
- all resources were based on USGS 1:24,000 scale mapping and 1:12,000 scale aerial photography.

Following data acquisition, it was found that 14 of the criteria to be used for comparing the alternative alternatives did not occur on or in proximity to any of the alternatives. These 14 criteria were:

- state forests;
- state parks;
- state game lands;
- national natural landmarks;

- designated natural areas;
- wilderness areas;
- unique geologic sites;
- designated scenic areas;
- national wild and scenic rivers;
- state scenic rivers;
- hiking and bike trails;
- airports;
- archaeological sites; and
- wetlands cleared.

As a result, 11 of the 25 criteria were used to compare the alternatives. Database software was used for the compilation of the data. Tables 3-1 and 3-4 present a summary of all resource data collected for the existing Line #1 alternatives respectively, including the PaPUC criteria for resources within the four-mile corridor. Tables 3-1 and 3-4 present the resources that could actually be impacted by construction and operation of the proposed project; in other words, those resources that would be directly affected by the alternatives. Raw data were assembled by the database software for the alternatives (see Table 3-2). Raw data are those measurements compiled for the environmental resource criteria.

### 3.2.1 Existing Transmission Line ROW

Only those segments of the alternatives that are on new ROW were evaluated for all resources, with the exception of houses within 100 feet of the centerline and historic sites,

which were evaluated on both existing and new ROW segments. This procedure is based on the premise that sections of the alternatives that are located on existing ROW are not considered to generate substantial new impacts. No land use changes will occur, and few additional impacts to natural resources will be realized, other than during construction when temporary disturbances will take place at new structure locations. Minor disturbances may also occur where old transmission structures are removed. Residential and commercial areas crossed have developed around or adapted to the location of the lines. Impacts such as visual quality or land use conflicts have already been absorbed into uses of the property crossed. Houses within 100 feet of the centerline may potentially be within the 100-foot transmission line ROW and require additional consideration during design and construction. Historic sites are included due to the need to coordinate potential viewshed effects with the PHMC.

### **3.3 Relative Scaling**

In order to put resource measurements on a relative scale (acres, number, feet) and to obtain an impact score that could be compared across the different alternatives, the raw data were mathematically proportioned to a scale of 1 to 10 (Table 3-3). In this procedure the alternative with the highest score (worst) for individual resources receives a 10; that with the lowest score (best) receives a one. (Note: If all alternatives have an impact value of zero for a specific resource criterion, then the weighted value is equal to zero). Thus, the raw scores are transformed to a relative scale from one to 10 to obtain Relative Scores for each Resource Evaluation Criterion. Using the relative position of the alternative in comparison to the values for all alternatives provided an indication of how the alternative compares overall. This process is based on a methodology suggested by Gaige, et al. (1991).

### 3.4 Weighting

In order to determine the most suitable alternative, the relative scores for each criterion for each alternative need to be totaled. Because it was felt that not all of the criteria are equally important in selecting between the alternatives, especially as perceived by the public, the criteria weights previously established by the Siting Criteria Council (SCC) for the GPU-DQE 500 kV Transmission Line Project were used. A criterion weight identified the relative importance of each criterion in the selection of the Preferred Alternative. The Nominal Group Technique (NGT), which is a structured design-making technique, was used by the SCC. The results of the NGT are shown in Table 3-4 under the weights column. While a range of zero to 100 was possible, on an individual basis, the SCC's average weight ranged from 33.1 to 88.8.

SCC weights were used for 21 of the 25 resource criteria. Four resource criteria (wilderness areas, forest land cleared, non-existing ROW, and houses within 100 feet of the centerline) were not weighted by the SCC, but are used in this project. Weights for these four resources were assigned by a group of environmental, planning and engineering professionals that have extensive experience siting and evaluating the impacts of projects in similar areas. The weights were determined by considering the relative importance of these resources and the weights assigned to related resources by the SCC. No wilderness areas are in the Study Area. Since wilderness areas are similar to designated natural areas, these two resources were grouped together in Table 3-4 and the SCC weight for designated natural areas was used. Likewise, National Wild and Scenic Rivers and State Scenic Rivers were grouped and weighted together.

Clearing forest land has a considerable impact on wildlife species; therefore, a relatively high weight should be assigned. In addition, forested land in the Study Area has decreased recently due to urban development, leading to a loss of important wildlife habitat. The weight for forestland cleared should be higher than the SCC weight for State Forests (43.4) since these forests have legal protection and are managed for timber. Since wetlands are considered to be more sensitive areas than forests, the weight for forest land cleared should be lower than 66.2, the SCC weight for wetland cleared. Thus, a weight of 60.0 was assigned for forest land cleared. The environmental impacts for construction on non-existing ROW are much higher than those associated with construction on existing ROW. Therefore, a high weight should be assigned for non-existing ROW. After considering the weights assigned to residential areas, commercial areas, forests, wetlands and visually sensitive areas, a weight of 80.0 was assigned for non-existing ROW.

The relative scores achieved by each alternative for each criterion were then multiplied by the criteria weights developed by the SCC (Weight Column of Table 3-4) to obtain the impact scores shown on the same tables. The impact scores were summed to obtain an overall impact score for each alternative. These scores were then ranked and Table ES-1 presents the ranking analysis.

### **3.5 Alternative Analysis**

This analysis compares the environmental resources among Alternatives 1, 3, 4, 5, 6 and 9 to determine the Preferred Alternative.

#### **3.5.1. Alternative 1**

Alternative 1 scored as the most desirable alternative from an environmental resource perspective. This alternative is located on the existing Line #1 ROW for its entire length

which minimizes potential impacts by avoiding those usually associated with the establishment of new ROW. This alternative has the second highest number (89) of houses within 100 feet of the centerline of the existing Line #1 alternatives. However, since this alternative is located on an existing ROW, the impacts to residential communities have already been experienced and should not be substantial from upgrading the line. The taller poles will be visible from a larger area than are the existing structures. There is no new clearing of forested land required for ROW purposes.

### 3.5.2 Alternative 3

Alternative 3 is the least desirable alternative (sixth) considering overall effects on environmental resources. This alternative avoids steep terrain by using Segment D adjacent to the Allegheny River. It avoids residential areas with Segments N, P, Q, and U, and it is tied with Alternative 4 for having the lowest number of houses (38) within 100 feet of the centerline. However, all of the houses are on new ROW, it requires the most new ROW (5.3 miles), crosses the most commercial areas on new ROW, and has one historic site adjacent or within view.

### 3.5.3 Alternative 4

Alternative 4 is the fifth most desirable alternative considering effects on environmental resources. This alternative uses Segments O and Q to avoid residential impacts and it is tied with Alternative 3 for having the lowest number of houses (38) within 100 feet of the centerline. However, it is the second highest of the six alternatives for the miles of new ROW required (2.8 miles), all of the houses are on new ROW, and it requires the second highest amount of forest clearing.

### 3.5.4 Alternative 5

Alternative 5 is the fourth most desirable alternative considering the environmental impacts. This alternative uses Segment O to avoid residential areas. There are 59 houses within 100 feet of the centerline, 32 of which are on existing ROW. Only 1.2 miles of new ROW is required and the amount of forest clearing required is relatively small.

#### 3.5.5 Alternative 6

Alternative 6 is the third most desirable alternative considering the effects on environmental resources. This alternative uses Segment Q to avoid residential areas and has the third lowest number (68) of houses within 100 feet of the centerline, only six of which are on new ROW. This alternative requires approximately 1.7 miles of new ROW and has moderate impacts for forested land cleared.

#### 3.5.6 Alternative 9

Alternative 9 is the second most desirable alternative considering the effects on environmental resources. It has the second highest number (106) of houses within 100 feet of the ROW; however, 89 of these are on existing ROW. It requires 1.8 miles of new ROW, however, the new ROW is located in a transportation corridor which minimizes resource impacts, such as forest clearing. Therefore, only 0.4 miles of non-existing ROW will be required for this alternative. This alternative uses Segment D to avoid steep sloping areas above the Allegheny River.

#### 3.5.7 Preferred Alternative

The most suitable alternatives for the project are Alternatives 1 and 9 based upon the overall environmental rankings analysis shown in Tables ES-1 and Figure ES-2. The differences between these two alternatives include the number of residential structures within 100 feet of the centerline, new ROW, forest acreage, major road or railway crossings, and stream



crossings. Alternative 1 is entirely on existing ROW, requires no additional forest clearing, and does not cross any new major roads or railways not already affected by the existing Line #1. There are also no new stream crossings by the ROW. Alternative 9 requires 0.4-mile of new ROW, the clearing of 2.5 acres of forest, and adds four new road and railway crossings and a new stream crossing. In addition to these factors, Alternative 9 contains the highest number of residential structures within 100 feet of the centerline of any alternative considered. Alternative 1 contains 17 fewer residential structures within 100 feet of the centerline than Alternative 9.

Alternative 9 requires the use of Segment D, which partially runs alongside the existing Allegheny Valley Railroad ROW. Initial discussions between Carload Express, Inc., owner of the Allegheny Valley Railroad, and DLCo have indicated that the use of Segment D is not a viable option for use in the proposed 345 kV upgrade.

Therefore, Alternative 1 has been identified as the Preferred Alternative for the project. Alternative 9 is also environmentally acceptable, though not suitable as a licensable alternative route due to the inability to utilize Segment D along the existing railroad ROW. An electromagnetic field analysis was performed for Alternative 1. A copy of this report is contained in Appendix D.

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## TABLES

**Table 2-1**

**LAND USE CLASSIFICATIONS**

<b>Classification</b>	<b>Description</b>
Residential	Areas dominated by single or multi-family housing units.
Urban	Includes all human-dominated land uses, with the exception of residential. Typically includes industrial and/or commercial areas with much of the land covered by structures. Also includes areas intensively used but with few structures such as golf courses, cemeteries, and urban parks. Transportation, communication, and utility land uses are also included.
Agricultural	Broadly defined as land devoted primarily to the production of food and fiber. Includes cropland, pastureland, and orchards, as well as farm associated structures.
Forest	Those areas having an aerial tree-crown density of 10 percent or more. Includes both deciduous and coniferous woodlands.
Wetland	Areas where the dominant vegetation is suited to hydric soils. Includes floodplains, streams, rivers, and open-water areas.

Source: Anderson, et al., 1976.



**Table 2-2**

**PERENNIAL STREAM CROSSINGS ON NEW ROW**

<b>Alternative</b>	<b>Mile Point</b>	<b>Stream</b>
1	-	None
3	3.40	Quigley Creek
	3.92	Tributary to Quigley Creek
	5.14	Tributary to Plum Creek
	5.85	Tributary to Plum Creek
	7.21	Plum Creek
4	3.64	Quigley Creek
	3.81	Quigley Creek
	4.44	Indian Creek
	4.92	Tributary to Plum Creek
	6.28	Plum Creek
5	3.64	Quigley Creek
	3.81	Quigley Creek
	4.44	Indian Creek
6	5.18	Tributary to Plum Creek
	6.54	Plum Creek
9	3.46	Quigley Creek

Source: GAI, 2007.

**Table 2-3**

**RECREATIONAL RESOURCES CROSSED, ADJACENT  
TO, OR NEARBY<sup>1</sup> ALTERNATIVES<sup>2</sup> ON NEW ROW**

<b>Alternatives</b>	<b>Resources</b>
1	None
3	Other Recreation Areas: Green Oaks Country Club
4	None
5	None
6	None
9	None

Notes:

- <sup>1</sup> Within the line-of-sight, but not adjacent.
- <sup>2</sup> Above parameters (crossed, adjacent and nearby) were developed in past projects involving PaPUC and are considered to be the standard.

Table 2-4

**RECREATION AREAS IN THE STUDY AREA**

Name
Paulson Park
Chadwick Playground in Belmar
Athletic Field at VA Complex
Longue Vue Country Club
Green Oaks Country Club
Crescent Hills Park (off Sycamore Road)
Turner Friendship Park
Park on South Avenue in Verona
Park on 7 <sup>th</sup> Avenue in Verona
Dark Hollow Woods Park
Penn Hills Community Park
Alcoma Golf Course
Baseball Field off Hulton Road near Milltown
Oakmont Golf Course
Oakmont Heights Golf Course
Lee Park
Athletic Field at the VA Hospital Complex

Source: GAI, 2007.

Table 2-5

PREVIOUSLY RECORDED HISTORIC RESOURCES IN THE STUDY AREA

Key #	Address	Municipality	County	Historic Name	NRHP Status	Resource Category	Date Built
005293	7060 Lemington Avenue	Pittsburgh City	Allegheny	Lemington Elementary School	Listed	Building	1937
008231	Allegheny River Boulevard	Verona Borough	Allegheny	Allegheny River Boulevard Commemorative Pylons	Eligible	Object	1931
008245	550 Penn Street	Verona Borough	Allegheny	Lehner Grain-and-Cider Mill and House	Listed	Building	1880
020130	400 Longue Vue Country Club Drive	Penn Hills Township	Allegheny	Longue Vue Country Club	Listed	Building	1925
119279	700 Blaw Avenue	Blawnox Borough	Allegheny	Blaw-Knox Plant and Headquarters	Eligible	Building	1917
120235	Leechburg Road	Penn Hills Township	Allegheny	Bessemer and Lake Erie Railroad/Union Railroad: Roundhouse	Eligible	Building	1896
120323		Multiple	Multiple	Allegheny Valley Railroad (Plum Boro to Pittsburgh)	Eligible	District	1856
120618		Multiple	Multiple	Allegheny Valley Railroad (Oil City to Pittsburgh and Driftwood)	Eligible	Structure	1855
155816	132 Arch Street	Verona Borough	Allegheny	Sylvan Canoe Club	Eligible	Building	1905
155893		Multiple	Multiple	Pennsylvania Turnpike: Western Extension	Eligible	Structure	1949

Table 2-6

PREVIOUSLY RECORDED ELIGIBLE AND LISTED HISTORIC RESOURCES WITHIN TWO MILES OF THE PROJECT ALTERNATIVES

Key #	Address	Municipality	County	Historic Name	NRHP Status	Resource Category	Date Built
001715		Pittsburgh City	Allegheny	Allegheny Cemetery	Listed	Site	1848
001731	613 Marion Avenue	Springdale Borough	Allegheny	Carson, Rachel, House	Listed	Building	1870
001737		Pittsburgh City	Allegheny	East Liberty Market	Listed	Building	1898
001750	340 S Highland Avenue	Pittsburgh City	Allegheny	Highland Towers Apartments	Listed	Building	1913
001775	400 Shady Avenue	Pittsburgh City	Allegheny	Sellers House	Listed	Building	1858
001776	1318 Singer Place	Wilkinsburg Borough	Allegheny	Singer, John F., House	Listed	Building	1865
004058	122 S. Whitfield Street	Pittsburgh City	Allegheny		Eligible	Building	
004221	5500-5506 Penn Avenue	Pittsburgh City	Allegheny	Rosemont, Hugus Building	Eligible	Building	1900
004265	5101 Hillcrest Street	Pittsburgh City	Allegheny	Fort Pitt Elementary School	Listed	Building	1905
004301	7101 Hermitage	Pittsburgh City	Allegheny	Belmar School	Eligible	Building	1900
004304	7600-7658 Brushton	Pittsburgh City	Allegheny	Baxter High School/Pittsburgh High School for the Creative and Performing Arts	Listed	Building	1909
004313	7101 Hamilton Avenue	Pittsburgh City	Allegheny	Homewood Branch, Carnegie Library of Pittsburgh	Eligible	Building	1909
004338	1101 N. Murtland	Pittsburgh City	Allegheny	Westinghouse High School	Listed	Building	1921
004449	6521-6531 Frankstown Avenue	Pittsburgh City	Allegheny	Lincoln Elementary School	Listed	Building	1930
004459		Pittsburgh City	Allegheny	Larimer School	Listed	Building	1896
004716	6801 McPherson Boulevard	Pittsburgh City	Allegheny	Linwood	Eligible	Building	1907
007808	607-717 Center Avenue	Aspinwall Borough	Allegheny	Sauer Buildings Historic District	Listed	District	1900
008918		Plum Borough	Allegheny	Allegheny River Bridge	Eligible	Structure	1865
009312	339 Lang Avenue	Pittsburgh City	Allegheny	Sterrett School	Listed	Building	1898
009319	739 S Linden Avenue	Pittsburgh City	Allegheny	Linden Avenue School	Listed	Building	1903
009334	427 S Braddock Avenue	Pittsburgh City	Allegheny	Park Place School	Listed	Building	1903
009602	121 S Highland Avenue	Pittsburgh City	Allegheny	Highland Building	Listed	Building	1909
009605	6101 Penn Avenue	Pittsburgh City	Allegheny	Liberty Building	Eligible	Building	1880
009608	5501 Friendship Avenue	Pittsburgh City	Allegheny	Liberty School No. 4, Friendship Building	Listed	Building	1899
009620	Lincoln Avenue	Pittsburgh City	Allegheny	Lincoln Avenue Bridge	Eligible	Structure	1906
009636	Lemington Avenue	Pittsburgh City	Allegheny	Pennsylvania Bridge	Eligible	Structure	1903
019998	Allegheny River Boulevard	Oakmont Borough	Allegheny	Oakmont Carnegie Library	Eligible	Object	1901
020094	1235 Blackadore Avenue	Penn Hills Township	Allegheny	Blackadore House	Eligible	Building	1860
077449	716-743 N Beatty Street	Pittsburgh City	Allegheny	Alpha Terrace Historic District	Listed	District	1885
077454	5722 Centre Avenue	Pittsburgh City	Allegheny	Coca-Cola Bottling Plant	Eligible	Building	1937

Table 2-6 (Continued)

Key #	Address	Municipality	County	Historic Name	NRHP Status	Resource Category	Date Built
077462	Hulton Road	Plum Borough	Allegheny	Oakmont Country Club Historic District	NHL	District	
078860		Pittsburgh City	Allegheny	Dillworth Elementary School	Listed	Building	1914
080075	5657 Stanton Avenue	Pittsburgh City	Allegheny		Eligible	Building	1882
083548	Hampton Street	Pittsburgh City	Allegheny	Fulton Elementary School	Listed	Building	1894
090556	6000 Penn Circle South	Pittsburgh City	Allegheny	Stevenson Building	Eligible	Building	1898
096485	324 Emerson Street	Pittsburgh City	Allegheny	Hunt Armory	Listed	Building	1911
102148		Plum Borough	Allegheny	Logans Ferry Powder Works Historic District	Listed	District	1918
105656	5635 Stanton Avenue	Pittsburgh City	Allegheny	Scott, James, House	Listed	Building	1910
105657		Pittsburgh City	Allegheny	Highland Park Historic District	Listed	District	1860
106147	5815 Baum Boulevard	Pittsburgh City	Allegheny	Whitehill-Gleason Motors; Constanin Pontiac; Keystone Buick/Steel City Motors	Listed	Building	1920
107967	7451 Lockway West	Pittsburgh City	Allegheny	Allegheny River Lock and Dam No. 2	Listed	Structure	1920
107968		Plum Borough	Allegheny	Allegheny River Lock and Dam No. 3	Listed	Structure	1898
110373	7750 Penn Avenue	Pittsburgh City	Allegheny	Conrad, Frank, House and Garage/Elks Club	Eligible		
115408		Pittsburgh City	Allegheny	Frick Park	Eligible	District	1925
116908		Pittsburgh City	Allegheny	Highland Park	Eligible	District	1889
118647	301 Barking Road	Plum Borough	Allegheny	Lockkeepers' Dwelling, Allegheny Lock and Dam No. 3	Eligible	Building	1906
119279	700 Blaw Avenue	Blawnox Borough	Allegheny	Blaw-Knox Plant and Headquarters	Eligible	Building	1917
120194	Freeport Road	Pittsburgh City	Allegheny	City of Pittsburgh Water Filtration Plant	Eligible		1907
120215		Oakmont Borough	Allegheny	Oakmont Historic District	Eligible	District	1850
120323		Multiple	Multiple	Allegheny Valley Railroad (Plum Boro to Pittsburgh)	Eligible	District	1856
120618		Multiple	Multiple	Allegheny Valley Railroad (Oil City to Pittsburgh and Driftwood)	Eligible	District	1855
120943	438 4th Street	Oakmont Borough	Allegheny	Kerr, Thomas R., Dr., House and Office	Listed	Building	1897
127303		Harmar Township	Allegheny	Norfolk-Southern Right-of-Way/Western Pennsylvania Railroad	Eligible	Structure	1866
127304		Penn Hills Township	Allegheny	Allegheny Valley Railroad (Plum Boro segment)	Eligible	District	1856
129740	SR 7301	Pittsburgh City	Allegheny	North Braddock Avenue Bridge	Eligible	Structure	1904
129815	SR 7301	Pittsburgh City	Allegheny	Unnamed Bridge Crossing Washington Boulevard	Eligible	Structure	1912
129825	SR 1005	Pittsburgh City	Allegheny	Highland Park Bridge	Eligible	Structure	1940
143269	Highland and Penn Avenue	Pittsburgh City	Allegheny	East Liberty Commercial Historic District	Eligible	District	1870
155893		Multiple	Multiple	Pennsylvania Turnpike: Western Extension	Eligible	Structure	1949

