

**BEFORE THE**  
**PENNSYLVANIA PUBLIC UTILITY COMMISSION**

<b>IN RE: APPLICATION OF TRANS-ALLEGHENY</b>	<b>:</b>	
<b>INTERSTATE LINE COMPANY FOR</b>	<b>:</b>	
<b>(I) A CERTIFICATE OF PUBLIC CONVENIENCE</b>	<b>:</b>	
<b>TO OFFER, RENDER, FURNISH AND/OR</b>	<b>:</b>	
<b>SUPPLY TRANSMISSION SERVICE IN THE</b>	<b>:</b>	
<b>COMMONWEALTH OF PENNSYLVANIA;</b>	<b>:</b>	
<b>(II) AUTHORIZATION AND CERTIFICATION</b>	<b>:</b>	
<b>TO LOCATE, CONSTRUCT, OPERATE AND</b>	<b>:</b>	<b>Docket Nos. A-110172</b>
<b>MAINTAIN CERTAIN HIGH VOLTAGE ELECTRIC</b>	<b>:</b>	<b>A-110172F0002</b>
<b>TRANSMISSION LINES AND RELATED ELECTRIC</b>	<b>:</b>	<b>A-110172F0003</b>
<b>SUBSTATION FACILITIES; (III) AUTHORITY</b>	<b>:</b>	<b>A-110172F0004</b>
<b>TO EXERCISE THE POWER OF EMINENT</b>	<b>:</b>	<b>G-00071229</b>
<b>DOMAIN FOR THE CONSTRUCTION AND</b>	<b>:</b>	
<b>INSTALLATION OF AERIAL ELECTRIC</b>	<b>:</b>	
<b>TRANSMISSION FACILITIES ALONG THE</b>	<b>:</b>	
<b>PROPOSED TRANSMISSION LINE ROUTES</b>	<b>:</b>	
<b>IN PENNSYLVANIA; (IV) APPROVAL OF AN</b>	<b>:</b>	
<b>EXEMPTION FROM MUNICIPAL ZONING</b>	<b>:</b>	
<b>REGULATION WITH RESPECT TO THE</b>	<b>:</b>	
<b>CONSTRUCTION OF BUILDINGS; AND</b>	<b>:</b>	
<b>(V) APPROVAL OF CERTAIN RELATED</b>	<b>:</b>	
<b>AFFILIATED INTEREST ARRANGEMENTS</b>	<b>:</b>	

**DIRECT TESTIMONY OF**  
**JACK HALPERN**

**Re: Identification and Description of the Proposed Route of TrAIL**

**April 13, 2007**

1 Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

2 A. My name is Jack Halpern, and my business address is 4511 South Ocean  
3 Boulevard, Suite 507, Highland Beach, Florida 33487.

4  
5 DUTIES AND RESPONSIBILITIES

6 Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?

7 A. I am employed by The Louis Berger Group, Inc. (“Berger”), a leading  
8 infrastructure engineering, environmental science and economic development  
9 firm with over 140 offices across the United States and throughout the world.  
10 Berger was retained as a consultant on behalf of Trans-Allegheny Interstate Line  
11 Company (“TrAILCo”) to perform route selection for the Prexy Segment, the  
12 Prexy 138 kV Lines, and the Pennsylvania 502 Junction Segment (collectively the  
13 “Pennsylvania Segments”), the West Virginia Segments, and the Virginia state  
14 line to Meadow Brook segment of the Trans-Allegheny Interstate Line (“TrAIL”).  
15 I am the project director for Berger for this evaluation.