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**Table 2-7**

**ARCHEOLOGICAL SITES IN THE STUDY AREA**

<b>Site #</b>	<b>Site Name</b>	<b>Site Type</b>	<b>NRHP Status</b>
36AL0018	Davidson Farm	Open Prehistoric Site, Unknown Function	Insufficient Data Available to Make a Decision
36AL0019	Reeves and Beales Blow Knox	Open Habitation, Prehistoric	Insufficient Data Available to Make a Decision
36AL0025	Berch	Open Habitation, Prehistoric	Insufficient Data Available to Make a Decision
36AL0060	Nine Mile Island	Open Habitation, Prehistoric	Insufficient Data Available to Make a Decision
36AL0074	Crescent Hills Park	Open Habitation, Prehistoric	Insufficient Data Available to Make a Decision
36AL0083	Estate Site	Open Prehistoric Site, Unknown Function	Considered Eligible by Submitter
36AL0089	Russo Farm Site	Open Prehistoric Site, Unknown Function	Insufficient Data Available to Make a Decision
36AL0146	Colfax	Open Habitation, Prehistoric	Insufficient Data Available to Make a Decision
36AL0147	Plum Creek Cave	Rock Shelter/Cave	Insufficient Data Available to Make a Decision
36AL0484	Longue Vue Tower	Open Habitation, Prehistoric	Insufficient Data Available to Make a Decision
36AL0486	Kensington Park	Open Habitation, Prehistoric	Insufficient Data Available to Make a Decision

Table 3-1

**SUMMARY OF RESOURCE DATA COLLECTED**

Resource Evaluation Criteria	1	3	4	5	6	9
<b>State Owned Lands/Recreation Areas</b>						
<b>State Forests</b>						
Linear Distance Adjacent (miles)	0.0	0.0	0.0	0.0	0.0	0.0
Number Within Two Miles	0.0	0.0	0.0	0.0	0.0	0.0
<b>State Parks</b>						
Linear Distance Adjacent (miles)	0.0	0.0	0.0	0.0	0.0	0.0
Number Within Two Miles	1.0	1.0	1.0	1.0	1.0	1.0
<b>State Game Lands</b>						
Linear Distance Adjacent (miles)	0.0	0.0	0.0	0.0	0.0	0.0
Number Within Two Miles	0.0	0.0	0.0	0.0	0.0	0.0
<b>Other Recreational Areas</b>						
Number Adjacent/Crossed	0.0	1.0	0.0	0.0	0.0	0.0
Number Within Line of Sight	0.0	0.0	0.0	0.0	0.0	0.0
<b>Natural Areas</b>						
<b>National Natural Landmarks</b>						
Number Adjacent/Crossed	0.0	0.0	0.0	0.0	0.0	0.0
Number Within Two Miles	0.0	0.0	0.0	0.0	0.0	0.0
<b>Designated Natural/Wilderness Areas</b>						
Linear Distance Adjacent (miles)	0.0	0.0	0.0	0.0	0.0	0.0
Number Within Two Miles	0.0	0.0	0.0	0.0	0.0	0.0
<b>Visually Sensitive Areas</b>						
<b>Unique Geological Resources</b>						
Number Adjacent/Crossed	0.0	0.0	0.0	0.0	0.0	0.0
Number Within Two Miles	0.0	0.0	0.0	0.0	0.0	0.0
<b>Historic Sites</b>						
Number Adjacent or in View	5.0	5.0	5.0	5.0	5.0	5.0
Number Within Two Miles	60.0	60.0	60.0	60.0	60.0	60.0
<b>Designated Scenic Areas</b>						
Number Adjacent/Crossed	0.0	0.0	0.0	0.0	0.0	0.0
Number Within Two Miles	0.0	0.0	0.0	0.0	0.0	0.0
<b>Nat. Wild and Scenic/State Scenic Rivers</b>						
Number Crossed	0.0	0.0	0.0	0.0	0.0	0.0
Number Within Two Miles	0.0	0.0	0.0	0.0	0.0	0.0



**Table 3-1 (Continued)**

Resource Evaluation Criteria	1	3	4	5	6	9
<b>Visually Sensitive Areas (continued)</b>						
<b>Hiking and Bike Trails</b>						
Number Crossed	0.0	0.0	0.0	0.0	0.0	0.0
Number of Trail Systems Within Two Miles	3.0	3.0	3.0	3.0	3.0	3.0
<b>Engineering Constraints</b>						
<b>Steep Terrain</b>						
Linear Dist. on Slopes 20% or Greater (miles)	0.0	1.17	1.0	0.4	0.7	0.1
<b>Airports</b>						
Number Impacted	0.0	0.0	0.0	0.0	0.0	0.0
Number Within Two Miles	0.0	0.0	0.0	0.0	0.0	0.0
<b>Hydrology</b>						
<b>Streams</b>						
Number of Perennial Crossings	0.0	5.0	5.0	3.0	2.0	1.0
<b>Archaeological Areas</b>						
<b>Archaeological Sites</b>						
Number Disturbed	0.0	0.0	0.0	0.0	0.0	0.0
Number Within 2,000 Feet	5.0	5.0	5.0	5.0	5.0	5.0
<b>Social or Community Impacts</b>						
<b>Commercial/Densely Populated Areas</b>						
Linear Distance Adjacent (miles)	0.0	0.14	0.0	0.0	0.0	0.0
<b>Residential Areas</b>						
Linear Distance Adjacent (miles)	0.0	0.47	0.28	0.27	0.01	0.0
Houses Within 100 Feet of Centerline	89	38	38	59	68	106
<b>Highway, Railroad, and Road Crossings</b>						
Number of Crossings	0.0	13.0	10.0	5.0	5.0	3.0
<b>Institutional Complexes</b>						
Number Adjacent/Crossed	0.0	0.0	0.0	0.0	0.0	0.0
Number Within 1,000 Feet	0.0	1.0	1.0	1.0	0.0	0.0
<b>Forest Land Cleared</b>						
Acres	0.0	49.5	28.4	9.7	18.6	2.5
<b>Wetland Cleared</b>						
Acres	0.0	0.0	0.0	0.0	0.0	0.0
<b>Non-Existing ROW</b>						
Miles Required	0.0	5.32	2.8	1.2	1.7	0.4

**Table 3-2**

**RAW DATA**

Resource Evaluation Criteria	1	3	4	5	6	9
<b>State Owned Lands/Recreation Areas</b>						
<b>State Forests</b>						
Linear Distance Adjacent (miles)	0.0	0.0	0.0	0.0	0.0	0.0
<b>State Parks</b>						
Linear Distance Adjacent (miles)	0.0	0.0	0.0	0.0	0.0	0.0
<b>State Game Lands</b>						
Linear Distance Adjacent (miles)	0.0	0.0	0.0	0.0	0.0	0.0
<b>Other Recreational Areas</b>						
Number Adjacent/Crossed	0.0	1.0	0.0	0.0	0.0	0.0
<b>Natural Areas</b>						
<b>National Natural Landmarks</b>						
Number Adjacent/Crossed	0.0	0.0	0.0	0.0	0.0	0.0
<b>Designated Natural/Wilderness Areas</b>						
Linear Distance Adjacent (miles)	0.0	0.0	0.0	0.0	0.0	0.0
<b>Visually Sensitive Areas</b>						
<b>Unique Geological Resources</b>						
Number Adjacent/Crossed	0.0	0.0	0.0	0.0	0.0	0.0
<b>Historic Sites</b>						
Number Adjacent or in View	5.0	5.0	5.0	5.0	5.0	5.0
<b>Designated Scenic Areas</b>						
Number Adjacent/Crossed	0.0	0.0	0.0	0.0	0.0	0.0
<b>Nat. Wild and Scenic/State Scenic Rivers</b>						
Number Crossed	0.0	0.0	0.0	0.0	0.0	0.0
<b>Hiking and Bike Trails</b>						
Number Crossed	0.0	0.0	0.0	0.0	0.0	0.0
<b>Engineering Constraints</b>						
<b>Airports</b>						
Number Impacted	0.0	0.0	0.0	0.0	0.0	0.0
<b>Steep Terrain</b>						
Linear Dist. on Slopes 20% or Greater (miles)	0.0	1.17	1.0	0.4	0.7	0.1
<b>Hydrology</b>						
<b>Streams</b>						
Number of Perennial Crossings	0.0	5.0	5.0	3.0	2.0	1.0

**Table 3-2 (Continued)**

Resource Evaluation Criteria	1	3	4	5	6	9
<b>Archaeological Areas</b>						
<b>Archaeological Sites</b>						
Number Disturbed	0.0	0.0	0.0	0.0	0.0	0.0
<b>Social or Community Impacts</b>						
<b>Commercial/Densely Populated Areas</b>						
Linear Distance Adjacent (miles)	0.0	0.14	0.0	0.0	0.0	0.0
<b>Residential Areas</b>						
Linear Distance Adjacent (miles)	0.0	0.47	0.28	0.27	0.01	0.0
Houses Within 100 Feet of Centerline	89	38	38	59	68	106
<b>Highway, Railroad, and Road Crossings</b>						
Number of Crossings	0.0	13.0	10.0	5.0	5.0	3.0
<b>Institutional Complexes</b>						
Number Adjacent/Crossed	0.0	0.0	0.0	0.0	0.0	0.0
<b>Forest Land Cleared</b>						
Acres	0.0	49.5	28.4	9.7	18.6	2.5
<b>Wetland Cleared</b>						
Acres	0.0	0.0	0.0	0.0	0.0	0.0
<b>Non-Existing ROW</b>						
Miles Required	0.0	5.32	2.8	1.2	1.7	0.4

**Table 3-3**

**FINAL RELATIVE SCORES**

<b>Resource Evaluation Criteria</b>	<b>1</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>9</b>
<b>State Owned Lands/Recreation Areas</b>						
<b>State Forests</b>						
Linear Distance Adjacent (miles)	0.0	0.0	0.0	0.0	0.0	0.0
<b>State Parks</b>						
Linear Distance Adjacent (miles)	0.0	0.0	0.0	0.0	0.0	0.0
<b>State Game Lands</b>						
Linear Distance Adjacent (miles)	0.0	0.0	0.0	0.0	0.0	0.0
<b>Other Recreational Areas</b>						
Number Adjacent/Crossed	1.0	10.0	1.0	1.0	1.0	1.0
<b>Natural Areas</b>						
<b>National Natural Landmarks</b>						
Number Adjacent/Crossed	0.0	0.0	0.0	0.0	0.0	0.0
<b>Designated Natural/Wilderness Areas</b>						
Linear Distance Adjacent (miles)	0.0	0.0	0.0	0.0	0.0	0.0
<b>Visually Sensitive Areas</b>						
<b>Unique Geological Resources</b>						
Number Adjacent/Crossed	0.0	0.0	0.0	0.0	0.0	0.0
<b>Historic Sites</b>						
Number Adjacent or in View	5.0	5.0	5.0	5.0	5.0	5.0
<b>Designated Scenic Areas</b>						
Number Adjacent/Crossed	0.0	0.0	0.0	0.0	0.0	0.0
<b>Nat. Wild and Scenic/State Scenic Rivers</b>						
Number Crossed	0.0	0.0	0.0	0.0	0.0	0.0
<b>Hiking and Bike Trails</b>						
Number Crossed	0.0	0.0	0.0	0.0	0.0	0.0
<b>Engineering Constraints</b>						
<b>Airports</b>						
Number Impacted	0.0	0.0	0.0	0.0	0.0	0.0
<b>Steep Terrain</b>						
Linear Dist. on Slopes 20% or Greater (miles)	1.0	10.0	8.7	4.1	6.4	1.8
<b>Hydrology</b>						
<b>Streams</b>						
Number of Perennial Crossings	1.0	10.0	10.0	6.4	4.6	2.8

**Table 3-3 (Continued)**

<b>Resource Evaluation Criteria</b>	<b>1</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>9</b>
<b>Archaeological Areas</b>						
<b>Archaeological Sites</b>						
Number Disturbed	0.0	0.0	0.0	0.0	0.0	0.0
<b>Social or Community Impacts</b>						
<b>Commercial/Densely Populated Areas</b>						
Linear Distance Adjacent (miles)	1.0	10.0	1.0	1.0	1.0	1.0
<b>Residential Areas</b>						
Linear Distance Adjacent (miles)	1.0	10.0	6.4	6.2	1.2	1.0
Houses Within 100 Feet of Centerline	7.8	1	1	3.8	5	10
<b>Highway, Railroad, and Road Crossings</b>						
Number of Crossings	1.0	10.0	7.9	4.5	4.5	3.1
<b>Institutional Complexes</b>						
Number Adjacent/Crossed	0.0	0.0	0.0	0.0	0.0	0.0
<b>Forest Land Cleared</b>						
Acres	1.0	10.0	6.2	2.8	4.4	1.5
<b>Wetland Cleared</b>						
Acres	0.0	0.0	0.0	0.0	0.0	0.0
<b>Non-Existing ROW</b>						
Miles Required	1.0	10.0	5.7	3.0	3.9	1.7

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 Highland-Logans Ferry 69 kV to 345 kV Rebuild/Upgrade Project, City of Pittsburgh,  
 Municipality of Penn Hills, Verona Borough, and Plum Borough, Allegheny County, Pennsylvania

Table 3-4

ENVIRONMENTAL IMPACT SCORES

Resource Evaluation Criteria	Weight	1	3	4	5	6	9
<b>State Owned Lands/Recreation Areas</b>							
<b>State Forests</b>							
Linear Distance Adjacent (miles)	43.4	0.0	0.0	0.0	0.0	0.0	0.0
<b>State Parks</b>							
Linear Distance Adjacent (miles)	69.2	0.0	0.0	0.0	0.0	0.0	0.0
<b>State Game Lands</b>							
Linear Distance Adjacent (miles)	33.4	0.0	0.0	0.0	0.0	0.0	0.0
<b>Other Recreational Areas</b>							
Number Adjacent/Crossed	67.3	67.3	673.0	67.3	67.3	67.3	67.3
<b>Natural Areas</b>							
<b>National Natural Landmarks</b>							
Number Adjacent/Crossed	78.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Designated Natural/Wilderness Areas</b>							
Linear Distance Adjacent (miles)	73.2	0.0	0.0	0.0	0.0	0.0	0.0
<b>Visually Sensitive Areas</b>							
<b>Unique Geological Resources</b>							
Number Adjacent/Crossed -	59.2	0.0	0.0	0.0	0.0	0.0	0.0
<b>Historic Sites</b>							
Number Adjacent or in View	76.8	384.0	384.0	384.0	384.0	384.0	384.0
<b>Designated Scenic Areas</b>							
Number Adjacent/Crossed	71.3	0.0	0.0	0.0	0.0	0.0	0.0
<b>National Wild and Scenic/State Scenic Rivers</b>							
Number Crossed	72.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Hiking and Bike Trails</b>							
Number Crossed	42.8	0.0	0.0	0.0	0.0	0.0	0.0

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 Highland-Logans Ferry 69 kV to 345 kV Rebuild/Upgrade Project, City of Pittsburgh,  
 Municipality of Penn Hills, Verona Borough, and Plum Borough, Allegheny County, Pennsylvania

**Table 3-4 (Continued)**

Resource Evaluation Criteria	Weight	1	3	4	5	6	9
<b>Engineering Constraints</b>							
<b>Airports</b>							
Number Impacted	52.5	0.0	0.0	0.0	0.0	0.0	0.0
<b>Steep Terrain</b>							
Linear Distance on Slopes 20 Percent or Greater (miles)	40.9	40.9	409.0	355.5	166.7	261.1	72.4
<b>Hydrology</b>							
<b>Streams</b>							
Number of Perennial Crossings	43.0	43.0	430.0	430.0	275.2	197.8	120.4
<b>Archaeological Areas</b>							
<b>Archaeological Sites</b>							
Number Disturbed	54.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Social or Community Impacts</b>							
<b>Commercial/Densely Populated Areas</b>							
Linear Distance Adjacent (Miles)	88.8	88.8	888.0	88.8	88.8	88.8	88.8
<b>Residential Areas</b>							
Linear Distance Adjacent (miles)	76.9	76.9	769.0	489.2	474.5	91.6	76.9
Houses Within 100 Feet of Centerline	76.9	596.0	76.9	76.9	290.6	382.2	769.0
<b>Highway, Railroad and Road Crossings</b>							
Number of Crossings	33.1	33.1	331.0	262.3	147.7	147.7	101.8
<b>Institutional Complexes</b>							
Number Adjacent/Crossed	83.1	0.0	0.0	0.0	0.0	0.0	0.0
<b>Forest Land Cleared</b>							
Acres	60.0	60.0	600.0	369.8	165.8	262.9	87.3
<b>Wetland Cleared</b>							
Acres	66.2	0.0	0.0	0.0	0.0	0.0	0.0
<b>Non-Existing ROW</b>							
Miles Required	80.0	80.0	800.0	458.9	242.4	310.1	134.1
<b>Totals</b>		<b>1,470.0</b>	<b>5,360.9</b>	<b>2,982.7</b>	<b>2,303.0</b>	<b>2,193.5</b>	<b>1,902.0</b>

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Municipality of Penn Hills, Verona Borough, and Plum Borough, Allegheny County, Pennsylvania

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**APPENDIX A**  
**SPECIES LISTS**

Table A-1

PLANT SPECIES OBSERVED IN THE STUDY AREA

Common Name	Scientific Name	Vegetation/Land Use Category(ies) <sup>1</sup>
Agrimony, Small Flowered	<i>Agrimonia parviflora</i>	F, W
Aspen, Large-toothed	<i>Populus grandidenta</i>	F
Aster	<i>Aster spp.</i>	F, R, W, Rs, U, A
Aster, Crooked-stemmed	<i>Aster prenanthoides</i>	F, W
Aster, New England	<i>Aster novae-angliae</i>	F, R
Beech, American	<i>Fagus grandifolia</i>	F, R, Rs, U, A
Blackberry, Allegheny	<i>Rubus allegheniensis</i>	V
Bluegrass, Canada	<i>Poa compressa</i>	V
Bluegrass, Kentucky	<i>Poa pratensis</i>	V
Boneset	<i>Eupatorium perfoliatum</i>	R
Box Elder	<i>Acer negundo</i>	F, W
Broomsedge	<i>Andropogon virginicus</i>	R, Rs, A
Bulrush	<i>Scirpus spp.</i>	W
Burdock	<i>Arctium minus</i>	R
Cattail, Broad-leaved	<i>Typha latifolia</i>	W
Cherry, Black	<i>Prunus serotina</i>	V
Cinquefoil, Common	<i>Potentilla simplex</i>	R, F
Clearweed	<i>Pilea pumila</i>	W
Cleavers	<i>Galium aparine</i>	V
Clover, Red	<i>Trifolium pratense</i>	R,A
Crabapple, Wild	<i>Pyrus coronaria</i>	V
Creeper, Virginia	<i>Parthenocissus quinquefolia</i>	F, W, Rs
Crown-vetch	<i>Coronilla varia</i>	F
Dewberry	<i>Rubus spp.</i>	R
Dock, Broad	<i>Rumex obtusifolius</i>	R, A
Dock, Curly	<i>Rumex crispus</i>	R, A
Dogbane, Spreading	<i>Apocynum androsaemifolium</i>	R, A
Dogwood, Flowering	<i>Cornus florida</i>	V
Dogwood, Gray	<i>Cornus foemina</i>	R, W
Dogwood, Red-osier	<i>Cornus stolonifera</i>	W
Elderberry, Common	<i>Sambucus canadensis</i>	F, W
Elm, Slippery	<i>Ulmus rubra</i>	F, R, W, Rs

**Table A-1 (Continued)**

Common Name	Scientific Name	Vegetation/Land Use Category(ies) <sup>1</sup>
Fern, Christmas	<i>Polystichum acrostichoides</i>	F
Fern, Grape	<i>Botrychium</i> sp.	F
Fern, Sensitive	<i>Onoclea sensibilis</i>	F, W
Fern, Spinulose Wood	<i>Dryopteris spinulosa</i>	F, W
Fleabane, Daisy	<i>Erigeron annuus</i>	R, A
Geranium, Wild	<i>Geranium maculatum</i>	F, R, W
Goldenrod, Canada	<i>Solidago canadensis</i>	R, W
Goldenrod, Grass-leaved	<i>Euthamia graminifolia</i>	R, A
Goldenrod, Gray	<i>Solidago nemoralis</i>	R, Rs
Goldenrod, Rugose-veined	<i>Solidago rugosa</i>	R
Goldenrod, Wreath	<i>Solidago caesia</i>	R, F
Grape, Wild	<i>Vitis</i> sp.	F, R, A
Grass, Barnyard	<i>Echinochlea crusgalli</i>	R, A
Grass, Brome	<i>Bromus inermis</i>	R
Grass, Deertongue	<i>Dichanthelium clandestinum</i>	R, W
Grass, Foxtail	<i>Setaria</i> sp.	R, A
Grass, Orchard	<i>Dactylis glomerata</i>	R
Grass, Reed Canary	<i>Phalaris arundinacea</i>	W, R
Grass, Rice Cut	<i>Leersia oryzoides</i>	W
Grass, Wool	<i>Scirpus cyperinus</i>	W
Ground Ivy	<i>Glechoma hederacea</i>	V
Hawthorn	<i>Crataegus</i> sp.	R, F
Hickory, Bitternut	<i>Carya cordiformis</i>	F
Hickory, Pignut	<i>Carya glabra</i>	F
Hickory, Shagbark	<i>Carya ovata</i>	F
Honeysuckle, Japanese	<i>Lonicera japonica</i>	R
Hornbeam	<i>Ostrya virginiana</i>	F
Horsetail, Field	<i>Equisetum arvense</i>	F, W
Ironwood, New York	<i>Vernonia noveboracensis</i>	R, A, W
Ironwood	<i>Carpinus caroliniana</i>	F, W, Rs
Ivy, Poison	<i>Toxicodendron radicans</i>	V
Jack-in-the-Pulpit	<i>Arisaema triphyllum</i>	F
Joe Pye Weed, Spotted	<i>Eupatoriadelphus maculatus</i>	W, R
Joe Pye Weed, Sweet	<i>Eupatoriadelphus purpureus</i>	W, R
Lace, Queen-Anne's	<i>Daucus carota</i>	R, Rs, U, A

**Table A-1 (Continued)**

Common Name	Scientific Name	Vegetation/Land Use Category(ies) <sup>†</sup>
Locust, Black	<i>Robinia pseudo-acacia</i>	F
Maple, Red	<i>Acer rubrum</i>	F, R, W, A,
Maple, Sugar	<i>Acer saccharum</i>	F
Mayapple	<i>Podophyllum peltatum</i>	F
Milkweed, Common	<i>Asclepias syriaca</i>	R, A
Mint, Mountain	<i>Pycanantherum</i> sp.	R, F
Moneywort	<i>Lysimachia nummularia</i>	W
Moss	<i>Polytrichum</i> sp.	F
Mullein, Common	<i>Verbascum thapsus</i>	R, Rs, U, A
Mustard, Garlic	<i>Alliaria petiolata</i>	F, R, Rs, U, A
Ninebark	<i>Physocarpus opulifolius</i>	W
Oak, Northern Red	<i>Quercus rubra</i>	F, R, Rs, U, A
Oak, Pin	<i>Quercus palustris</i>	W
Oak, White	<i>Quercus alba</i>	F, R, Rs, U, A
Patridgeberry	<i>Mitchella repens</i>	F
Plantain English	<i>Plantago lanceolata</i>	R, Rs
Plantain, Common	<i>Plantago major</i>	R, A
Pokeweed	<i>Phytolacca americana</i>	R
Poplar, Tulip	<i>Liriodendron tulipifera</i>	F, R, Rs, U, A
Ragweed, Common	<i>Ambrosia artemisiifolia</i>	A, R
Raspberry, Black	<i>Rubus occidentalis</i>	F, R, Rs, U, A
Reed, Common	<i>Phragmites australis</i>	W
Rose, Multiflora	<i>Rosa multiflora</i>	V
Rush, Soft	<i>Juncus effusus</i>	W
Sassafras	<i>Sassafras albidum</i>	F, R, Rs, U
Sedge	<i>Carex</i> sp.	V
Self Heal	<i>Prunella vulgaris</i>	R, A
Smartweed	<i>Polygonum</i> sp.	F, W
Smartweed, Pennsylvania	<i>Polygonum pennsylvanicum</i>	W
Snakeroot, White	<i>Eupatorium rugosum</i>	F
Solomon's Seal	<i>Polygonatum biflorum</i>	F
Solomon's-seal, False	<i>Smilacina racemosa</i>	F, Rs
Sorrel, Sheep	<i>Rumex acetosella</i>	R
Sorrel, Yellow Wood	<i>Oxalis stricta</i>	V
Spicebush	<i>Lindera benzoin</i>	F, W

**Table A-1 (Continued)**

Common Name	Scientific Name	Vegetation/Land Use Category(ies) <sup>1</sup>
Spikerush	<i>Eleocharis</i> sp.	W
Spirea, Steeplebush	<i>Spiraea tomentosa</i>	W
Spleenwort, Ebony	<i>Asplenium platyneuron</i>	F
Strawberry, Wild	<i>Fragaria virginiana</i>	R, Rs, U, A
Sumac, Smooth	<i>Rhus glabra</i>	R, A
Sumac, Winged	<i>Rhus copallina</i>	R, A
Sycamore, American	<i>Platanus occidentalis</i>	F, R, Rs, U, A
Tearthumb, Arrow-leaved	<i>Polygonum sagittatum</i>	W
Teasel	<i>Dipsacus sylvestris</i>	R
Thistle, Bull	<i>Cirsium vulgare</i>	R, A
Thistle, Field	<i>Cirsium discolor</i>	R, A
Thoroughwort, Late-flowering	<i>Eupatorium serotinum</i>	F, W
Timothy	<i>Phleum pretense</i>	A
Touch-me-not, Pale	<i>Impatiens pallida</i>	W
Touch-me-not, Spotted	<i>Impatiens capensis</i>	W
Vervain, Blue	<i>Verbena hastata</i>	W
Violet, Common Blue	<i>Viola papilionacea</i>	F, Rs
Walnut, Black	<i>Juglans nigra</i>	F
Water-pepper, Mild	<i>Polygonum hydropiperoides</i>	W
Willow, Black	<i>Salix nigra</i>	W, Rs, U
Wild Lily-of-the-Valley	<i>Maianthemum canadense</i>	F
Wingstem	<i>Actinomeris alternifolia</i>	R, A
Witchhazel	<i>Hamamelis virginiana</i>	W, F
Yarrow	<i>Achillea millifolium</i>	R, Rs, U, A

**Note:**

- <sup>1</sup> A - Agricultural (pasture and cropland);
- F - Forest (dominated by tree growth);
- R - Rangeland (dominated by shrubs, herbs, and small trees);
- Rs - Residential (dominated by planted ornamentals);
- U - Urban;
- V - Various, wide-range species that occurs in a variety of types; and
- W - Wetland (wet soil conditions, various vegetation).

Table A-2

WILDLIFE SPECIES OCCURRING IN THE STUDY AREA

Common Name	Scientific Name	Vegetation/Land Use Category(ies) <sup>1</sup>
Woodchuck	<i>Marmota monax</i>	F, R, A
White-tailed Deer	<i>Odocoileus virginianus</i>	F, R, W, A
Eastern Gray Squirrel	<i>Sciurus carolinensis</i>	F, Rs
Eastern Cottontail	<i>Sylvilagus floridanus</i>	F, R, W, Rs, A
Eastern Chipmunk	<i>Tamias striatus</i>	F, Rs
Eastern Garter Snake	<i>Thamnophis sirtalis</i>	F, R, Rs, A
Meadow Vole	<i>Microtus Pennsylvania</i>	F, R, W, Rs
European Starling	<i>Sturnus vulgaris</i>	F, R, Rs, A
Blue Jay	<i>Cyanocitta cristata</i>	F, Rs
Turkey Vulture	<i>Cathartes aura</i>	F, A
Mallard	<i>Anas platyrhynchos</i>	W
Canada Goose	<i>Branta Canadensis</i>	W, A
American Crow	<i>Corvus brachyrhynchos</i>	F, R, A
American Robin	<i>Turdus migratorius</i>	R, Rs
Eastern Bluebird	<i>Sialia sialis</i>	R, A
Northern Cardinal	<i>Cardinalis cardinalis</i>	F, Rs
Black-capped Chickadee	<i>Parus atricapillus</i>	F, Rs
Mourning Dove	<i>Zenaida macroura</i>	R, Rs, U, A
Rock Dove	<i>Columbia livia</i>	Rs, U, A
Red-tailed Hawk	<i>Buteo jamaicensis</i>	F, R, A
Song Sparrow	<i>Melospiza melodia</i>	F, R, W, Rs
Barn Swallow	<i>Hirundo rustica</i>	R, A
House Sparrow	<i>Passer domesticus</i>	A, R, Rs, U
Northern Black Racer	<i>Coluber constrictor</i>	F, R
Red-winged Blackbird	<i>Agelaius phoeniceus</i>	W, R, A
Downy Woodpecker	<i>Dendrocopos pubescens</i>	F, W
Bullfrog	<i>Rana catesbeiana</i>	W
Ring-necked Pheasant	<i>Phasianus colchicus</i>	R, A
Wood Thrush	<i>Hylocichla mustelina</i>	F
Field Sparrow	<i>Spizella pusilla</i>	R
Scarlet Tanager	<i>Piranga olivacea</i>	F
Indigo Bunting	<i>Passerina cyanea</i>	R

**Table A-2 (Continued)**

<b>Common Name</b>	<b>Scientific Name</b>	<b>Vegetation/Land Use Category(ies)<sup>1</sup></b>
Blackburnian Warbler	<i>Dendroica fusca</i>	F
Opossum	<i>Didelphis marsupialis</i>	F, W
Raccoon	<i>Procyon lotor</i>	F, R, W, Rs, A
Striped Skunk	<i>Mephitis mephitis</i>	F, R, Rs, A
American Woodcock	<i>Philohela minor</i>	F, R, W

**Note:**

- 1
- A - Agricultural (pasture and cropland);
  - F - Forest (dominated by tree growth);
  - R - Rangeland (dominated by shrubs, herbs, and small trees);
  - Rs - Residential (dominated by planted ornamentals);
  - U - Urban;
  - V - Various, wide-range species that occurs in a variety of types; and
  - W - Wetland (wet soil conditions, various vegetation).



B

Exhibit 7, Environmental Assessment and Line Route Study, Duquesne Light Company  
Highland-Logans Ferry 69 kV to 345 kV Rebuild/Upgrade Project, City of Pittsburgh,  
Municipality of Penn Hills, Verona Borough, and Plum Borough, Allegheny County, Pennsylvania

**RECEIVED**

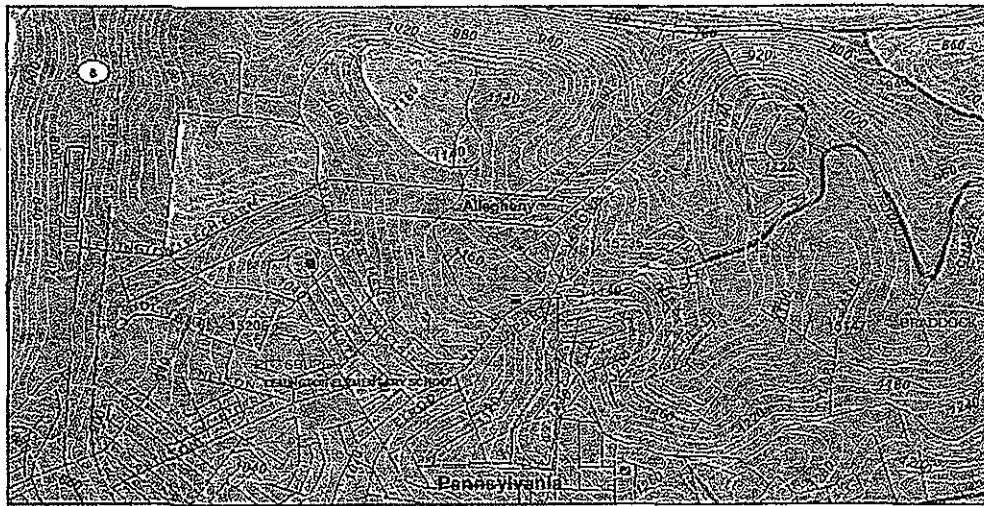
FEB 11 2010

PA PUBLIC UTILITY COMMISSION  
SECRETARY'S BUREAU

**APPENDIX B  
CORRESPONDENCE**

### 1. PROJECT INFORMATION

Project Name: Duquesne Light HLF 69kv to 345kv Rebuild/Upgrade  
 Date of review: 1/14/2010 3:56:00 PM  
 Project Category: Energy Storage, Production, and Transfer, Energy Transfer, Power/electric line - service, replace existing above/under-ground line  
 Project Area: 59.4 acres  
 County: Allegheny Township/Municipality: Pittsburgh, Penn Hills  
 Quadrangle Name: PITTSBURGH EAST  
 ZIP Code: 15235, 15206  
 Decimal Degrees: 40.47257 N, -79.90624 W  
 Degrees Minutes Seconds: 40° 28' 21.2" N, -79° 54' 22.5" W



### 2. SEARCH RESULTS

Agency	Results	Response
PA Game Commission	No Known Impact	No Further Review Required
PA Department of Conservation and Natural Resources	No Known Impact	No Further Review Required
PA Fish and Boat Commission	Avoidance Measure	See Agency Response
U.S. Fish and Wildlife Service	No Known Impact	No Further Review Required

As summarized above, Pennsylvania Natural Diversity Inventory (PNDI) records indicate there may be potential impacts to threatened and endangered and/or special concern species and resources within the project area. If the response above indicates "No Further Review Required" no additional communication with the respective agency is required. If the response is "Further Review Required" or "See Agency Response," refer to the appropriate agency comments below. Please see the DEP Information Section of this receipt if a PA Department of Environmental Protection Permit is required.

## RESPONSE TO QUESTION(S) ASKED

**Q1:** Accurately describe what is known about wetland presence in the project area or on the land parcel. "Project" includes all features of the project (including buildings, roads, utility lines, outfall and intake structures, wells, stormwater retention/detention basins, parking lots, driveways, lawns, etc.), as well as all associated impacts (e.g., temporary staging areas, work areas, temporary road crossings, areas subject to grading or clearing, etc.). Include all areas that will be permanently or temporarily affected -- either directly or indirectly -- by any type of disturbance (e.g., land clearing, grading, tree removal, flooding, etc.). Land parcel = the lot(s) on which some type of project(s) or activity(s) are proposed to occur.

Your answer is: **3. Someone qualified to identify and delineate wetlands has investigated the site, and determined that NO wetlands are located in or within 300 feet of the project area. (A written report from the wetland specialist, and detailed project maps should document this.)**

**Q2:** Will this project or any project-related activities require any in-stream work, or a permanent or temporary crossing of a waterway (stream, river, creek, tributary)?

Your answer is: **2. No**

### 3. AGENCY COMMENTS

Regardless of whether a DEP permit is necessary for this proposed project, any potential impacts to threatened and endangered species and/or special concern species and resources must be resolved with the appropriate jurisdictional agency. In some cases, a permit or authorization from the jurisdictional agency may be needed if adverse impacts to these species and habitats cannot be avoided.

These agency determinations and responses are **valid for one year** (from the date of the review), and are based on the project information that was provided, including the exact project location; the project type, description, and features; and any responses to questions that were generated during this search. If any of the following change: 1) project location, 2) project size or configuration, 3) project type, or 4) responses to the questions that were asked during the online review, the results of this review are not valid, and the review must be searched again via the PNDI Environmental Review Tool and resubmitted to the jurisdictional agencies. The PNDI tool is a primary screening tool, and a desktop review may reveal more or fewer impacts than what is listed on this PNDI receipt. The PNDI tool is a primary screening tool, and a desktop review may reveal more or fewer impacts than what is listed on this PNDI receipt.

#### PA Game Commission

**RESPONSE:** No impact is anticipated to threatened and endangered species and/or special concern species and resources.

#### PA Department of Conservation and Natural Resources

**RESPONSE:** No impact is anticipated to threatened and endangered species and/or special concern species and resources.

#### PA Fish and Boat Commission

**PFBC Species:**

**Scientific Name:** Sensitive Species\*\*

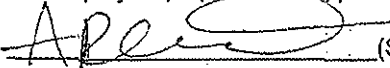
**Common Name:**

**Current Status:** Endangered

**Proposed Status:** Endangered

**RESPONSE:** Avoidance Measure: Do not conduct this project/activity within 50 feet of any streams, rivers, creeks, or tributaries. This includes both perennial and intermittent waterways.

As the project proponent or applicant, I certify that I will implement the above Avoidance Measure:

 (Signature)

**SPECIAL NOTE:** If you agree to implement the above Avoidance Measure, no further coordination with this agency regarding threatened and endangered species and/or special concern species and resources is required. If you are not able to comply with the Avoidance Measures, you are required to coordinate with this agency - please send project information to this agency for review (see "What to Send" section).

## U.S. Fish and Wildlife Service

**RESPONSE:** No impacts to federally listed or proposed species are anticipated. Therefore, no further consultation/coordination under the Endangered Species Act (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*) is required. Because no take of federally listed species is anticipated, none is authorized. This response does not reflect potential Fish and Wildlife Service concerns under the Fish and Wildlife Coordination Act or other authorities.

\* Special Concern Species or Resource - Plant or animal species classified as rare, tentatively undetermined or candidate as well as other taxa of conservation concern, significant natural communities, special concern populations (plants or animals) and unique geologic features.

\*\* Sensitive Species - Species identified by the jurisdictional agency as collectible, having economic value, or being susceptible to decline as a result of visitation.

## 4. DEP INFORMATION

The Pa Department of Environmental Protection (DEP) requires that a signed copy of this receipt, along with any required documentation from jurisdictional agencies concerning resolution of potential impacts, be submitted with applications for permits requiring PNDI review. For cases where a "Potential Impact" to threatened and endangered species has been identified before the application has been submitted to DEP, the application should not be submitted until the impact has been resolved. For cases where "Potential Impact" to special concern species and resources has been identified before the application has been submitted, the application should be submitted to DEP along with the PNDI receipt, a completed PNDI form and a USGS 7.5 minute quadrangle map with the project boundaries delineated on the map. The PNDI Receipt should also be submitted to the appropriate agency according to directions on the PNDI Receipt. DEP and the jurisdictional agency will work together to resolve the potential impact(s). See the DEP PNDI policy at <http://www.naturalheritage.state.pa.us>.

### 5. ADDITIONAL INFORMATION

The PNDI environmental review website is a preliminary screening tool. There are often delays in updating species status classifications. Because the proposed status represents the best available information regarding the conservation status of the species, state jurisdictional agency staff give the proposed statuses at least the same consideration as the current legal status. If surveys or further information reveal that a threatened and endangered and/or special concern species and resources exist in your project area, contact the appropriate jurisdictional agency/agencies immediately to identify and resolve any impacts.

For a list of species known to occur in the county where your project is located, please see the species lists by county found on the PA Natural Heritage Program (PNHP) home page ([www.naturalheritage.state.pa.us](http://www.naturalheritage.state.pa.us)). Also note that the PNDI Environmental Review Tool only contains information about species occurrences that have actually been reported to the PNHP.

### 6. AGENCY CONTACT INFORMATION

**PA Department of Conservation and Natural Resources**  
Bureau of Forestry, Ecological Services Section  
400 Market Street, PO Box 8552, Harrisburg, PA.  
17105-8552  
Fax:(717) 772-0271

**U.S. Fish and Wildlife Service**  
Endangered Species Section  
315 South Allen Street, Suite 322, State College, PA.  
16801-4851  
NO Faxes Please.

**PA Fish and Boat Commission**  
Division of Environmental Services  
450 Robinson Lane, Bellefonte, PA. 16823-7437  
NO Faxes Please

**PA Game Commission**  
Bureau of Wildlife Habitat Management  
Division of Environmental Planning and Habitat Protection  
2001 Elmerton Avenue, Harrisburg, PA. 17110-9797  
Fax:(717) 787-6957

### 7. PROJECT CONTACT INFORMATION

Name: ANTHONY T. BAUMERT  
Company/Business Name: GAI CONSULTANTS, INC  
Address: 385 East Waterfront Dr.  
City, State, Zip: Home Stead, PA 15120-5005  
Phone: (412) 476-2000 x1464 Fax: (412) 476-2020  
Email: a.baumert@gaiconsultants.com

### 8. CERTIFICATION

I certify that ALL of the project information contained in this receipt (including project location, project size/configuration, project type, answers to questions) is true, accurate and complete. In addition, if the project type, location, size or configuration changes, or if the answers to any questions that were asked during this online review change, I agree to re-do the online environmental review.