16  
17 EXPERIENCE AND EDUCATION

18 Q. PLEASE DESCRIBE YOUR PROFESSIONAL EXPERIENCE AND  
19 EDUCATIONAL BACKGROUND.

20 A. I have a Bachelor’s degree in Mining Engineering from the University of Missouri  
21 at Rolla and a Masters Degree in Geotechnical Engineering from Columbia  
22 University. I had completed the work, including a dissertation, for a Ph.D. in  
23 Geotechnical Engineering from the University of Missouri at Rolla when I was  
24 called up for military service. I later received an honorary degree from the

1 University of Missouri at Rolla. I have had advance training at the Westinghouse  
2 International School for Environmental Management. I have consulted for the  
3 power industry on siting, permitting, geotechnical engineering and construction of  
4 generation and transmission facilities for the last forty years. I have participated or  
5 directed over one hundred siting or routing projects throughout the United States  
6 and in other countries. I have specifically worked on over 5,000 miles of  
7 transmission line projects, from route selection to permitting to foundation design  
8 to construction support. I have been chosen to represent the United States in  
9 development of the first international guideline for siting nuclear facilities. I have  
10 taught courses on siting and environmental issues from one day to eight weeks in  
11 length. I have specific experience in the PJM Interconnection, L.L.C. ("PJM")  
12 grid working on a number of transmission projects, including Atlantic City  
13 Electric Company's New Freedom to Cardiff Line and Jersey Central Power &  
14 Light Company's Seashore Loop.

15  
16 PURPOSE OF TESTIMONY

17 Q. PLEASE DESCRIBE THE PURPOSE OF YOUR TESTIMONY.

18 A. The purpose of my testimony is to sponsor and explain the report that describes  
19 what route has been recommended for TrAIL and why that particular route has  
20 been selected.

21 Q. WILL THE USE OF VARIOUS TERMS IN YOUR TESTIMONY BE  
22 CONSISTENT WITH THE DEFINITIONS ASSIGNED TO THOSE TERMS IN

1 THE TABLE OF NOMENCLATURE ATTACHED TO TRAILCO WITNESS  
2 FLITMAN'S TESTIMONY AS TRAILCO EXHIBIT DEF-1?

3 A. Yes. However, I may define additional terms in this testimony.

4  
5

EXHIBITS

6 Q. ARE YOU SPONSORING ANY EXHIBITS IN THIS CASE?

7 A. Yes. TrAILCo Exhibit JH-1 attached to my testimony is the Route Evaluation  
8 Report and Environmental Report (Line Route Evaluation, or "LRE") for the  
9 Pennsylvania Segments of TrAIL prepared by the Berger Team (as defined  
10 below) under my direction and the supervision of TrAILCo witness Fleissner.

11  
12

DESCRIPTION OF ROUTE SELECTED

13 Q. PLEASE BRIEFLY EXPLAIN BERGER'S ROLE IN STUDYING POSSIBLE  
14 ROUTES FOR TRAIL.

15 A. Berger, in an alliance with Commonwealth Associates, Inc. (collectively the  
16 "Berger Team") was retained on behalf of TrAILCo to perform route selection  
17 studies and assess the potential environmental impacts of the routes selected for  
18 each of six transmission line segments of TrAIL. The Berger Team's route  
19 selection studies and analysis of potential impacts included the study of Geology  
20 and Soils, Surface Water Resources and Aquatic Species/Habitats, Wetlands,  
21 Vegetation, Wildlife and Sensitive Species, Land Use, Recreation Lands and  
22 Designated Natural Scenic Resources, Cultural Resources, and Aesthetics.  
23 Additionally, the Berger Team assisted TrAILCo in conducting public outreach  
24 by providing documents, maps and displays for public meetings, attending these

1 meetings to assist in gathering public input and summarizing public comments  
2 received at the open house meetings. Ultimately, the routing team's efforts on the  
3 route evaluation study and environmental assessment resulted in the final route  
4 recommendation presented in the LRE.

5 Q. PLEASE DESCRIBE THE ROUTE THAT THE BERGER TEAM HAS  
6 RECOMMENDED.

7 A. As set forth in the LRE, TrAILCo proposed the construction of a 500-kilovolt  
8 ("kV") transmission line connecting: the proposed Prexy Substation in  
9 Washington County, Pennsylvania; the proposed 502 Junction Substation in  
10 Greene County, Pennsylvania; the existing Mt. Storm Substation in Grant County,  
11 West Virginia; and the existing Meadow Brook Substation in Frederick County,  
12 Virginia. From the Meadow Brook Substation, the line would continue in the  
13 Virginia portion of the Allegheny Power transmission zone of PJM to its  
14 boundary with the Dominion Virginia Power transmission zone, where the  
15 responsibility for completing construction of the line into the Loudoun Substation  
16 in Loudoun County, Virginia would change to Dominion Virginia Power. The  
17 length of the line to be constructed by TrAILCo was initially estimated at 210  
18 miles.