AR  
applicant/project proponent signature

01/14/10  
date



# Pennsylvania Fish & Boat Commission

Division of Environmental Services  
Natural Diversity Section  
450 Robinson Lane  
Bellefonte, PA 16823-9620  
(814) 359-5237 Fax: (814) 359-5175

RECEIVED June 2, 2005

IN REPLY REFER TO  
SIR# 19609

JUN 03 2005

GAI CONSULTANTS  
LINDA EALY  
385 EAST WATERFRONT DRIVE  
HOMESTEAD, PA 15120

GAI CONSULTANTS INC.  
PROJ. NO. C050264 10. TRAK 2  
cc: RTH (File)  
JMM  
LIE

RE: Species Impact Review (SIR) – Rare, Candidate, Threatened and Endangered Species  
DUQUESNE LIGHT COMPANY; COLIFAX-HIGHLAND #1 AND #2 LINES  
UPGRADES  
CITY OF PITTSBURGH, PENN HILLS TOWNSHIP, PLUM BOROUGH, CHESWICK  
Township, ALLEGHENY County, Pennsylvania

Dear MS.EALY:

I have examined the map accompanying your recent correspondence, which shows the location for the above-referenced project. Based on records maintained in the Pennsylvania Natural Diversity Inventory (PNDI) database and our own files, rare or protected fish species are known from the vicinity of the project area.

These rare and protected fish species are known from the waterway near the project site. No erosion or sediment should be allowed to enter into the creek (e.g., strict erosion and sedimentation control measures need to be employed). No release of toxic or harmful chemicals should be discharged into the creek. Provided that these recommendations are followed, as well as best management practices and an approved strict erosion and sedimentation control plan is maintained, then I do not anticipate the proposed activity to have any significant adverse impacts to the fish species or any other rare or protected species under Pennsylvania Fish & Boat Commission jurisdiction.

If you have any questions regarding this response, please contact Kathy Derge of my staff (814-359-5186) and refer to the SIR number at the top of this letter. Thank you for your cooperation and attention to this matter of endangered species conservation and habitat protection.

Sincerely,

  
Christopher A. Urban, Chief  
Natural Diversity Section

KLD/mp

Our Mission: DEP-SW Region

[www.fish.state.pa.us](http://www.fish.state.pa.us)

To provide fishing and boating opportunities through the protection and management of aquatic resources.



# Pennsylvania Fish & Boat Commission

Division of Environmental Services  
Natural Diversity Section  
450 Robinson Lane  
Bellefonte, PA 16823-9620  
(814) 359-5237 Fax: (814) 359-5175

June 27, 2005

CO50264.10

IN REPLY REFER TO  
SIR# 19609

RECEIVED

JUN 29 2005

CC: RJH  
JMM  
LJE  
RFB

GAI CONSULTANTS  
LINDA EALY  
385 EAST WATERFRONT DRIVE  
HOMESTEAD, PA 15120

GAI CONSULTANTS INC.  
PROJ. NO. \_\_\_\_\_

RE: Species Impact Review (SIR) – Rare, Candidate, Threatened and Endangered Species  
DUQUESNE LIGHT COMPANY; COLIFAX-HIGHLAND #1 AND #2 LINES  
UPGRADES  
CITY OF PITTSBURGH, PENN HILLS TOWNSHIP, PLUM BOROUGH, CHESWICK  
Township, ALLEGHENY County, Pennsylvania


Dear MS. EALY:

I have examined the map accompanying your recent correspondence, which shows the location for the above-referenced project. Based on records maintained in the Pennsylvania Natural Diversity Inventory (PNDI) database and our own files, rare or protected fish species are known from the vicinity of the project area.

These rare and protected fish species are known from the Allegheny River near the project site. No erosion or sediment should be allowed to enter into the river (e.g., strict erosion and sedimentation control measures need to be employed). No release of toxic or harmful chemicals should be discharged into the river. Provided that these recommendations are followed, as well as best management practices and an approved strict erosion and sedimentation control plan is maintained, then I do not anticipate the proposed activity to have any significant adverse impacts to the fish species or any other rare or protected species under Pennsylvania Fish & Boat Commission jurisdiction.

If you have any questions regarding this response, please contact Kathy Derge of my staff (814-359-5186) and refer to the SIR number at the top of this letter. Thank you for your cooperation and attention to this matter of endangered species conservation and habitat protection.

Sincerely,

  
Christopher A. Urban, Chief  
Natural Diversity Section

KLD/ma

cc: DEP-SW Region  
Our Mission:

[www.fish.state.pa.us](http://www.fish.state.pa.us)

*To provide fishing and boating opportunities through the protection and management of aquatic resources.*





# Pennsylvania Fish & Boat Commission

Division of Environmental Services  
Natural Diversity Section  
450 Robinson Lane  
Bellefonte, PA 16823-9620  
(814) 359-5147 Fax: (814) 359-5175  
November 30, 2007

IN REPLY REFER TO  
SIR# 27061

LINDA EALY  
GAI CONSULTANTS  
385 EAST WATERFRONT DRIVE  
HOMESTEAD, PA 15120

RECEIVED  
DEC 03 2007

GAI CONSULTANTS INC.  
PROJ. NO. C050264.30

RE: Species Impact Review (SIR) - Rare, Candidate, Threatened and Endangered Species  
PNDI Search Number:  
COLFAX-HIGHLAND LINES #1 & #2 UPGRADES  
City of PITTSBURGH, PENN HILLS Township, PLUM Borough,  
ALLEGHENY County, Pennsylvania

Dear Ms. EALY:

I have examined the map accompanying your recent correspondence that shows the location for the above referenced project. Based on records maintained in the Pennsylvania Natural Diversity Inventory (PNDI) database and our own files several rare or protected freshwater fish species are known from the vicinity of the project area.

We are concerned about direct and indirect (i.e., runoff) effects that the proposed project may have on the species of concern. Juvenile and adult fish are extremely vulnerable to physical (i.e., siltation, dredging, trenching, rip-rap) and chemical (i.e., pH, temperature, dissolved oxygen, organic contaminants, heavy metals) changes to their aquatic environment. Measures to prevent the release of sediment and harmful chemicals into waterways should be implemented. I recommend that you minimize any instream disturbance or water quality degradation during and after the project installation. Therefore, we recommend construction techniques that avoid instream work, sediment release, and changes to water quality and that fuel storage tanks for equipment re-fueling be located at least 100 feet away from waterways. Storm sewers and retention basins should be designed so as to minimize/remove all silt from the water before it is released into the stream. Strict erosion and sedimentation control measures, as well as best management practices should be employed.

Provided that these recommendations are followed, instream work is avoided, strict E&S control measures are maintained, and best management practices are employed, we do not foresee any significant adverse impacts from the proposed activity to the fish species of special concern or any other rare or protected species under Pennsylvania Fish & Boat Commission jurisdiction.

Note that this office performed no field inspection of the project area. Consequently, comments in this letter are not meant to address other issues or concerns that might arise concerning matters under Pennsylvania Fish and Boat Commission jurisdiction or that of other authorities.

## Our Mission:

[www.fish.state.pa.us](http://www.fish.state.pa.us)

*To provide fishing and boating opportunities through the protection and management of aquatic resources.*


SIR #27061

Ealy

Page 2

If you have any questions regarding this response, please contact Nevin Welte at 814-359-5234 and refer to the SIR number at the top of this letter. Thank you for your cooperation and attention to this matter of threatened and endangered species conservation.

Sincerely,

A handwritten signature in black ink, appearing to read "Christopher A. Urban". The signature is written in a cursive style with a large initial "C".

Christopher A. Urban, Chief  
Natural Diversity Section

CAU/NTW/dmc

c: DEP SW Region



# Pennsylvania Fish & Boat Commission

Division of Environmental Services  
 Natural Diversity Section  
 450 Robinson Lane  
 Bellefonte, PA 16823-9620  
 (814) 359-5237 Fax: (814) 359-5175

September 30, 2009

IN REPLY REFER TO  
 SIR # 32520

STEVEN MILLER  
 GAI CONSULTANTS  
 385 EAST WATERFRONT DRIVE  
 HOMESTEAD, PA 15120-5005

RE: Species Impact Review (SIR) - Rare, Candidate, Threatened and Endangered Species  
 HIGHLAND-LOGAN'S FERRY 345 KV REBUILD PROJECT  
 PENN HILLS Township/Borough, ALLEGHENY County, Pennsylvania

This responds to your inquiry about a Pennsylvania Natural Diversity Inventory (PNDI) Internet Database search "potential conflict" or a threatened and endangered species impact review. These projects are screened for potential conflicts with rare, candidate, threatened or endangered species under Pennsylvania Fish & Boat Commission jurisdiction (fish, reptiles, amphibians, aquatic invertebrates only) using the Pennsylvania Natural Diversity Inventory (PNDI) database and our own files. These species of special concern are listed under the Endangered Species Act of 1973, the Wild Resource Conservation Act, and the Pennsylvania Fish & Boat Code (Chapter 75), or the Wildlife Code. The absence of recorded information from our files does not necessarily imply actual conditions on site. Future field investigations could alter this determination. The information contained in our files is routinely updated. A Species Impact Review is valid for one year only.

**NO ADVERSE IMPACTS EXPECTED FROM THE PROPOSED PROJECT**

\_\_\_ Except for occasional transient species, rare, candidate, threatened or endangered species under our jurisdiction are not known to exist in the vicinity of the project area. Therefore, no biological assessment or further consultation regarding rare species is needed with the Commission. Should project plans change, or if additional information on listed or proposed species becomes available, this determination may be reconsidered.

An element occurrence of a rare, candidate, threatened, or endangered species under our jurisdiction is known from the vicinity of the proposed project. However, given the nature of the proposed project, the immediate location, or the current status of the nearby element occurrence(s), no adverse impacts are expected to the species of special concern.

If you have any questions regarding this review, please contact the biologist indicated below:

<input type="checkbox"/>	Chris Urban	814-359-5113	<input type="checkbox"/>	Tina Walther	814-359-5186
<input checked="" type="checkbox"/>	Nevin Wolte	412-586-2334	<input type="checkbox"/>	Bob Morgan	814-359-5129

I am enclosing a copy of our "SIR Request Form", which is to be used for all future species impact review requests. Please make copies of the attached form and use with all future project reviews. Thank you in advance for your cooperation and attention to this important matter of species conservation and habitat protection.

SIGNATURE: \_\_\_\_\_

Christopher A. Urban  
 Chief, Natural Diversity Section

DATE: September 30, 2009

Our Mission:

[www.fish.state.pa.us](http://www.fish.state.pa.us)

To protect, conserve and enhance the Commonwealth's aquatic resources and provide fishing and boating opportunities.



# Pennsylvania Fish & Boat Commission

Division of Environmental Services  
Natural Diversity Section  
450 Robinson Lane  
Bellefonte, PA 16823-9620  
(814) 359-5147 Fax: (814) 359-5175  
February 9, 2010

IN REPLY REFER TO  
SIR# 33210

STEVEN MILLER  
GAI CONSULTANTS  
PITTSBURGH OFFICE  
385 EAST WATERFRONT DRIVE  
HOMESTEAD, PA 15120-5005

RECEIVED  
FEB 10 2010

GAI CONSULTANTS INC.  
PROJ. NO \_\_\_\_\_

RE: **Species Impact Review (SIR) – Rare, Candidate, Threatened and Endangered Species  
HIGHLAND - LOGAN'S FERRY 345 KV PROJECT  
PENN HILLS, PLUM, VERONA Townships, ALLEGHENY County, Pennsylvania**

Dear Mr. MILLER:

I have examined the map accompanying your recent correspondence which shows the location for the above referenced project. Based on records maintained in the Pennsylvania Natural Diversity Inventory (PNDI) database and our own files **several rare or protected freshwater mussel and fish species are known from the vicinity of the project area.**

Freshwater mussels are the most imperiled taxonomic group in North America. Nearly half of the species known to occur in the Commonwealth are now extirpated (locally extinct) from Pennsylvania. We are concerned about direct and indirect (i.e., runoff) effects that the proposed project may have on the species of concern. Freshwater mussel species and juvenile fish are extremely vulnerable to physical (i.e., siltation, dredging, trenching, rip-rap) and chemical (i.e., pH, temperature, dissolved oxygen, organic contaminants, heavy metals) changes to their aquatic environment. Therefore, we recommend construction techniques that minimize instream work, sedimentation and changes to water quality. I recommend that you avoid any instream disturbance or water quality degradation during and after the project installation. Storm sewers and retention basins should be designed so as to minimize/remove all silt from the water before it is released into the stream. Strict erosion and sedimentation control measures, as well as best management practices should be employed.

Provided that these recommendations are followed, instream work is avoided, strict E&S control measures are maintained, and best management practices are employed, we do not foresee any significant adverse impacts from the proposed activity to the freshwater mussel species of special concern or any other rare or protected species under Pennsylvania Fish & Boat Commission jurisdiction.

Note that this office performed no field inspection of the project area. Consequently, comments in this letter are not meant to address other issues or concerns that might arise concerning matters under Pennsylvania Fish and Boat Commission jurisdiction or that of other authorities. If you have any questions regarding this response, please contact Nevin Welte at 412-586-2334 and refer to the SIR

Our Mission:

[www.fish.state.pa.us](http://www.fish.state.pa.us)

*To protect, conserve and enhance the Commonwealth's aquatic resources and provide fishing and boating opportunities.*

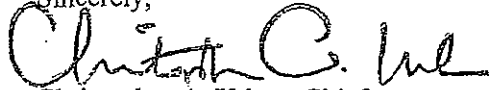
SIR #33210

MILLER

Page 2

**number** at the top of this letter. Thank you for your cooperation and attention to this matter of endangered species conservation.

Sincerely,

A handwritten signature in cursive script, appearing to read "Christopher A. Urban".

Christopher A. Urban, Chief  
Natural Diversity Section

CAU/NW/mr



COMMONWEALTH OF PENNSYLVANIA  
**PENNSYLVANIA GAME COMMISSION**  
2001 ELMERTON AVENUE, HARRISBURG, PA 17110-9797

June 27, 2005

RECEIVED  
JUL 09 2005

GAI CONSULTANTS INC.  
PROJ. NO. C050264.10

CC: RJH  
JMM  
LIE  
Fib

Ms. Linda J. Ealy  
GAI Consultants  
385 East Waterfront Drive  
Homestead, PA 15120-5005

Re: Duquesne Light  
Colifax - Highland #1 and #2 Lines Upgrades  
City of Pittsburgh, Penn Hills Township, Plum Borough  
And Cheswick, Allegheny County, PA

Dear Ms. Ealy:

This is in response to your letter dated May 6, 2005, requesting information concerning endangered and threatened species of birds and mammals and impacts to State Game Lands as related to the proposed project.

Our office review has determined that no state listed endangered or threatened species of birds or mammals are known to occur within the proposed project area. Except for occasional transient individuals, this project should not impact any endangered or threatened species of birds or mammals recognized by the Pennsylvania Game Commission. Also, no State Game Lands are located close enough that any impacts to them are anticipated by the proposed project. However, should project plans change or if additional information on endangered or threatened species or State Game Lands becomes available, this determination may be reconsidered.

The proposed project may impact wetlands which this agency considers as critical and unique habitat. You should be aware that any impacts to wetlands or other bodies of water will require permits from the Department of Environmental Protection under Chapter 105 and the U.S Army Corps of Engineers under Section 404 of the Clean Water Act.

ADMINISTRATIVE BUREAUS:

PERSONNEL: 717-787-7836 ADMINISTRATION: 717-787-5670 AUTOMOTIVE AND PROCUREMENT DIVISION: 717-787-6594  
LICENSE DIVISION: 717-787-2084 WILDLIFE MANAGEMENT: 717-787-5529 INFORMATION & EDUCATION: 717-787-6286 LAW ENFORCEMENT: 717-787-5740  
LAND MANAGEMENT: 717-787-6818 REAL ESTATE DIVISION: 717-787-6568 AUTOMATED TECHNOLOGY SYSTEMS: 717-787-4076 FAX: 717-772-2411

WWW.PGC.STATE.PA.US

AN EQUAL OPPORTUNITY EMPLOYER

Mr. Linda J. Ealy

-2-

June 27, 2005

If you have any questions, please contact me at (717) 783-5957.

Very truly yours,



James R. Leigey

Wildlife Impact Review Coordinator  
Division of Environmental Planning  
And Habitat Protection  
Bureau of Land Management

JRL/pfb

Cc: File



COMMONWEALTH OF PENNSYLVANIA  
**PENNSYLVANIA GAME COMMISSION**  
2001 ELMERTON AVENUE, HARRISBURG, PA 17110-9797

December 17, 2007

Ms. Linda J. Ealy  
GAI Consultants  
Pittsburgh Office  
385 East Waterfront Drive  
Homestead, PA 15120-5005

RECEIVED  
DEC 21 2007

GAI CONSULTANTS INC.  
PROJ. NO. C050264.20  
Task 10

RJH  
JMM  
LJE  
416

In re: PNDI Database Review  
Duquesne Light: Colfax-Highland Lines #1 and #2 Upgrades  
Between Highland and Logan's Ferry Substations  
City of Pittsburgh, Penn Hills Township, Plum Borough  
Allegheny County, Pennsylvania

Dear Ms. Ealy:

This is in response to your letter dated October 26, 2007 regarding the potential impacts of your proposed project(s) on special concern species of birds or mammals.

Our office review has determined that your proposed project(s) should not cause any adverse impacts to any special concern species of birds or mammals. This determination may be reconsidered if project plans change or extend beyond the present study area, or if additional information becomes available on state-listed species.

If you have any questions, please contact me at (717) 787-4250. Please be advised that this determination is only valid for one year from the date of this letter.

Very truly yours,

James R. Leigey  
Wildlife Impact Review Coordinator  
Division of Environmental  
Planning and Habitat Protection  
Bureau of Wildlife Habitat Management

JRL/pfb

Cc: File

ADMINISTRATIVE BUREAUS:

PERSONNEL: 717-787-7836 ADMINISTRATION: 717-787-5670 AUTOMOTIVE AND PROCUREMENT: 717-787-6594  
LICENSE DIVISION: 717-787-2084 WILDLIFE MANAGEMENT: 717-787-5529 INFORMATION & EDUCATION: 717-787-6286  
WILDLIFE PROTECTION: 717-787-5740 WILDLIFE HABITAT MANAGEMENT: 717-787-6818 REAL ESTATE: 717-787-6568  
AUTOMATED TECHNOLOGY SYSTEMS: 717-787-4076

WWW.PGC.STATE.PA.US





COMMONWEALTH OF PENNSYLVANIA  
**PENNSYLVANIA GAME COMMISSION**  
2001 ELMERTON AVENUE, HARRISBURG, PA  
17110

*"TO MANAGE ALL WILD BIRDS, MAMMALS AND THEIR HABITATS  
FOR CURRENT AND FUTURE GENERATIONS."*

September 8, 2009

**PNDI Large Project**

RECEIVED  
SEP 11 2009

Mr. Steven S. Miller  
GAI Consultants  
385 East Waterfront Drive  
Homestead, PA 15120-5005

GAI CONSULTANTS INC.  
PROJ. NO \_\_\_\_\_

PNDI Large Project  
Duquesne Light Company  
Highland-Logan's Ferry 345 kV Rebuild Project  
Allegheny County, PA

Dear Mr. Miller:

Thank you for submitting the Pennsylvania Natural Diversity Inventory (PNDI) Large Project Environmental Review Form for review. The Pennsylvania Game Commission (PGC) screened this project for potential impacts to species and resources of concern under PGC responsibility, which includes birds and mammals only.

**No Impact Anticipated**

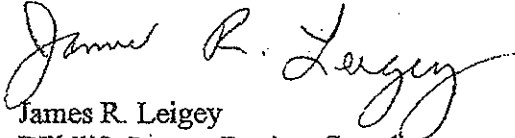
PNDI records indicate that no known occurrences of species or resources of concern under PGC jurisdiction occur in the vicinity of the project. Therefore, the above-referenced project is not expected to impact any birds or mammals of concern, and no further coordination with the PGC is necessary for this project at this time.

This response represents the most up-to-date summary of the PNDI data files and is valid for one (1) year from the date of this letter. An absence of recorded information does not necessarily imply actual conditions on site. Should project plans change or additional information on listed or proposed species become available, this determination may be reconsidered.

Should the proposed work continue beyond the period covered by this letter, please resubmit the project to this agency as an "Update" (including an updated PNDI receipt, project narrative and accurate map). If the proposed work has not changed and no additional information concerning listed species is found, the project will be cleared for PNDI requirements under this agency for an additional year.

This finding applies to impacts to birds and mammals only. To complete your review of state and federally-listed threatened and endangered species and species of special concern, please be sure that the U.S. Fish and Wildlife Service, the PA Department of Conservation and Natural Resources, and/or the PA Fish and Boat Commission have been contacted regarding this project as directed by the online PNDI ER Tool found at [www.naturalheritage.state.pa.us](http://www.naturalheritage.state.pa.us).

Sincerely,



James R. Leigey  
Wildlife Impact Review Coordinator  
Division of Environmental Planning  
And Habitat Protection  
Bureau of Wildlife Habitat Management  
Phone: 717-787-4250, Extension 3128  
Fax: 717-787-6957  
E-Mail: [jleigey@state.pa.us](mailto:jleigey@state.pa.us)

A PNHP Partner



Pennsylvania Natural Heritage Program

Cc: File



# United States Department of the Interior



## FISH AND WILDLIFE SERVICE

Pennsylvania Field Office  
315 South Allen Street, Suite 322  
State College, Pennsylvania 16801-4850

May 18, 2005

Linda J. Ealy  
GAI Consultants, Inc.  
385 East Waterfront Drive  
Homestead, PA 15120-5005

RECEIVED

MAY 20 2005

Re: USFWS Project #20051680

GAI CONSULTANTS INC.  
PROJ. NO C050264.10

cc: RJH  
JMM  
LJE  
fig

Dear Ms. Ealy:

This responds to your letter of May 6, 2005, requesting information about federally listed and proposed endangered and threatened species within the area affected by the proposed Duquesne Light: Colifax-Highland #1 and #2 Lines Upgrade Project located in Penn Hills Township, in the Borough of Plum, and in the City of Pittsburgh, Allegheny County, Pennsylvania. The following comments are provided pursuant to the Endangered Species Act of 1973 (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*) to ensure the protection of endangered and threatened species.

Except for occasional transient species, no federally listed or proposed threatened or endangered species under our jurisdiction are known to occur within the project impact area. Therefore, no biological assessment nor further consultation under the Endangered Species Act is required with the Fish and Wildlife Service. This determination is valid for two years from the date of this letter. If the proposed project has not been fully implemented prior to this, an additional review by this office will be necessary. Also, should project plans change, or if additional information on listed or proposed species becomes available, this determination may be reconsidered. A compilation of certain federal status species in Pennsylvania is enclosed for your information.

This response relates only to endangered or threatened species under our jurisdiction, based on an office review of the proposed project's location. No field inspection of the project area has been conducted by this office. Consequently, this letter is not to be construed as addressing potential Service concerns under the Fish and Wildlife Coordination Act or other authorities.

For information regarding State resources of special concern, including State-listed endangered and threatened species, please contact the Pennsylvania Game Commission (birds and mammals, State Game Lands); the Pennsylvania Fish and Boat Commission (fish, reptiles, amphibians and aquatic invertebrates; trout streams); the Pennsylvania Department of Conservation and Natural Resources (PNDI, plants and plant sanctuaries, State Forests, State Parks, Natural Areas, State Wild and Scenic Rivers) and the Department of Environmental Protection (Special Protection Watersheds, Wetlands).

*To avoid potential delays in reviewing your project, please use the above-referenced USFWS project tracking number in any future correspondence regarding this project.*

Please contact Pam Spayd of my staff at 814-234-4090 if you have any questions or require further assistance.

Sincerely,

A handwritten signature in black ink, appearing to read "David Densmore", followed by a long horizontal line extending to the right.

David Densmore  
Supervisor

Enclosure



# United States Department of the Interior

FISH AND WILDLIFE SERVICE  
Pennsylvania Field Office  
315 South Allen Street, Suite 322  
State College, Pennsylvania 16801-4850



November 19, 2007

Linda J. Ealy  
GAI Consultants, Inc.  
385 East Waterfront Drive  
Homestead, PA 15120-5005

RE: USFWS Project #2008-0236

Dear Ms. Ealy:

This responds to your letter of October 26, 2007, requesting information about federally listed and proposed endangered and threatened species within the area affected by the proposed Duquesne Light Company line upgrades located in Allegheny County, Pennsylvania. The following comments are provided pursuant to the Endangered Species Act of 1973 (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*) to ensure the protection of endangered and threatened species.

Except for occasional transient species, no federally listed or proposed threatened or endangered species under our jurisdiction are known to occur within the project impact area. Therefore, based on currently available information, no biological assessment or further consultation under the Endangered Species Act is required with the Fish and Wildlife Service. Should project plans change, or if additional information on listed or proposed species becomes available, this determination may be reconsidered.

Please note that a field survey may reveal previously undocumented populations of one or more species of concern within a project area. Refer to the enclosed list of *Federally Listed, Proposed, and Candidate Species in Pennsylvania* to determine which species may be found in your project area if suitable habitat is present. If surveys or further information reveals that a federally listed, proposed, or candidate species exists in your project area, contact the Fish and Wildlife Service immediately to discuss measures to avoid or minimize potential impacts to the species prior to initiating your project.

This determination is valid for one year from the date of this letter. If the proposed project has not been fully implemented prior to this, please access the PNDI Project Planning Environmental Review tool on the Pennsylvania Natural Heritage Program's website ([www.naturalheritage.state.pa.us](http://www.naturalheritage.state.pa.us)) to screen this project for potential impacts to species of special concern, including federally listed and proposed species. If this project is considered a "large project" as defined on the subject website, submit the project directly to our office for review, rather than using the online screening tool.

RECEIVED  
NOV 26 2007

GAI CONSULTANTS INC.  
PROJ. NO. 050264.30

RJK  
JMM  
LIS  
H6

This response relates only to endangered or threatened species under our jurisdiction, based on an office review of the proposed project's location. No field inspection of the project area has been conducted by this office. Consequently, this letter is not to be construed as addressing potential Service concerns under the Fish and Wildlife Coordination Act or other authorities.

*To avoid potential delays in reviewing your project, please use the above-referenced USFWS project tracking number in any future correspondence regarding this project.*

Please contact Pam Shellenberger of my staff at 814-234-4090 if you have any questions or require further assistance.

Sincerely,

A handwritten signature in cursive script, appearing to read "David Densmore", followed by a long horizontal line extending to the right.

David Densmore  
Supervisor

Enclosure

PNDI # N/A

USFWS Project # 2009-1550

**U.S. FISH AND WILDLIFE SERVICE**  
315 South Allen Street, Suite 322, State College, PA 16801

This responds to your inquiry about a PNDI Internet Database search that resulted in a potential conflict with a federally listed, proposed or candidate species.

**PROJECT LOCATION INFORMATION**

County: Allegheny

Township: \_\_\_\_\_

**MISC INFORMATION**

Date received by FWS: 08/31/2009

ACTIVE       ARCHIVE

USFWS COMMENTS  FAXED     MAILED

To: Steven Miller

Fax #: 412-476-2020

Affiliation: GAI Consultants

**SPECIFIC PROJECT:** Highland-Logan's Ferry 345 kV 6.7 mile Rebuild

**FISH AND WILDLIFE SERVICE COMMENT(s):**

NO EFFECT

Except for occasional transient species, no federally listed, proposed or candidate species under our jurisdiction are known or likely to exist in the project area. Should project plans change, or if additional information on listed or proposed species becomes available, this determination may be reconsidered.

**NOT LIKELY TO ADVERSELY AFFECT**

The federally listed clubshell and northern riffleshell mussel occurs or may occur in or near the project area. However, based on our review of the information provided, including the project description and location ( \_\_\_\_\_ ), no adverse effects to this species are likely to occur. If there is any change in the location, scale, scope, layout or design of the project, further consultation or coordination with the Service will be necessary.

\_\_\_\_\_ This response supersedes our comments of \_\_\_\_\_, based on our review of the additional project information that was submitted to us on \_\_\_\_\_.

The above determination is valid for two years from the date of this letter. In addition, this response relates only to federally listed, proposed, and candidate species under our jurisdiction, based on an office review of the proposed project's location and anticipated impacts. No field inspection of the project area has been conducted by this office. Consequently, comments on this form are not to be construed as addressing other Service concerns under the Fish and Wildlife Coordination Act or other authorities. *Please reference the above PNDI # and USFWS Project # in any future correspondence regarding this project.*

This review was conducted by the biologist listed below. He/she can be contacted at 814-234-4090.

- \_\_\_\_\_ Jennifer Dombroskie (x 242)      \_\_\_\_\_ Bonnie Dershem (x 234)       \_\_\_\_\_ Pamela Shellenbergér (x 241)
- \_\_\_\_\_ Robert Anderson (x 228)

SIGNATURE: Cindy Tebbott  
*Acting* Supervisor, Pennsylvania Field Office

DATE: 9-10-09

2009-1550



January 5, 2010  
Project C050264.50

United States Fish and Wildlife Service  
Pennsylvania Field Office  
315 South Allen Street, Suite 322  
State College Pennsylvania 16801-4850

**U.S. FISH AND WILDLIFE SERVICE**  
 Pennsylvania Field Office  
 315 South Allen Street, Suite 322  
 State College, Pennsylvania 16801-4850

No federally listed species under our jurisdiction is known or likely to occur in the project area. This determination is valid for two years. Should project plans change, or if additional information on listed species become available, this determination may be reconsidered.

*Patricia Cole*, Acting Supervisor 2/4/2010

Rare, Threatened, and Endangered Species Review  
Highland – Logan's Ferry 345 kV Transmission Line Project  
Duquesne Light Company  
Allegheny County, Pennsylvania

Dear Sir or Madam:

On behalf of Duquesne Light Company (Duquesne Light), GAI Consultants, Inc. (GAI) is requesting information on potential for occurrence of federally listed species for alternatives for the Highland – Logan's Ferry 345 kV Transmission Line Project (Project) located in Allegheny County, Pennsylvania. As shown on the Project Location Map (Attachment A), Project Alternative Routes 2, 3, 4, and 5 range in length from 7.5 to approximately nine miles.

Duquesne Light proposes to upgrade the existing Colfax-Highland 69 kV Line #1 to a single-circuit 345 kV line in the City of Pittsburgh, Municipality of Penn Hills, Plum Borough, and/or Verona Borough, in Allegheny County, Pennsylvania. Portions of Alternatives 2, 3, 4, and 5 would replace the current line within the existing right-of-way (ROW), though all of these alternative routes would also require segments of new ROW. The new transmission line will be constructed using self-supporting, single-circuit tubular steel poles within a 100-foot wide ROW.

The potential acreage of forest clearing associated with each of these alternatives is approximately: 28.4 acres for Alternative 2, 9.7 acres for Alternative 3, 18.6 acres for Alternative 4, and 2.5 acres for Alternative 5.

GAI requests information on federally listed species within one-quarter-mile of these Project alternatives. Please see Attachment B for Pennsylvania Natural Diversity Inventory Large Project Environmental Review Form. Your office was previously contacted concerning an additional alternative route for this Project (response dated September 10, 2009, United States Fish and Wildlife Service Project No. 2009-1550).

We appreciate your timely review of this information. Please contact Mr. George T. Reese or me at 412-476-2000 should you have any questions or require additional information.

Respectfully submitted  
GAI Consultants, Inc.

*Steven S. Miller*

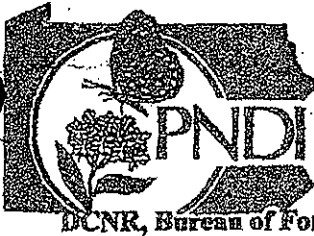
Steven S. Miller, P.E.  
Project Manager

SSM:GTR/naim  
0526410-usfws rie-hbs/sms d1

Attachments

cc: Mr. James Boyle, Duquesne Light Company  
Ms. Michelle Antantis, Duquesne Light Company





# Pennsylvania Natural Diversity Inventory

Scientific information and expertise for the conservation of Pennsylvania's native biological diversity

DCNR, Bureau of Forestry

July 22, 2005

Linda Ealy  
GAI Consultants  
385 East Waterfront Dr.  
Homestead, Pa 15120  
FAX: 412-476-2020

C050264.10

CC: RSH  
JMM  
LJE  
Fig

Re: Pennsylvania Natural Diversity Inventory Review, PER NO: 17823  
Colfax-Highland Lines 1&2  
Pittsburgh, Plum & Cheswick Borough, Penn Hills Twp, Allegheny County

Dear Ms. Ealy,

In response to your request received on May 9, 2005 the Pennsylvania Natural Diversity Inventory (PNDI) information system was used to gather information regarding the presence of special concern species and resources within the referenced site.

PNDI records indicate that no known element occurrences of species of special concern under DCNR's jurisdiction are known to occur in the vicinity of the project. Therefore, we do not anticipate the project referenced above will impact plant, natural communities, terrestrial invertebrates and geologic features of special concern.

This finding applies to impacts to plants, natural communities, terrestrial invertebrates and geologic features only. For review of potential impacts to species of special concern not listed above and to complete your review of state and federal listed species of special concern, please forward this project to the three agencies listed below.

PA Game Commission  
Bureau of Land Management  
2001 Elmerton Avenue  
Harrisburg, PA 17110-9797  
fax: 717-787-6957  
birds & mammals

PA Fish & Boat Commission  
Natural Diversity Section  
450 Robinson Lane  
Bellefonte, PA 16823  
fax: 814-359-5175  
fish, reptiles, amphibians, aquatic organisms

US Fish & Wildlife Service  
Endangered Species Biologist  
315 South Allen Street, Suite 322  
State College, PA 16801  
no faxes please  
all federally listed species in PA

This response represents the most up-to-date summary of the PNDI data files and is good for one (1) year from the date of this letter. An absence of recorded information does not necessarily imply actual conditions on-site. A field survey of any site may reveal previously unreported populations.

PNDI attempts to be a complete information resource on species of special concern within the Commonwealth. PNDI is the environmental review function of the Pennsylvania Natural Heritage Program, and uses a site-specific information system that describes significant natural resources within the Commonwealth. This system includes data descriptive of plant and animal species of special concern, exemplary natural communities and unique geological features. PNDI is a cooperative project of the Department of Conservation and Natural Resources, The Nature Conservancy and the Western Pennsylvania Conservancy.

Feel free to phone our office if you have questions concerning this response or the PNDI system, and please refer to the P.E.R. Reference Number at the top of the letter in future correspondence concerning this project.

Sincerely,

Ellen M. Shultzabarger  
Environmental Review Specialist, PNHP

ph: 717-772-0258 f: 717-772-0271

Western Pennsylvania Conservancy  
209 Fourth Ave.  
Pittsburgh, PA 15222  
(412)288-2777  
www.paconserv.org

Pennsylvania Dept. of Conservation and Natural Resources  
Bureau of Forestry  
P. O. Box 8552  
Harrisburg, PA 17105-8552  
(717)787-3444  
www.dcnr.state.pa.us

The Nature Conservancy  
208 Airport Drive  
Meadowdale, PA 17057  
(717)948-3952  
www.tnc.org



## PNDI Project Planning and Environmental Review Tool NOW AVAILABLE!

Effective: July, 2005

[www.naturalheritage.state.pa.us](http://www.naturalheritage.state.pa.us)

The Pennsylvania Natural Heritage Program is pleased to inform you about the new Pennsylvania Natural Diversity Inventory (PNDI) Project Planning and Environmental Review Tool (ER Tool). The ER Tool is a user-friendly interface that enables the public to perform online PNDI searches for potential impacts to special concern species and resources in PA. Anyone including property owners, consultants, project planners and PA DEP or PA CCD staff can access the tool for PNDI project screening.

### How to Access the Tool

The online PNDI Environmental Review and Project Planning Tool can be accessed at [www.naturalheritage.state.pa.us](http://www.naturalheritage.state.pa.us). Click on "PNDI Project Planning Environmental Review" in the bottom left corner of the site. Follow this link to access the ER Tool and for step-by-step instructions on using the ER Tool, FAQ's and to access the PNDI Form

If the user does not have Internet access, DEP staff can perform searches for them as part of their permit application process. The DEP permit applications and plan approval packages affected by this policy include instructions and search request forms to assist applicants with PNDI searches. If the user is not actively applying for a DEP permit and does not have Internet access, the user can follow the Large Project instructions detailed below for project review.

### PNDI Coordination

When submitting your permit application to DEP or during the project pre-planning phase, perform the PNDI project review search online, print the results from the search (called "PNDI Environmental Review Receipt") and follow the instructions on the receipt. In order to adequately provide for the protection of special concern species and resources while reducing the number of false hits when conducting PNDI searches, it is important that the correct project area and type is entered into the PNDI Environmental Review Tool.

### PNDI Receipt

The PNDI Project Environmental Review Receipt is the official documentation needed to show completion of PNDI coordination and the Internet search effort. Receipts are NOT automatically submitted from the ER Tool to DEP or the species of special concern Jurisdictional Agencies. The person conducting the online search (or the applicant) must print and mail/fax a "No Impact" receipt to DEP with your permit application or a "Potential Impact" Receipt to the Jurisdictional Agencies noted on the Receipt for further review.

PNDI Project Environmental Review Receipts may have the following 4 different types of results: No Impact, Potential Impact, Potential Impact with Avoidance Measures or Potential Impact with Conservation Measures. Projects will have different results depending on the search area, the project type, and the species and communities located in the area, therefore it is important to read each section of the ER Receipt.

**"No Impact" Receipt**—No further coordination required with PNDI jurisdictional agencies within one-year of Receipt date unless project plans change. Print the receipt and send it in with DEP permit application or environmental assessment.

**"Potential Impact" Receipt**—The applicant must consult with the jurisdictional agency/agencies noted on the receipt for further review of the project. Please send the information requested on the receipt to the agency/agencies noted. The applicant will receive recommendation or clearance letters from the agency/agencies, which then should be turned in for DEP permits along with the ER Receipt. Please see below for Potential Impact Receipts with Avoidance and/or Conservation Measures.

#### *Potential Impact Receipt with Avoidance Measures*

Avoidance Measures are intended to reduce the need for further coordination with Jurisdictional Agencies on projects that could be "No Impacts" if Avoidance Measures are carried out. If the Receipt contains Avoidance Measures, the PNDI review is not complete or satisfied until the applicant has initialed indicating they can and will fulfill the Avoidance Measures for that project. If an Avoidance Measure cannot be met or if the applicant chooses not to fulfill it, the project is treated as a "Potential Impact" and must be sent to the Jurisdictional Agency indicated for further review. In the latter case, a clearance or recommendation letter will be required from the jurisdictional agency/agencies indicated, along with the ER Receipt, for submission with DEP permit applications.

Both Potential Impacts and Avoidance Measures may occur for the same project with the same or different Jurisdictional Agencies.

- o If a Potential Impact is listed after the Avoidance Measures on the Receipt for the SAME Jurisdictional Agency, there are two or more special concern species or resources in the vicinity and the Avoidance Measures only cover some, but not all, of the species or resources in the project vicinity. The project must be forwarded on to the Jurisdictional Agency listed on the Receipt after the Avoidance Measure for clearance. The Receipt should be initialed beside the Avoidance Measure if the measure can and will be met before submitting the permit application to DEP.
- o If there is an Avoidance Measure for one Jurisdictional Agency and a Potential Impact listed for a different agency, then the Avoidance Measure must be initialed (if the measure can be fulfilled) and the project should be forwarded to the other Jurisdictional Agency/Agencies for clearance or recommendation letters.

**Potential Impact Receipt with Conservation Measures**

Conservation Measures are suggestions meant to reduce further impact to the special concern species or resource in the vicinity of the project or to protect special concern species or resources that currently lack legal protection. If the Receipt contains a Conservation Measure, that measure can be pursued at the discretion of the DEP program based on their knowledge of the project and site. Conservation Measures are strongly recommended by the Jurisdictional Agencies but are not required.

**Early Coordination**

Because the Environmental Review Tool is easily accessible to the public, it is recommended that PNDI coordination be completed prior to project development and submission of any permit applications. During instances when the PNDI search indicates potential impacts, early consultation with the proper special concern species or resource jurisdictional agencies (preferably prior to plan development) is crucial. Early consultation not only minimizes associated delays and cost, but also facilitates the integration of more effective conservation measures into project planning.

**Large Projects**

Some projects are too large to be drawn in the PNDI Environmental Review Tool and are therefore called "Large Projects". Projects are considered a "Large Project" when they are:

- Linear/Large Projects that exceed map limits: approximately 2-2.84 miles depending on browser size
- Projects that will not fit on a 1:24,000 scale map in the PNDI ER Tool. Project Maximums:  
1024 x 768 browsers: 2625 acres; 15,000 feet long x 7600 feet wide; approximately 2.84 miles  
800 x 600 browsers: 1050 acres; 11,000 feet long x 4000 feet wide; approximately 2 miles
- Township-wide, Countywide or Statewide Projects. Examples: Act 537 Sewage Plans, Wind Farms, Roadway improvements exceeding map limits above.

For review of a "Large Project", please forward a completed PNDI Form (found on the PNHP website) and a copy of the appropriate USGS 7.5 minute quadrangle with project boundaries and quad name marked on the map to DCNR, PFBC, PGC, and USFWS. Due to system limitations and agency requirements, projects should not be submitted piecemeal. The entire project area including roads and infrastructure should be submitted as a single unit.

Dept. of Conservation and Natural Resources  
Bureau of Forestry, Ecological Services Section  
400 Market St., PO Box 8552  
Harrisburg, PA 17105  
fax 717-772-0271

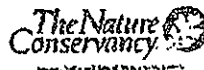
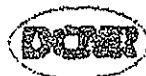
PA Fish and Boat Commission  
Natural Diversity Section  
450 Robinson Lane  
Bellefonte, PA 16823  
fax 814-359-5175

PA Game Commission  
Bureau of Land Management  
2001 Elmerton Avenue  
Harrisburg, PA 17110-9797  
fax 717-787-6957

US Fish and Wildlife Service  
Endangered Species Biologist  
315 South Allen St., Suite 322  
State College, PA 16801  
no faxes please

**QUESTIONS?**

Technical Questions or Difficulty: [RA-HeritageGIS@state.pa.us](mailto:RA-HeritageGIS@state.pa.us) or for Procedural Questions: [RA-HeritageReview@state.pa.us](mailto:RA-HeritageReview@state.pa.us)



PNHP is a partnership between The Department of Conservation and Natural Resources, The Nature Conservancy and the Western Pennsylvania Conservancy, and in cooperation with the Pennsylvania Game Commission, the U.S. Fish and Wildlife Service and the Pennsylvania Fish and Boat Commission.