19 Q. WHAT IS THE APPROXIMATE LENGTH OF TRAIL AND ITS VARIOUS  
20 LINE COMPONENTS BASED ON THE PROPOSED ROUTE?

21 A. The preferred route for the 500-kV line as identified in the LRE is approximately  
22 180 miles in length. Three additional segments of 138-kV transmission lines in  
23 the Prexy area (the "Prexy 138 kV Lines") are also part of TrAIL. The preferred

1 routes for these lines as identified in the LRE are for an additional combined total  
2 of approximately 15 miles. Thus, from the Prexy Substation in Pennsylvania to  
3 the TrAIL End Point in Virginia, the entire TrAIL will be approximately 195  
4 miles in length including approximately five miles for the each of the additional  
5 138 kV lines in Pennsylvania. The Pennsylvania Segments (including the 15  
6 miles of 138 kV lines) will be approximately 53 miles. The Prexy Segment in  
7 Pennsylvania will be approximately 36 miles, and the Pennsylvania 502 Junction  
8 Segment is approximately 1.2 miles. The West Virginia Segments will be  
9 approximately 114 miles and the Virginia Segments are approximately 28 miles.  
10 From 502 Junction Substation to the TrAIL End Point, the line will be  
11 approximately 143 miles.

12 Q. WHERE IS THE ROUTE SET OUT IN THE LRE?

13 A. The LRE includes a detailed description of the Pennsylvania Segments and  
14 accompanying maps of the proposed right-of-way. The detailed text description  
15 of the 500 kV lines is presented in Chapter 3.2 (Description of the 500 kV  
16 Preferred Routes) for the Prexy and Pennsylvania 502 Junction Segments, along  
17 with maps. Chapter 4 (Environmental Analysis of the Preferred Route 500 kV  
18 Route) of the LRE also provides maps showing the locations, where information  
19 was publicly available, of incorporated communities; public or private  
20 recreational areas, parks, forests, hunting or fishing areas, or similar facilities;  
21 historic scenic areas or places; rivers, lakes, streams, reservoirs and similar bodies  
22 of water and airports within two miles of the nearest limit of the right-of-way. The  
23 detailed text descriptions of the Prexy 138 kV lines are presented in Sections 5.3,

1 6.3 and 7.3 (Preferred 138 kV Route Selection) for the Prexy-Manifold/Houston,  
2 Prexy-Union Jct./Peters and Prexy-Washington/Charleroi Lines. This information  
3 is responsive to the requirements of 52 Pa. Code (“Code”) §§ 57.72(c)(3), (c)(9)  
4 and (c)(13)(i).

5  
6 EXPLANATION OF ROUTE EVALUATION PROCESS

7 Q. DID THE BERGER TEAM ASSESS THE POTENTIAL ENVIRONMENTAL  
8 IMPACTS OF THE CONSTRUCTION OF THE PENNSYLVANIA  
9 SEGMENTS ALONG THE PROPOSED ROUTE?

10 A. Yes. As required by Code §§ 57.72(c)(7) and (8), Chapter 4 and Sections 5.4, 6.4  
11 and 7.4 of the LRE (Environmental Analysis of the Preferred Route) present  
12 detailed information on the potential for environmental impacts associated with  
13 the construction of the Pennsylvania Segments. This includes analysis of  
14 potential impacts on geology and soils, surface water and aquatic  
15 species/habitats, wetlands, vegetation, wildlife and sensitive species, land use,  
16 recreation lands and designated natural scenic resources, cultural resources and  
17 aesthetics. For the approximately 1.2 miles of the Pennsylvania 502 Junction  
18 Segment, the line route would cross a quarter mile of steep soils (*i.e.*, greater than  
19 20 degree slopes), there would be one small stream crossings, and no wetlands  
20 crossed., Slightly more than a mile of forest would be cleared for the right-of-  
21 way, there would be two residences within 500 feet of the centerline, and no  
22 historic (architectural) sites are within ¼ mile of the route. For the approximately  
23 36 miles of the Prexy Segment, less than 2 miles of the proposed line route would

1 be on steep soils (*i.e.*, greater than 20 degree slopes), there would be three large  
2 river and 34 small stream crossings, a small amount of wetlands (approximately 1  
3 acre) crossed, approximately 2 miles of buffer zones around plant and natural  
4 community resources of special concern crossed, 448 acres of forest would be  
5 cleared for the right-of-way, 21 residences would be within 250 feet of the route  
6 centerline, 100 residences would be within 500 feet of the centerline, and five  
7 historic (architectural) sites would be within ¼ mile of the route. For the Prexy-  
8 Manifold/Houston Line, a minimal amount (less than 0.1 miles) of the proposed  
9 line route is on steep soils (*i.e.*, greater than 20 slopes), there would be no large  
10 river and 5 small stream crossings, no wetlands crossed, no buffer zones around  
11 plant and natural community resources of special concern would be crossed, 33  
12 acres of forest would be cleared for the right-of-way, 4 residences would be  
13 within 250 feet of the route centerline, 32 residences would be within 500 feet of  
14 the centerline, and 3 historic (architectural) sites would be within ¼ mile of the  
15 route. The Prexy-Union Jct./Peters Line has less than 0.1 miles of the proposed  
16 line route on steep soils (*i.e.*, greater than 20 degree slopes), there would be no  
17 large river and 8 small stream crossings, approximately 100 feet of wetlands  
18 crossed, no buffer zones surrounding plant and natural community resources of  
19 special concern would be crossed, 40 acres of forest would be cleared for the  
20 right-of-way, 3 residences would be within 250 feet of the route centerline, 24  
21 residences would be within 500 feet of the centerline, and no historic  
22 (architectural) sites would be within ¼ mile of the route. The Prexy-  
23 Washington/Charleroi Line has a minimal amount (*i.e.*, less than 0.1 miles) of the

1 proposed line route on steep soils (*i.e.*, greater than 20 slopes), there would be no  
2 large river and 5 small stream crossings, no wetlands crossed, no buffer zones  
3 surrounding plant and natural community resources of special concern would be  
4 crossed, 31 acres of forest would be cleared for the right-of-way, 4 residences  
5 would be within 250 feet of the route centerline, 27 residences would be within  
6 500 feet of the centerline, and no historic (architectural) sites would be within ¼  
7 mile of the route. Together with the information provided in the direct testimony  
8 of TrAILCo witness Bodenschatz, the information in Chapters 4, 5, 6 and 7 of the  
9 LRE describes the right-of-way generally, right-of-way vegetation control  
10 methods, habitat for land and aquatic life, and other pertinent information on  
11 potential environmental impact. As I discuss in more detail below, these impacts  
12 are less than those from the other possible routes that were examined.

13 Q. DID YOU SPECIFICALLY CONSIDER THE HABITAT AND TYPE OF  
14 WILDLIFE, BOTH LAND AND AQUATIC, THAT MAY BE IN THE RIGHT-  
15 OF-WAY OR ADJOINING AREAS, AND ANY KNOWN EFFECT THAT  
16 TRAIL MAY HAVE UPON THEM, INCLUDING FEEDING AND  
17 BREEDING HABITS?

18 A. Yes. Section 4.5 of the LRE (Wildlife and Sensitive Species) presents detailed  
19 descriptions of habitat and wildlife within or adjoining the Prexy Segment right-  
20 of-way. Specifically, Section 4.5.2 (Impacts on Wildlife and Sensitive  
21 Species/Habitats) describes possible impacts on habitat and type of wildlife that  
22 may be in the right-of-way or adjoining areas. This section also describes any  
23 known effect the line may have upon feeding or breeding habits.