Pennsylvania Department of Conservation and Natural Resources

C050264.30

cc: RJH  
JMM  
LJE  
FLO

Bureau of Forestry

February 11, 2008

Linda J. Ealy  
GAI Consultants  
FAX: 412-476-2020 (hard copy will not follow)

<i>Pennsylvania Natural Diversity Inventory Review, PNDI Number</i>	17823
Colfax-Highland Lines #1 and #2 Upgrades	
Penn Hills Twp; Allegheny County	

Dear Ms. Ealy,

This responds to your request about a Pennsylvania Natural Diversity Inventory (PNDI) ER Tool "Potential Impact" or a species of special concern impact review. We screened this project for potential impacts to species and resources of special concern under the Department of Conservation and Natural Resources' responsibility, which includes plants, natural communities, terrestrial invertebrates and geologic features only.

**NO PROJECT IMPACT ANTICIPATED**

PNDI records indicate that no known occurrences of species or resources of special concern under DCNR's jurisdiction occur in the vicinity of the project. Therefore, we do not anticipate the project referenced above will impact plants, natural communities, terrestrial invertebrates and geologic features of special concern. No further coordination with DCNR is needed for this project.

PNDI records indicate special concern species or resources are located in the vicinity of the project. However, based on the information submitted to us concerning the nature of the project, the immediate location, and our detailed resource information, we determined that no impact is likely. No further coordination with DCNR is needed for this project.


**POTENTIAL PROJECT IMPACT - UNDER FURTHER REVIEW**

Based on our PNDI map review we determined potential impacts to species and/or resources of special concern. This project has been passed on to our review committee. The committee will contact the applicant/consultant directly if more information is needed to assess the project's potential impacts. Response time is typically less than a month after the date on this notification.

**COMMENTS:**

This response represents the most up-to-date summary of the PNDI data files and is good for one (1) year from the date of this letter. An absence of recorded information does not necessarily imply actual conditions on-site. A field survey of any site may reveal previously unreported populations. Should project plans change or additional information on listed or proposed species become available, this determination may be reconsidered.

This finding applies to impacts to plants, natural communities, terrestrial invertebrates and geologic features only. To complete your review of state and federally-listed species of special concern, please be sure the U.S. Fish and Wildlife Service, the PA Game Commission and the Fish and Boat Commission has been contacted regarding this project either directly or by performing a search with the online PNDI ER Tool found at [www.naturalheritage.state.pa.us](http://www.naturalheritage.state.pa.us).

 Richard Shockey, Environmental Review Specialist FOR Chris Firestone, Plant Program Mgr  
DCNR/BOF/PNDI, PO Box 8552, Harrisburg, PA 17105 ~ Ph: 717-772-0263 ~ F: 717-772-0271 ~ [c-rshockey@state.pa.us](mailto:c-rshockey@state.pa.us)



**pennsylvania**  
DEPARTMENT OF CONSERVATION  
AND NATURAL RESOURCES

BUREAU OF FORESTRY

September 14, 2009

PNDI Number: 20353

George T. Reese  
GAI Consultants, Inc.  
FAX: 412-476-2020 (hard copy WILL NOT follow)

Re: Highland - Logan's Ferry 345 Kv Rebuild Project  
City of Pittsburgh and Penn Hills, Plum and Verona Townships; Allegheny County

Dear Mr. Reese,

Thank you for submission of the Pennsylvania Natural Diversity Inventory (PNDI) Environmental Review Receipt Number 20353 for review. PA Department of Conservation and Natural Resources screened this project for potential impacts to species and resources of concern under DCNR's responsibility, which includes plants, terrestrial invertebrates, natural communities, and geologic features only.

**NO IMPACT ANTICIPATED:**

PNDI records indicate species or resources of concern are located in the vicinity of the project. However, based on the information you submitted concerning the nature of the project, the immediate location, and our detailed resource information, DCNR has determined that no impact is likely. No further coordination with our agency is needed for this project.

**DCNR recommends the following VOLUNTARY steps to help prevent the spread of invasive species:**

- The area of disturbance should be minimized to the fullest extent that would allow for the safe rebuild of the electric lines and access roads, this will help to minimize the area of soil and vegetation disturbance associated with this project.
- If possible, please clean all construction equipment and vehicles thoroughly before they are brought on site, this will remove invasive plant seeds from the equipment and undercarriages of the vehicles that may have been picked up at other sites.
- Avoid using seed mixes that include invasive plant species (like Crown vetch) to re-vegetate the area. Please also attempt to use weed-free straw or hay mixes when possible. A complete list of all Pennsylvania invasive plants can be found here: <http://www.dcnr.state.pa.us/forestry/wildplant/invasivelist.aspx>

This response represents the most up-to-date summary of the PNDI data files and is valid for one (1) year from the date of this letter. An absence of recorded information does not necessarily imply actual conditions on-site. Should project plans change or additional information on listed or proposed species become available, this determination may be reconsidered.

Should the proposed work continue beyond the period covered by this letter, please resubmit the project to this agency as an "Update" (including an updated PNDI receipt, project narrative and accurate map). If the proposed work has not changed and no additional information concerning listed species is found, the project will be cleared for PNDI requirements under this agency for an additional year.

This finding applies to impacts to DCNR only. To complete your review of state and federally-listed threatened and endangered species and species of special concern, please be sure the U.S. Fish and Wildlife Service, PA Game Commission, and the Pennsylvania Fish and Boat Commission have been contacted regarding this project as directed by the online PNDI ER Tool found at [www.naturalheritage.state.pa.us](http://www.naturalheritage.state.pa.us).

Sincerely,

Mr. Kelly L. Sitch, Environmental Review Specialist FOR Chris Firestone, Wild Plant Program Mgr.  
Ph: 717-425-5370 ~ Fax: 717-772-0271 ~ [c-ksitch@state.pa.us](mailto:c-ksitch@state.pa.us)

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sustain

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P.O. Box 8552, Harrisburg, PA 17015-8552 717-787-3444 (fax) 717-772-0271

TOTAL P.01



**pennsylvania**  
DEPARTMENT OF CONSERVATION  
AND NATURAL RESOURCES

---

BUREAU OF FORESTRY

February 2, 2010

PNDI Number: 20540

Steven Miller  
GAI Consultants  
Fax: 412-476-2020 (hard copy will NOT follow)

Re: Highland – Logan's Ferry 345 kV Transmission Line Project; Alternatives 3, 4, 5, 6, and 9  
Various Township, Allegheny County

Dear Mr. Miller,

Thank you for submission of the Pennsylvania Natural Diversity Inventory (PNDI) Environmental Review Receipt Number 20540 for review. PA Department of Conservation and Natural Resources screened this project for potential impacts to species and resources of concern under DCNR's responsibility, which includes plants, terrestrial invertebrates, natural communities, and geologic features only.

**No Impact Anticipated**

PNDI records indicate species or resources of concern are located in the vicinity of the project. However, based on the information you submitted concerning the nature of the project, the immediate location, and our detailed resource information, DCNR has determined that no impact is likely for alternatives 3, 4, 5, 6, or 9. No further coordination with DCNR is needed for these project alternatives.

This response represents the most up-to-date summary of the PNDI data files and is valid for one (1) year from the date of this letter. An absence of recorded information does not necessarily imply actual conditions on-site. Should project plans change or additional information on listed or proposed species become available, this determination may be reconsidered.

Should the proposed work continue beyond the period covered by this letter, please contact this agency. If the proposed work has not changed and no additional information concerning listed species is found, you will be notified by email or letter that the project will be cleared for all PNDI requirements for an additional year.

This finding applies to impacts to DCNR only. To complete your review of state and federally-listed threatened and endangered species and species of special concern, please be sure the U.S. Fish and Wildlife Service, PA Game Commission, and the Pennsylvania Fish and Boat Commission have been contacted regarding this project as directed by the online PNDI ER Tool found at [www.naturalheritage.state.pa.us](http://www.naturalheritage.state.pa.us).

Sincerely,

Joy VanDervort-Sneed, Environmental Review Manager FOR Chris Firestone, Wild Plant Program Mgr.  
Ph: 717-705-2822 ~ F: 717-772-0271 ~ [c-jvanderv@state.pa.us](mailto:c-jvanderv@state.pa.us)

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TOTAL P.01

C

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Exhibit 7, Environmental Assessment and Line Route Study, Duquesne Light Company  
Highland-Logans Ferry 69 kV to 345 kV Rebuild/Upgrade Project, City of Pittsburgh,  
Municipality of Penn Hills, Verona Borough, and Plum Borough, Allegheny County, Pennsylvania

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SECRETARY'S BUREAU

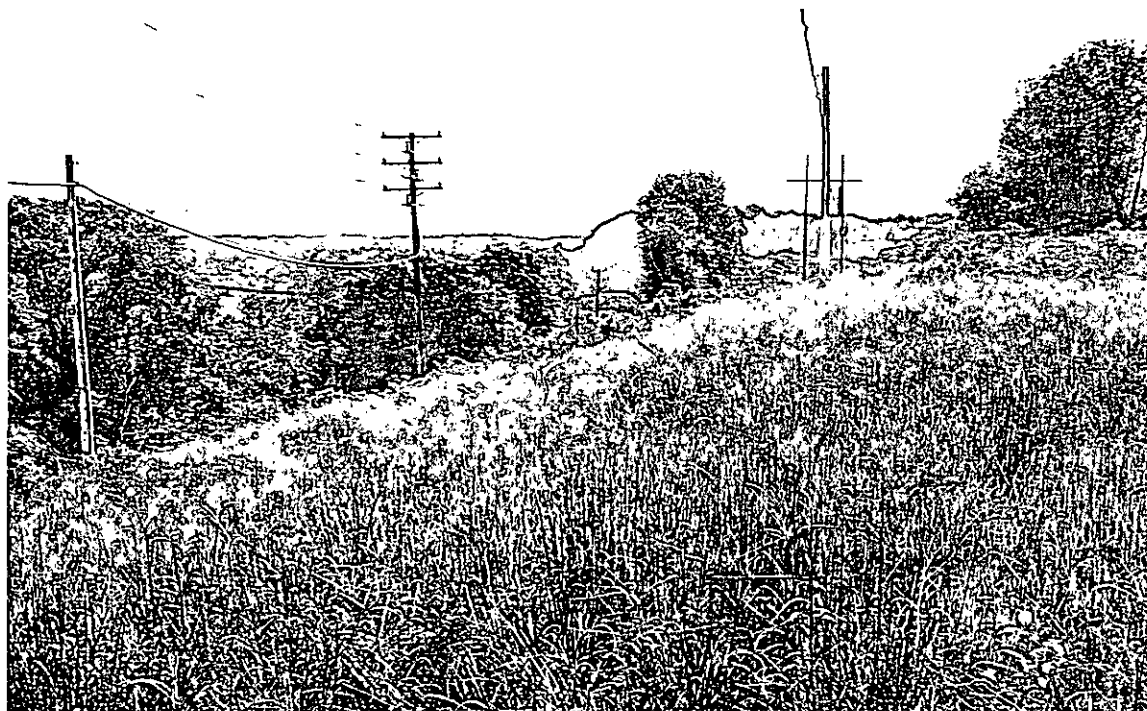
**APPENDIX C**  
**PHOTOGRAPHS**



Exhibit 7, Environmental Assessment and Line Route Study, Duquesne Light Company  
Highland-Logans Ferry 69 kV to 345 kV Rebuild/Upgrade Project, City of Pittsburgh,  
Municipality of Penn Hills, Verona Borough, and Plum Borough, Allegheny County, Pennsylvania



Photograph 1. Typical Residential Construction in the Study Area

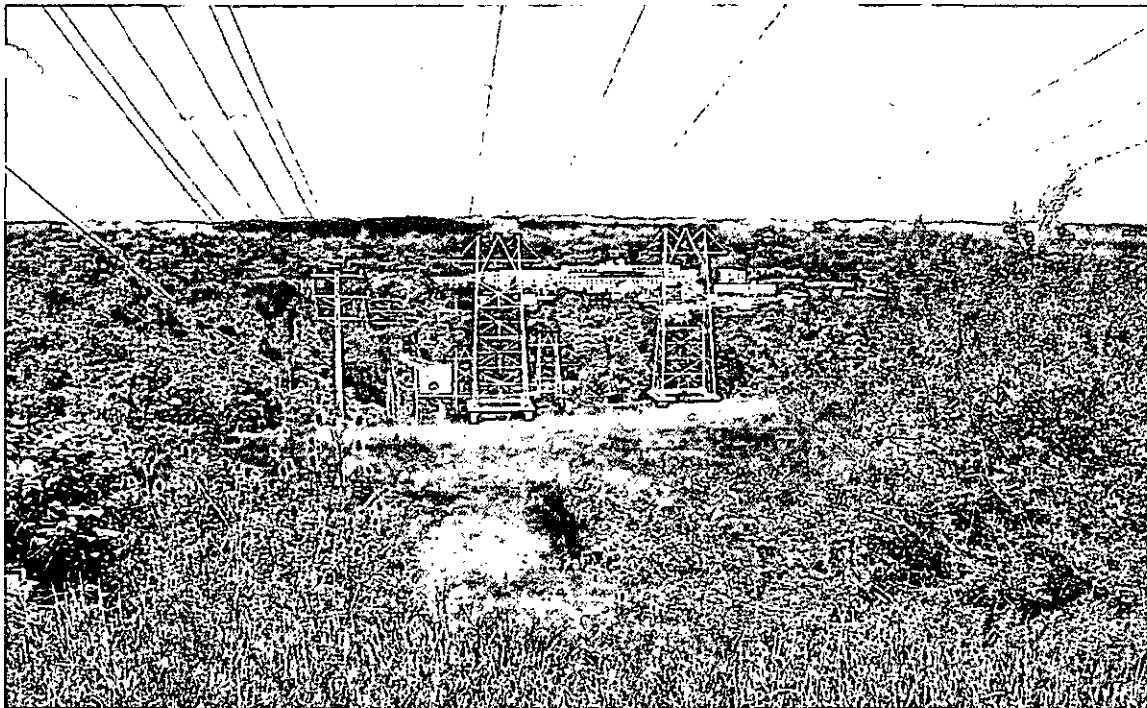


Photograph 2. Existing Line #1 on a Hill Above the Allegheny River Near the Longue Vue Golf Club

Exhibit 7, Environmental Assessment and Line Route Study, Duquesne Light Company  
Highland-Logans Ferry 69 kV to 345 kV Rebuild/Upgrade Project, City of Pittsburgh,  
Municipality of Penn Hills, Verona Borough, and Plum Borough, Allegheny County, Pennsylvania



Photograph 3. Existing Line #1 Passing through Typical Forested Terrain in the Study Area



Photograph 4. Looking Westward Toward Pittsburgh Job Corps Buildings,  
with Existing Line #1 Located in a Common Transmission Line  
Corridor, and Using Both Wooden Poles and Lattice Structures

Exhibit 7, Environmental Assessment and Line Route Study, Duquesne Light Company  
Highland-Logans Ferry 69 kV to 345 kV Rebuild/Upgrade Project, City of Pittsburgh,  
Municipality of Penn Hills, Verona Borough, and Plum Borough, Allegheny County, Pennsylvania



Photograph 5. Existing Line #1 as it Proceeds Along Side Yards of Penn Hills Neighborhood



Photograph 6. The VA Hospital and Ball Fields, Adjacent to Existing Line #1

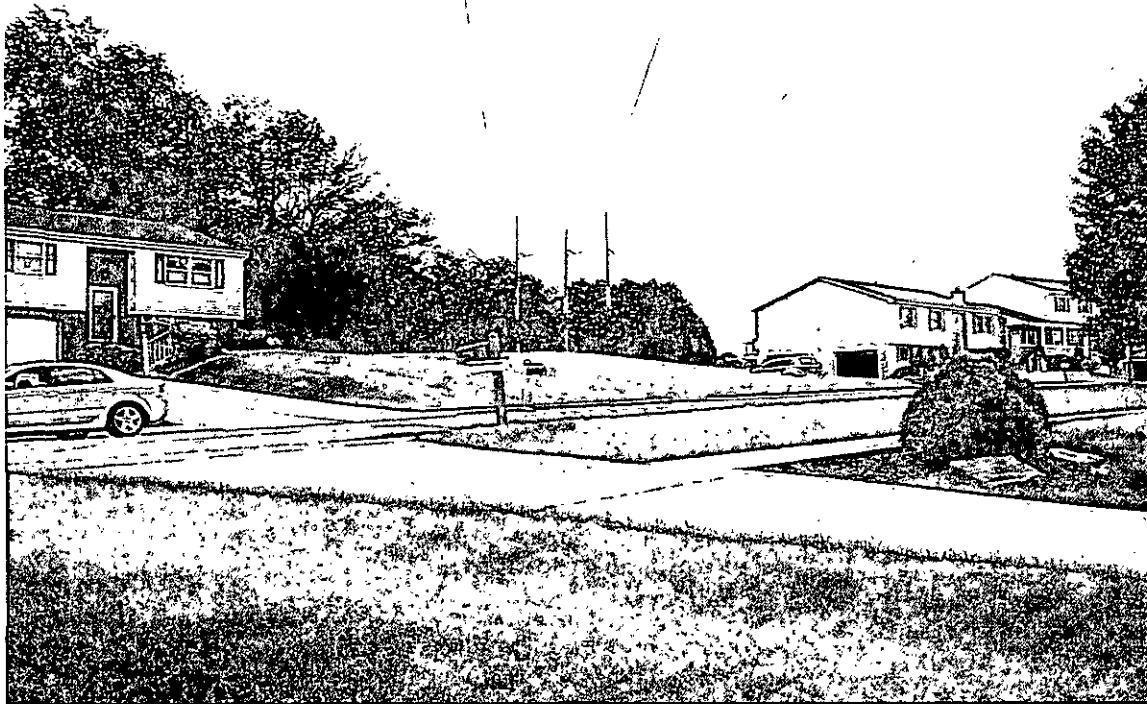
Exhibit 7, Environmental Assessment and Line Route Study, Duquesne Light Company  
Highland-Logans Ferry 69 kV to 345 kV Rebuild/Upgrade Project, City of Pittsburgh,  
Municipality of Penn Hills, Verona Borough, and Plum Borough, Allegheny County, Pennsylvania



Photograph 7. Existing Line #1 Proceeding Eastward on a Wooded Ridge above the Allegheny River



Photograph 8. Existing Line #1 in the Shannon Heights Area of Penn Hills



Photograph 9. Existing Line #1 Passing through the Valemont Heights Area of Penn Hills



Photograph 10. Typical Forested Area in the Study Area Crossed by Existing Lines

D

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Exhibit 7, Environmental Assessment and Line Route Study, Duquesne Light Company  
Highland-Logans Ferry 69 kV to 345 kV Rebuild/Upgrade Project, City of Pittsburgh,  
Municipality of Penn Hills, Verona Borough, and Plum Borough, Allegheny County, Pennsylvania

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**APPENDIX D**

**ELECTROMAGNETIC FIELD ANALYSIS**

# **Electric and Magnetic Field Calculations for the Highland-Logans Ferry Transmission Line Project**

For:

GAI Consultants  
385 East Waterfront Drive  
Homestead, PA 15120-5005

By:

David Fugate, Ph.D.  
Electric Research & Management, Inc.  
1211 Cornplanter Rd.  
Cabot, PA 16023

August 28, 2009



## Introduction

This report provides results from electric and magnetic field analyses of the Highland-Logans Ferry transmission line project. Field calculations were performed on two representative cross-sections. The first study evaluates replacement of an existing 69 kV circuit (wood H-frame construction) with a 345 kV circuit on steel poles. The second study evaluates a section parallel to an existing 138 kV double circuit line where the existing 69 kV circuit on steel lattice towers is replaced with the new 345 kV circuit. The new 345 kV line will be a single circuit with vertical phase-arrangement. Analyses include calculation of electric fields, magnetic fields, audible noise (AN), radio interference (RI), and TV interference (TVI).

Calculations described in this report were performed using software produced by engineers at the Bonneville Power Administration (BPA). The BPA software utilizes empirical equations for calculating corona effects at various frequencies and distances from a defined transmission line configuration. Electric and magnetic fields are based on exact closed-form equations for two-dimensional cross-sections of the transmission line configurations.

### EMF Study #1: 69 kV Circuit Replaced with 345 kV Circuit

This section describes calculated EMF results for the first modeled cross-section where an existing single 69 kV circuit (66106) on wood H-frame construction is replaced with by the proposed 345 kV circuit on steel poles as shown in Figure 1. Table 1 contains the dimensional and electric parameters for the existing and proposed configurations. In Table 1, the X (ft) coordinate values define horizontal positions of phase conductors and shield wires relative to an origin at the right-of-way (ROW) center line, and the Y (ft) coordinate values define the height of each phase conductor relative to ground level.

Table 1. Dimensional and electric parameters for EMF Study #1.

Existing Single Circuit 69kV (66106) Line-Neutral = 39.84kV								
Conductors	Position		diam. (in.)	Current (Amps)			Conductor Type	
	X (ft)	Y (ft)		Max Design	Peak	Normal		
Shield Wire (Left)	-6.5	51.5	0.312	0	0	0	5/16 SS	
Shield Wire (Right)	6.5	51.5	0.312	0	0	0	5/16 SS	
A	Left	-12	22	0.846	760	563	269	477 ACSR 24/7
B	Middle	0	22	0.846	760	563	269	477 ACSR 24/7
C	Right	12	22	0.846	760	563	269	477 ACSR 24/7

Proposed Single Circuit 345kV, Steel Pole, Line-Neutral 199.19kV								
Conductors	Position		diam. (in.)	Current (Amps)			Conductor Type	
	X (ft)	Y (ft)		Max Design	Peak	Normal		
Shield Wire		0.5	122	0.385	0	0	0	7#8 Alwd
B	Top	0.2	86	(2)-1.165	2361	770	230	2-1024.5ACAR24/13, 18" Spacing
A	Middle	0.1	60.5	(2)-1.165	2361	770	230	2-1024.5ACAR24/13, 18" Spacing
C	Bottom	0	35	(2)-1.165	2361	770	230	2-1024.5ACAR24/13, 18" Spacing

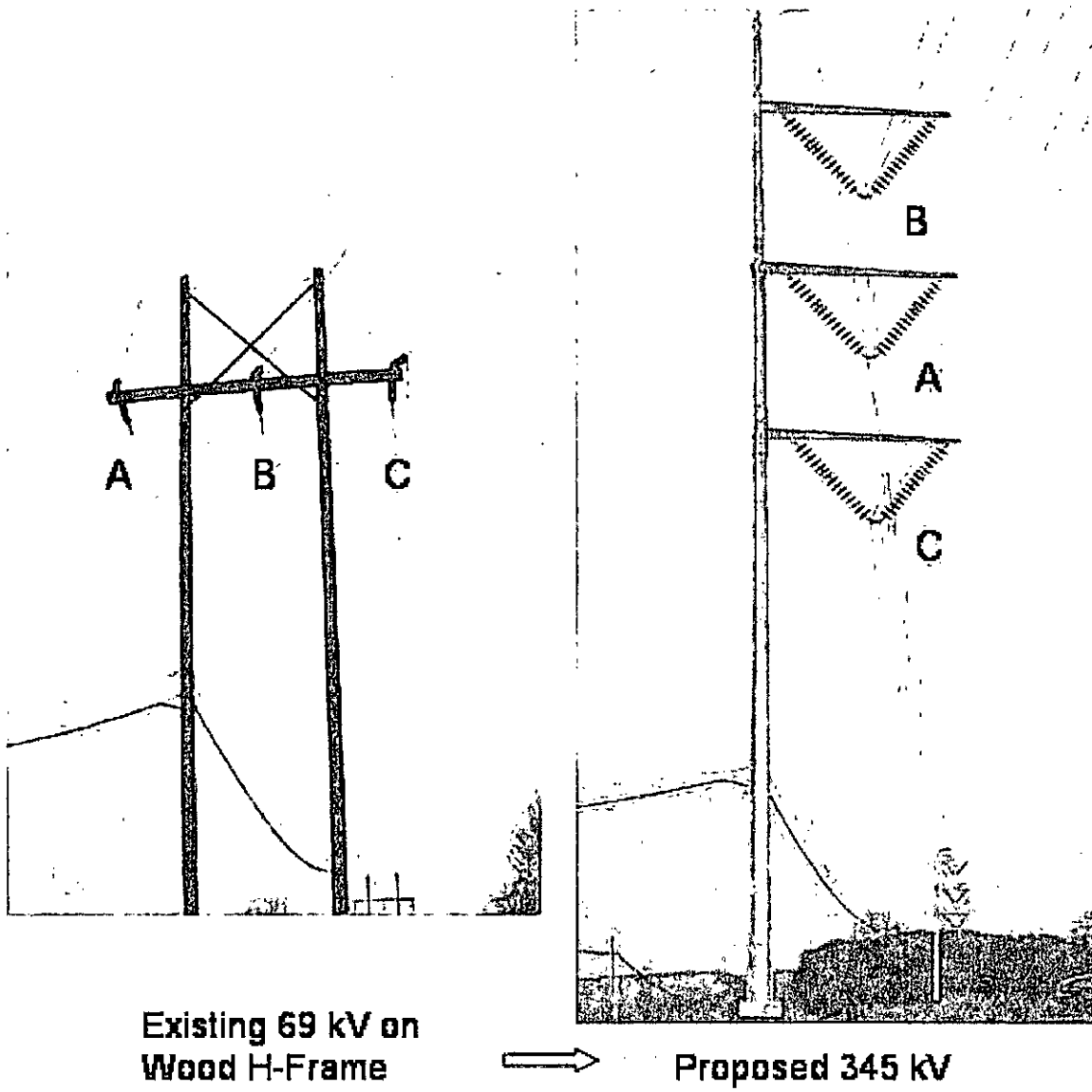


Figure 1. Existing 69 kV circuit on wood H-frame construction (left) and proposed 345 kV circuit on steel poles (right).

Magnetic fields are calculated for three load conditions with minimum clearances for each of those conditions. The three load conditions are normal (average) load, peak load, and maximum design rating. Minimum vertical clearances corresponding to these three load conditions are 30, 26, and 22 feet, respectively for the existing 69 kV line, and 40, 39, and 35 feet, respectively, for the proposed 345 kV line. The Table 1 conductor heights are listed for maximum design rating condition, and the models for the other two load scenarios are shifted higher by the corresponding changes (4 and 8 feet for the 69 kV circuit, 4 and 5 feet for the 345 kV circuit). Electric fields are calculated for the nominal line voltage and minimum vertical clearance at the maximum design load. Field levels are evaluated at five-foot intervals for a distance of 100 feet on either side of the cross-section at a height of 3.28 ft (1 meter) above ground level.

Figure 2 shows the calculated *rms* electric field magnitude in kilovolts per meter (kV/m) for the existing and proposed configurations at nominal line voltage and minimum vertical clearance condition. The maximum electric field increases by approximately a factor of five, from 1 kV/m to near 5 kV/m, with the voltage increase from 69 kV to 345 kV.

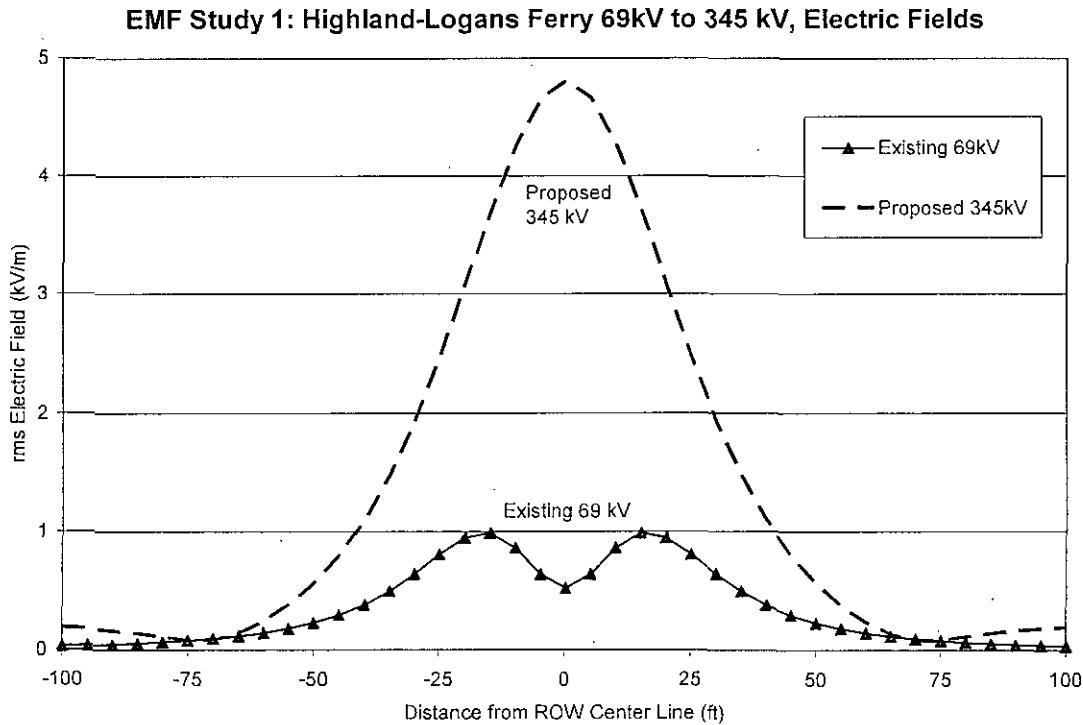


Figure 2. Calculated *rms* electric field at a height of 3.28 ft (1m) above ground level for the existing 69 kV and proposed 345 kV transmission line configurations with minimum vertical clearance based on maximum design load conditions.

Figure 3 shows the calculated *rms* magnetic fields for the existing 69 kV and proposed 345 kV configurations under the peak and normal load conditions per Table 1. Magnetic fields decrease with the new 345 kV line because the conductors are generally higher (above ground level) with the vertical arrangement, and projected normal load currents are smaller at the higher voltage. Magnetic fields are slightly higher moving toward the edge of right-of-way (EROW).

Figure 4 compares the existing and proposed magnetic fields for the maximum design ratings. Under this scenario, the new line has larger magnetic fields because of the larger capacity.

**EMF Study 1: Highland-Logans Ferry 69kV to 345 kV, Magnetic Fields**

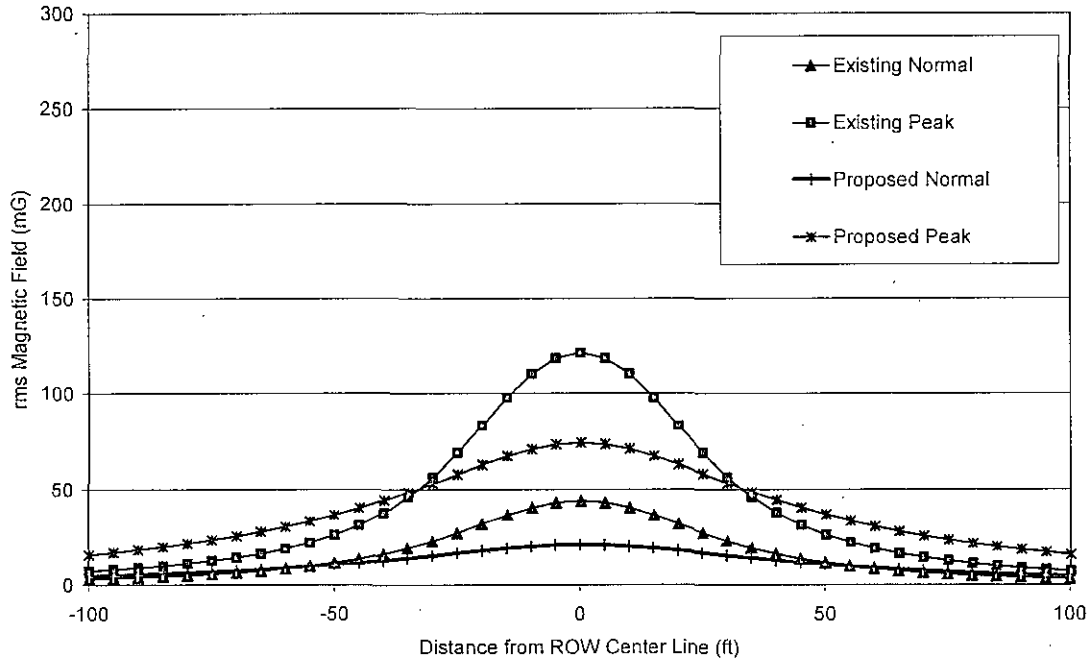


Figure 3. Calculated rms magnetic fields at a height of 3.3 ft above ground level for the existing 69 kV and proposed 345 kV configurations at normal load and peak load conditions.

**EMF Study 1: Highland-Logans Ferry 69kV to 345 kV, Magnetic Fields**

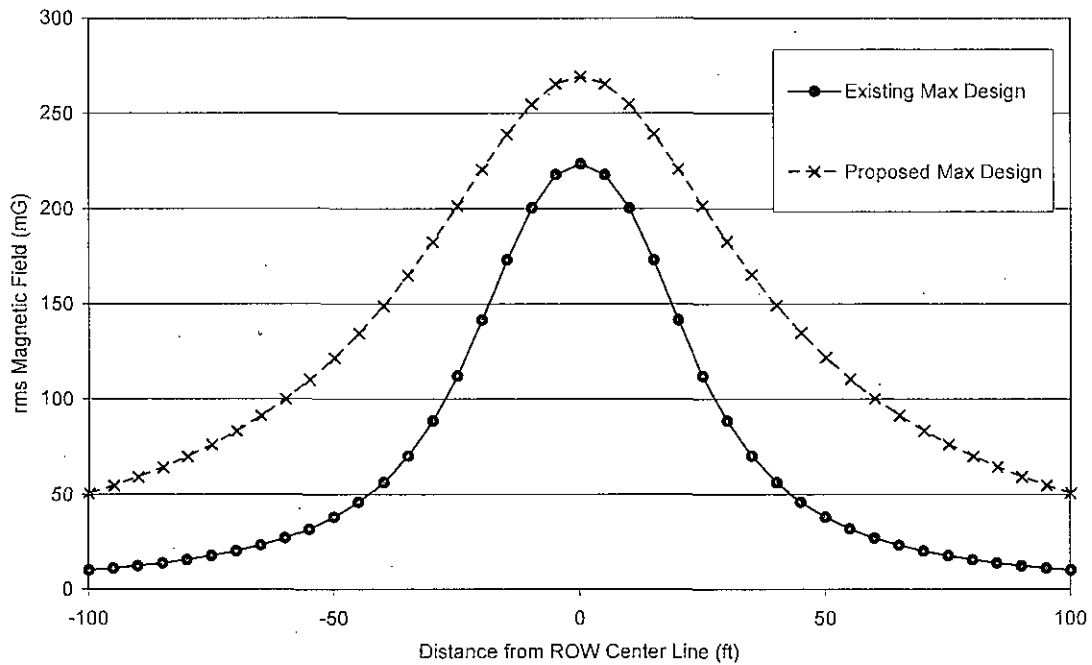


Figure 4. Calculated rms magnetic fields for the existing and proposed configuration under maximum design rating load conditions.

## EMF Study #2: Highland-Logans Ferry Parallel Section

This evaluation is similar in that a 69 kV circuit (66106) is replaced with a 345 kV circuit, but it is in a section that parallels a double-circuit 138 kV line. Also, the existing 69 kV line is supported by steel lattice towers in this section. The existing and proposed configurations are shown in Figure 5.

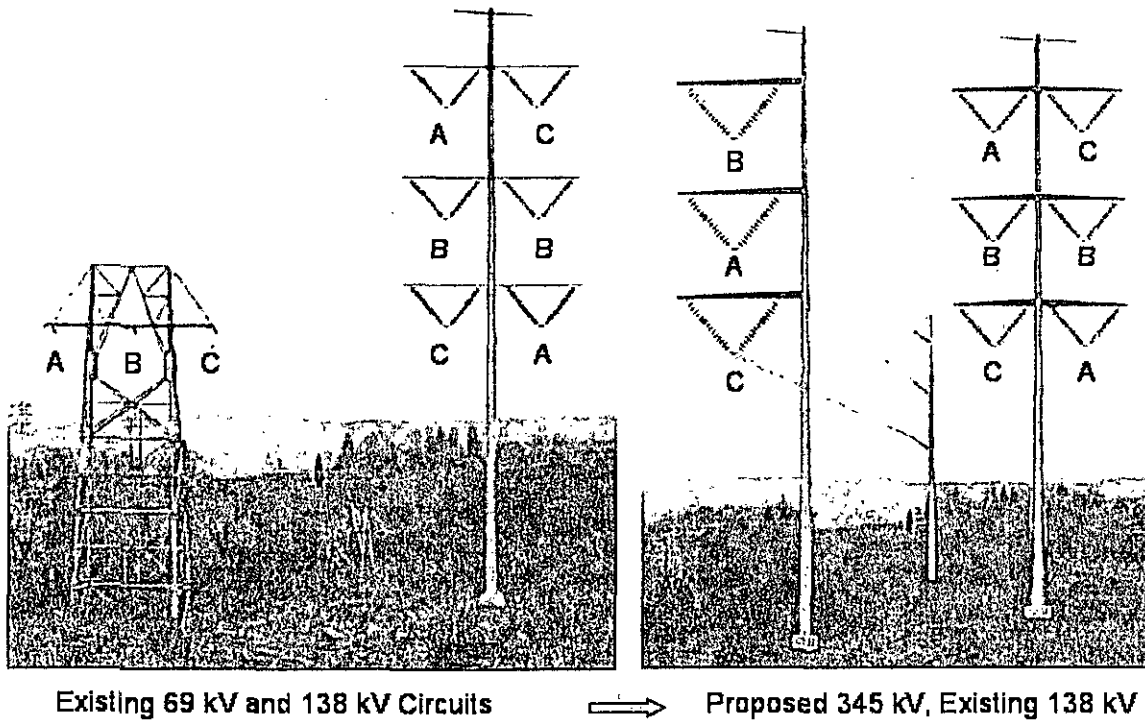


Figure 5. Modeled section parallel to existing 138 kV double-circuit. 69 kV circuit on steel lattice towers is replaced with 345 kV circuit on steel poles. The 138 kV circuits are the same for both existing and proposed configurations.

Table 2 lists the existing and proposed configurations parameters used for EMF calculations on this parallel section. Tower center lines in the parallel section are 37.5 feet to either side of the ROW center line and the ROW is 150 feet wide. In Table 2, the first set of line configuration parameters are for the two 138 kV circuits that will be present for both existing and proposed configurations. The third set of Table 2 parameters define the existing 69 kV line, and the fourth set of parameters are the proposed 345 kV line.

As with the first study, magnetic fields are calculated for three load conditions with minimum clearances: normal (average) load, peak load, and maximum design rating. Minimum vertical clearances corresponding to these three load conditions are again 30, 26, and 22 feet, respectively for the existing 69 kV line, and 40, 39, and 35 feet, respectively, for the proposed 345 kV line. Minimum clearances for the existing 138 kV circuits are 33, 29, and 25 feet. These are the approximate heights of the lowest phase conductor above ground level. The Table 2 phase conductor heights are the minimum

clearance for maximum design rating load conditions. All conductor heights for the other two load scenarios are higher by the corresponding difference (4 and 8 feet for the existing 69 kV and 138 kV circuits, 4 and 5 feet for the 345 kV circuit), and all phase conductors are shifted up accordingly for the magnetic field calculations. Electric fields are calculated for the nominal line voltage and minimum vertical clearance at the maximum design load. Field levels are evaluated at five-foot intervals for a distance of 150 feet on either side of the cross-section at a height of 3.28 ft (1 meter) above ground level.

Figure 6 shows the calculated *rms* electric field magnitude in kilovolts per meter (kV/m) for the existing and proposed configurations at nominal line voltage and the minimum vertical clearance (maximum design rating) condition.

Figure 7 shows the calculated *rms* magnetic fields (mG) for the existing and proposed configurations in the parallel section under the peak and normal load conditions per Table 2. Figure 8 compares the existing and proposed magnetic fields for the maximum design ratings.

Table 2. Dimensional and electric parameters for EMF Study #2, Parallel Section.