1           The majority of the proposed route would require forest clearing for right-  
2 of-way construction. As a general rule, when a right-of-way would go through  
3 large relatively undisturbed tracks of forest, the right-of-way clearing would  
4 fragment the forest and create edge habitat. Although edge habitat provides  
5 habitat for a wide diversity and abundance of species, such as deer, songbirds,  
6 red-tailed hawks and red fox, species that require forest interior habitat would lose  
7 habitat, possibly altering distribution and migration patterns and isolating habitat  
8 patches.

9           For most of the length in forested areas, the proposed 200-foot wide right-  
10 of-way for the transmission line will be cleared to a width of 150 feet. The  
11 remaining 25 feet of the right-of way on both sides of these areas will not be  
12 cleared. Clearing will entail cutting of all trees and tall growing shrubs at the time  
13 of construction. Regular maintenance operations will prevent the re-growth of  
14 trees. Therefore, the cleared portion of the right-of-way will be removed from  
15 further forest production for the life of the transmission line.

16           For the Prexy-Manifold/Houston Line, approximately half of the proposed  
17 route requires forest clearing for right-of-way construction. If the right-of-way  
18 goes through large relatively undisturbed tracks of forest, the right-of-way  
19 clearing could fragment the forest and create edge habitat. The proposed line,  
20 however, would not go through any large contiguous tracks of forest; therefore,  
21 forest fragmentation would be minimal. Edge habitat provides habitat for a wide  
22 diversity and abundance of species that are adaptable and habitat generalists, such  
23 as deer, songbirds, raccoons, eastern chipmunks, red-tailed hawks and red fox.

1 Because the majority of forest crossed by the proposed line would cross through  
2 “edge forest”, the existing edge species in the area of clearing would continue to  
3 have suitable habitat following right-of-way construction.

4 Wildlife habitat crossed by the proposed Prexy-Union Jct./Peters and  
5 Prexy-Washington/Charleroi Lines is similar, with mostly patches of upland  
6 deciduous forest interspersed with herbaceous pasture, developed land, and  
7 cropland. Although the proposed route crosses habitat for a wide diversity of  
8 wildlife species, there are no known special breeding or feeding habitats.  
9 Additionally, because of development and agriculture, interior forest habitat is  
10 generally lacking in Washington County. The forest habitat crossed by the  
11 proposed line is classified as “edge forest”, meaning it is within 300 feet of a  
12 forest edge. The implementation of Class III clearing within 100 feet of streams –  
13 see Section 4.4.2 of the LRE (Impacts on Vegetation) – would also minimize  
14 impacts to riparian wildlife species because Class III clearing allows some  
15 shrubby/woody vegetation to remain in the right-of-way.

16 Q. WILL THE CONSTRUCTION OF TRAIL HAVE ANY MATERIAL  
17 ADVERSE EFFECTS UPON HUMAN AND DOMESTIC ANIMAL LIFE  
18 LOCATED ALONG THE RIGHT-OF-WAY?

19 A. Domestic animal life could potentially be affected by vegetation maintenance  
20 which includes herbicide/pesticide application and mechanical methods such as  
21 cutting and mowing. Selective herbicide use is the preferred method of  
22 eliminating unwanted woody vegetation, while allowing grasses, weeds, and ferns  
23 to continue to grow. Herbicide application will abide by all applicable federal,

1 state, and local laws and regulations, including U.S. Department of Agriculture,  
2 Pennsylvania Department of Agriculture and the Environmental Protection  
3 Agency (“EPA”). TrAILCo will maintain herbicide-free buffer zones around:  
4 houses and barns (50 feet); ponds, lakes, and year-round flowing water (25-feet);  
5 gardens, farm crops, grape arbors, ornamental trees, flower gardens, and  
6 cultivated fruit and nut trees (100-feet), and tobacco farms (500-feet) so there  
7 would be no effect on domestic animals.