Existing/Proposed 138kV Left Circuit, Line-Neutral = 79.674								
Conductors	Position	Position		diam. (in)	Current (Amps)			Conductor Type
		X (ft)	Y (ft)		Max Design	Peak	Normal	
Shield Wire		32	87	0.385	0	0	0	7#8 Alwld
A	Top	31.2	51	1.108	1500	920	250	795 ACSS-TW20/7
B	Middle	31.1	38	1.108	1500	920	250	795 ACSS-TW20/7
C	Bottom	31	25	1.108	1500	920	250	795 ACSS-TW20/7

Existing/Proposed 138kV Right Circuit, Line-Neutral = 79.674								
Conductors	Position	Position		diam. (in)	Current (Amps)			Conductor Type
		X (ft)	Y (ft)		Max Design	Peak	Normal	
Shield Wire		43	87	0.385	0	0	0	7#8 Alwld
C	Top	43.8	51	1.108	1500	920	250	795 ACSS-TW20/7
B	Middle	43.8	38	1.108	1500	920	250	795 ACSS-TW20/7
A	Bottom	44	25	1.108	1500	920	250	795 ACSS-TW20/7

Existing 69 kV (66106) Steel Towers, Line-Neutral = 39.84 kV								
Conductors	Position	Position		diam. (in)	Current (Amps)			Conductor Type
		X (ft)	Y (ft)		Max Design	Peak	Normal	
Shield Wire (Left)		-45.5	52	0.312	0	0	0	5/16" SS
Shield Wire (Right)		-29.5	52	0.312	0	0	0	5/16" SS
A	Left	-54	22	0.813	760	563	269	500CU19
B	Middle	-37.5	22	0.813	760	563	269	500CU19
C	Right	-21	22	0.813	760	563	269	500CU19

Proposed Single Circuit 345kV, Steel Pole, Line-Neutral 199.19kV								
Conductors	Position	Position		diam. (in)	Current (Amps)			Conductor Type
		X (ft)	Y (ft)		Max Design	Peak	Normal	
Shield Wire		-37	122	0.385	0	0	0	7#8Alwld
B	Top	-37.3	86	(2)-1.165	2361	770	230	2-1024.5ACAR24/13, 18" Spacing
A	Middle	-37.4	60.5	(2)-1.165	2361	770	230	2-1024.5ACAR24/13, 18" Spacing
C	Bottom	-37.5	35	(2)-1.165	2361	770	230	2-1024.5ACAR24/13, 18" Spacing

### EMF Study 2: Highland-Logans Ferry Parallel Section, Electric Fields

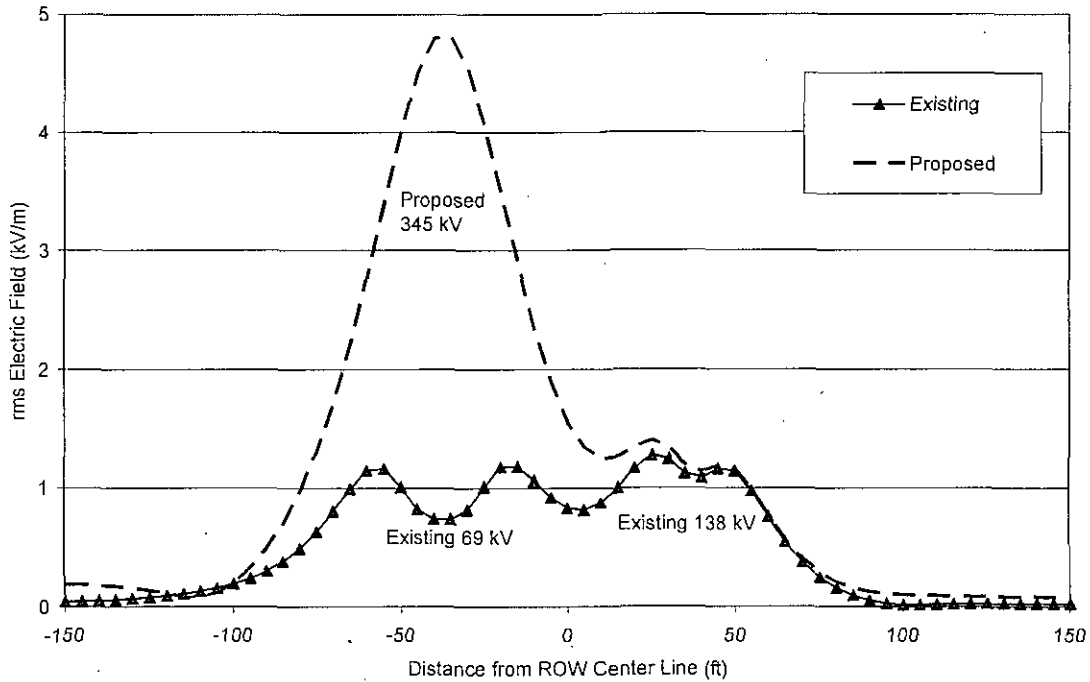


Figure 6. Calculated electric fields for the existing and proposed transmission line configurations in the parallel section with minimum vertical clearance.

### EMF Study 2: Highland-Logans Ferry Parallel Section Magnetic Field Calculations

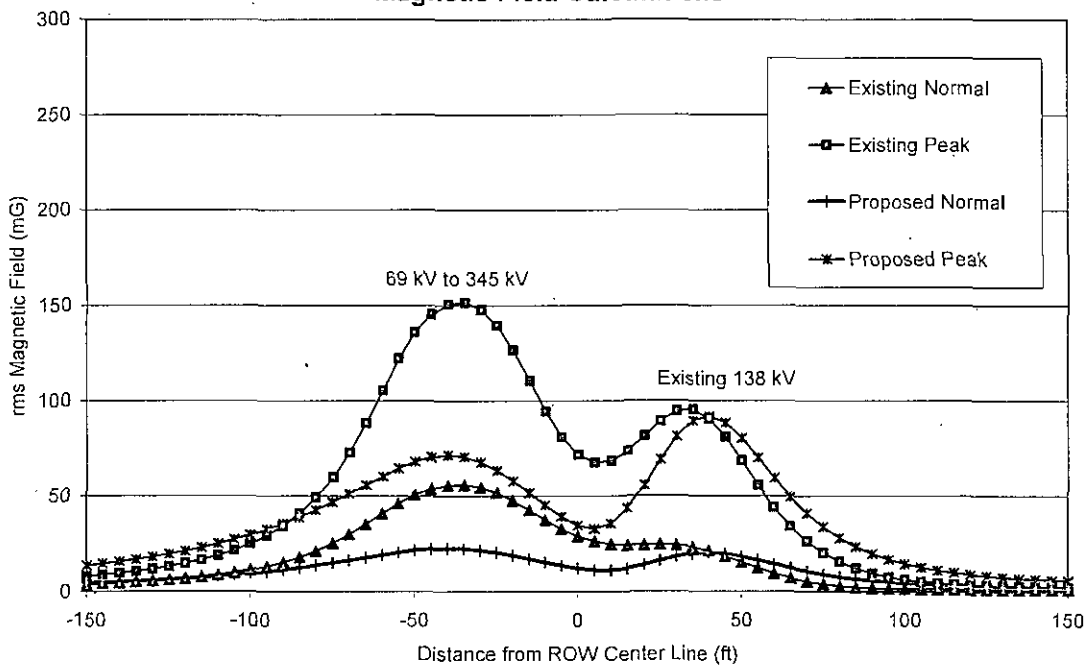


Figure 7. Calculated rms magnetic fields for existing and proposed configurations in the parallel section at normal and peak loads.

## EMF Study 2: Highland-Logans Ferry Parallel Section Magnetic Field Calculations

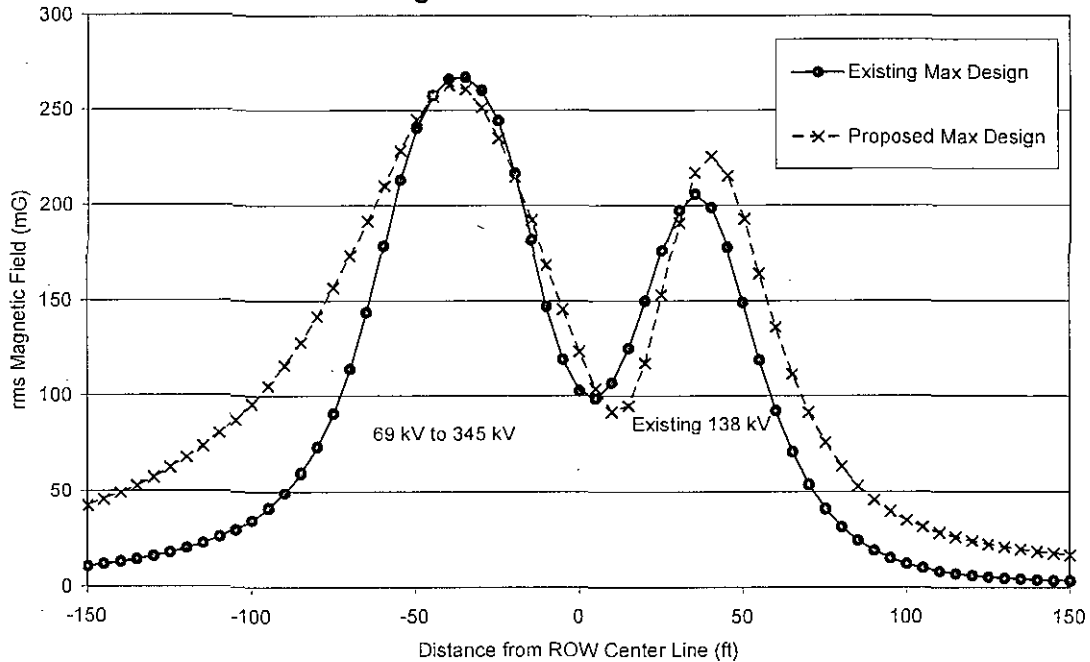


Figure 8. Calculated rms magnetic fields for existing and proposed configurations in the parallel section at normal and peak loads.

### Audible Noise

Corona discharges on transmission lines produce audible noise. The audible noise levels depend on the weather and on the transmission line design parameters such as operating voltage, conductor dimensions and conductor configuration. In fair weather, very little corona exists, and thus, the audible noise is often imperceptible. However, higher levels of corona, and consequently higher levels of audible noise, are present in rainy or damp weather due to water droplets. The BPA field effects software provides L5 (95<sup>th</sup> percentile) and L50 (median) levels for both rainy and fair weather. The L5 value is the sound level that will be exceeded 5% of the time, and the L50 value is the sound level that will be exceeded 50% of the time. These calculated sound levels are listed in decibels (dB) relative to an A-weighted scale (dBA) that approximates the frequency response of the human ear.

Table 3 shows calculated fair and rainy weather audible noise values in dBA for the proposed 345 kV circuit at approximate lateral distances of 50 and 100 feet from the phase conductors. AN calculations were also performed for the parallel section, and noise levels are nearly identical on the 345 kV side and lower on the 138 kV side.

To put the calculated audible noise levels in perspective, 0-10 dBA corresponds to the threshold of hearing, 10-20 dBA corresponds to ambient sound level in a recording



studio, and 20-30 dBA is similar to a bedroom at night, 30-40 dBA is a typical range in a library, and 40-50 dBA corresponds to a residential living room in a suburban area[1]. Thus, the calculated rainy weather levels are relatively quiet, and the calculated fair weather levels are nearly inaudible at 50 feet from the phase conductors.

*Table 3. Calculated fair and rainy weather audible noise values in dBA for the proposed 345 kV line, evaluated at 50 and 100 feet from the phase conductors.*

Distance (ft)	AUDIBLE NOISE for Proposed Line			
	Fair Weather		Rainy Weather	
	L5 (dBA)	L50 (dBA)	L5 (dBA)	L50 (dBA)
50	21.8	18.3	46.8	43.3
100	19.4	15.9	44.4	40.9

### Radio Interference (RI) and Television Interference (TVI)

Corona on transmission lines also produces electromagnetic noise. When this noise is sufficiently strong, it causes interference with broadcast radio and television signals. For this evaluation, interference levels are calculated at the edge of the ROW, a lateral distance of 100 feet from the phase conductors.

The BPA software calculates the L50 (median) RI and TVI levels over a range of frequencies. RI is typically evaluated over the range of frequencies that encompass the AM broadcast radio band (0.540 to 1.6 MHz), and TVI is typically evaluated over a higher frequency range that includes the broadcast television bands: VHF Band (Channels 2 to 13), 54-216 MHz; UHF Band (Channels 14-83), 70-1002 MHz. Note that the FM broadcast radio band (88-108 MHz) falls between TV Channels 6 and 7. In general, the electromagnetic noise levels from a transmission line decrease with increasing frequency, and with distance from the phase conductors. Thus, interference effects are greatest at the lower frequencies, immediately adjacent to the line.

Table 4 shows the calculated RI noise values for the proposed 345 kV line, in decibels relative to electric field strength of one microvolt per meter (dB  $\mu V/m$ ) at a lateral distance of 100 feet from the phase conductors. One  $\mu V/m$  is the standard electric field unit for signal strength. These values are plotted in Figure 9.

*Table 4. Calculated L50 (median) RI values for the proposed 345 kV line for both fair and rainy weather at an approximate lateral distance of 100 feet from the phase conductors.*

Calculated Radio Interference 345 kV Line		
Frequency (MHz)	Fair	Rain
	L50 (dB $\mu V/m$ )	L50 (dB $\mu V/m$ )
0.5	39.8	56.8
1.0	35.0	52.0
5.0	16.8	33.8
20.0	-5.8	11.2

**Radio Interference Calculations for Proposed 345 kV Circuit**  
 Evaluated 100 feet from Phase Conductors

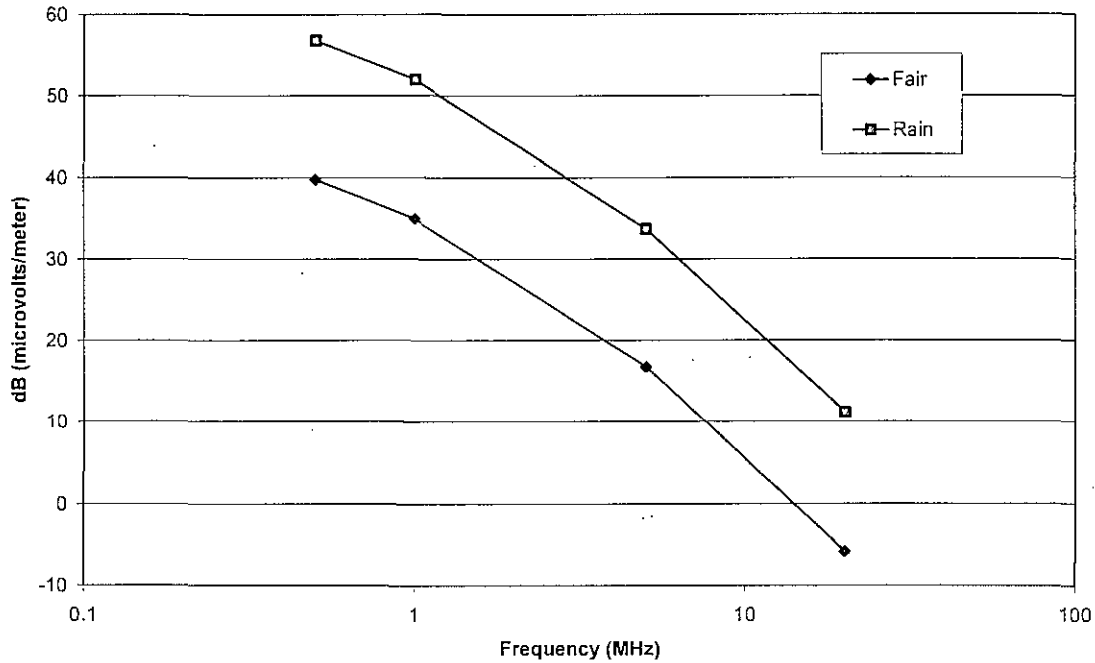


Figure 9. Calculated RI values for the 345 kV line at a lateral distance of 100 feet from the phase conductors.

Typical broadcast radio signals in residential areas range from 66 to 80 dB[2] and studies have shown that that any one signal needs to be 20 dB or greater than the noise level to avoid interference. Based on this guideline, the RI noise level should be 46 dB or lower to generally avoid interference with weak signals, and 60 dB or lower to avoid interference with strong signals. Table 4 results indicated that no interference is expected with strong signals for both fair and rainy weather. Interference is possible with weak signals in the lower part of the AM band during rainy weather (in close proximity to the ROW), but the interference noise levels will decrease rapidly with distance. Interference with weak broadcast signals is not predicted for fair weather since all calculated noise levels are well below 46 dB. RI calculations were also performed for the parallel section, and as with AN, RI levels are comparable on the 345 kV side, and lower on the 138 kV side.

For TVI, the BPA software calculates the L50 (median) noise values, also in decibels (dB  $\mu V/m$ ) over the frequency ranged from 30 MHz to 1000 MHz. Table 5 shows the calculated TVI values, also evaluated at 100 feet from the 345 kV phase conductors.

With the change-over to digital broadcast television, interference is less of an issue due to higher broadcast frequencies. Most of the new signals are broadcast in the UHF band (whereas the major network analog broadcasts were typically in the VHF band, from Channel 2 to 13). Interference is less of an issue because corona-produced electromagnetic noise levels decrease significantly with increasing frequency. Coverage

areas for digital television broadcasts are sometimes defined as the area with a signal strength of 41 dB or greater. Assuming a requirement of 30 dB of signal to noise margin to avoid interference, noise levels of 11 dB or larger could potentially cause interference with weak broadcast signals. In Table 5, this 11 dB target is not exceeded except at and below 75 MHz, and this is well into the lower portion of the VHF band where digital TV is not broadcast. This evaluation is at 100 feet from the phase conductors and the interfering levels decrease with distance.

*Table 5. L50 (median) TVI values at frequencies that include the broadcast television channels as calculated at a distance of 50 feet from the outer phase conductors of the 138 kV line.*

Calculated TV Interference (TVI) 345 kV Line, 100 ft from Conductors							
Frequency (MHz)	30	60	75	125	250	500	1000
L50 (dB $\mu$ V/m)	24.9	16.0	14.1	9.6	3.6	-2.4	-8.4

## Results Summary

Electric and magnetic field calculations were performed for two representative cross-sections of the Highland-Logans Ferry transmission line project. Comparing existing to proposed configurations, the electric field increases significantly directly beneath the proposed 345 kV line due to the increase in operating voltage, but the existing and proposed electric fields are expected to be similar in magnitude at a distance of 75 feet, and further, from the 345 kV phase conductors. Magnetic field calculations show a slight decrease in magnitude due to smaller currents at the higher voltage and due to the height of the 345 kV conductors in a vertical arrangement. Moving laterally, magnetic fields increase slightly due to the larger phase-to-phase spacing required for the 345 kV operating voltage.

The corona effects calculations for AN, RI, and TVI indicate that no significant audible or electromagnetic impacts are expected from the proposed 345 kV line. The strongest possible effect would occur at the bottom end of the AM radio band, in close proximity to the proposed 345 kV line during rainy weather. Duquesne Light currently operates 345 kV lines in residential areas.

## References

- [1] Transmission Line Reference Book, Electric Power Research Institute, 2<sup>nd</sup> Edition, 1982, p.269.
- [2] Corona and Field Effects of AC Overhead Transmission Lines, IEEE Power Engineering Society, July 1985.

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**EXHIBIT 8**

**LIST OF AGENCIES**

**GOVERNMENTAL AGENCY REQUIREMENTS FOR SITING AND CONSTRUCTION  
HIGHLAND - LOGANS FERRY 345 kV TRANSMISSION LINE PROJECT**

Agency	Requirement	Document	Submission Date
<b>Federal</b>			
U.S. Army Corps of Engineers	Section 404 Permit	GP-8 Registration	09/30/09
U.S. Fish and Wildlife Service	Endangered Species Act Coordination	Coordination Letters, PNDI Review	01/05/10; 08/28/09; 10/26/07; 05/06/05
<b>State</b>			
Pennsylvania Department of Environmental Protection	Chapter 105 Permit	GP-8 Registration	09/30/09
Pennsylvania Department of Environmental Protection	PAG-2 NPDES Permit	Notice of Intent and Erosion and Sediment Pollution Control Plan; Post-Construction Stormwater Management Plan	09/30/09
Pennsylvania Department of Conservation and Natural Resources	Endangered and Threatened Species Coordination	Coordination Letters	01/5/10; 08/28/09; 10/26/07; 05/06/05
Pennsylvania Game Commission	Endangered and Threatened Species Coordination	Coordination Letters	01/5/10; 08/28/09; 10/26/07; 5/06/05
Pennsylvania Fish and Boat Commission	Endangered and Threatened Species Coordination	Coordination Letters	01/5/10; 08/28/09; 10/26/07; 05/6/05
Pennsylvania Historic and Museum Commission - Bureau of Historic Preservation	Section 106 Consultation	Coordination Letter and Supporting Documentation	Anticipated 01/10
Pennsylvania Turnpike Commission	Crossing Agreement		
<b>Local</b>			
Allegheny County Conservation District	PAG-2 NPDES Permit	Notice of Intent and Erosion and Sediment Pollution Control Plan; Post-Construction Stormwater Management Plan	09/30/09
Allegheny County	Act 14, 67 and 68 Coordination	Notification Letter	09/18/09
City of Pittsburgh	Act 14	Notification Letter	Anticipated 02/10
Borough of Plum	Act 14	Notification Letter	09/18/09
Borough of Verona	Act 14	Notification Letter	09/18/09
Municipality of Penn Hills	Act 14	Notification Letter	09/18/09

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