8 Human life would primarily be affected by visual intrusion. The  
9 transmission line structures, conductors, and the cleared right-of-way will be  
10 visible in varying degrees to area residents. The visual accessibility of the line  
11 will be influenced by a multitude of factors, such as the amount of screening, the  
12 amount of natural light present, the distance from the viewpoint to the line, the  
13 amount of other human disturbance in the viewshed, background terrain and  
14 colors, the sensitivity of the viewer, and many other variables. Because the  
15 project area is extensively forested, an extensive amount of screening is already  
16 present, which should limit to a varying degree direct visual access to the  
17 proposed line. See LRE Section 4.9.2 (Impact on Visual Resources) for further  
18 details on the Prexy Segment, and Sections 5.4.9, 6.4.9 and 7.4.9 for visual  
19 impacts from the three 138 kV lines.

20 Hence, vegetation management should not materially affect domestic  
21 animals and visual intrusion should not materially affect human life. Other  
22 possible effects are discussed in the testimony of TrAILCo witnesses Bailey and  
23 Johnson.

1 Q. PLEASE DESCRIBE THE PUBLIC OUTREACH CONDUCTED WITH  
2 RESPECT TO THE ROUTE SELECTION AND THE PUBLIC INPUT  
3 RECEIVED.

4 A. Ten public open house meetings were held between November 28, 2006 and  
5 December 14, 2006 at locations throughout the TrAIL study area as listed in  
6 Section 2.6 of the LRE. These meetings were conducted to provide general  
7 information to the public about TrAIL, present preliminary results of the routing  
8 effort, and gather information from the public for use in the routing study. The  
9 public was informed about time requirements of the transmission line planning  
10 and approval process. TrAILCo specifically initiated the open house meetings to  
11 involve the public in the planning process through encouraging public comment  
12 on the project, its purpose and need, and providing some preliminary results. The  
13 public was informed that the open house meetings were supplementary to those  
14 that would later be mandated as part of the state utility regulatory process. Staff  
15 from TrAILCo and the Berger Team facilitated these meetings and worked  
16 together to provide information to meeting participants.

17 During and following the public open house meetings, individuals were  
18 encouraged to provide comments on the project through five methods: registration  
19 cards, questionnaires, handwritten comments on maps, letters, and emails. All of  
20 these comments were reviewed. Comments provided in handwritten notes on  
21 maps presented at the open house meetings were reviewed during additional field  
22 efforts and routing team meetings. Overall, the most common themes noted in  
23 public comments related to visual and aesthetic impacts of the proposed line, the

1 proximity of the line to individual residences and/or property, and the impact of  
2 line construction and operation on the study area environment.

3 Q. DID THE BERGER TEAM EXAMINE OTHER POTENTIAL ROUTES?

4 A. Yes. The LRE shows that TrAILCo and the Berger Team applied a rigorous and  
5 systematic approach to the assessment of available alternatives and, using a  
6 number of factors (including public feedback), identified the best route for the  
7 Pennsylvania Segments. The description of this process for the Prexy Segment is  
8 found generally in Chapters 2 and 3 of the LRE, and responds to the requirements  
9 of Code § 57.72(c)(10). The descriptions of the analyses for the 138 kV lines are  
10 presented in the first three sections of Chapters 5, 6 and 7.

11 *Potential Routes*, as defined in the LRE, were first identified and studied  
12 by the routing team. Where the routes intersected, *Links*, also as defined in the  
13 LRE, were formed as the segment of the route between intersections. The *Links*  
14 were numbered for identification. The *Link* numbers changed as the study  
15 progressed and new *Links* were added or deleted. Eventually the better *Links*  
16 were assembled into the best routes for quantitative analysis. Following the open  
17 house meetings and review of attendee comments, a series of alternative routes  
18 were developed from the potential route network by the routing team. Section  
19 2.11 of the LRE (Analysis of Alternate 500 kV Routes) presents details of the  
20 alternatives identified, as well as maps for each possible alternative. Some of the  
21 environmental factors considered in this evaluation included: overall length of the  
22 *Link*, length of the *Link* on resources such as state game lands and steep soils, the  
23 number of stream crossings, and proximity of features such as residences, historic

1 sites, threatened and endangered species sites, and other factors. During this  
2 review, the number of *Links* was greatly reduced.

3 Following this review, the remaining *Links* were renumbered and appear  
4 as the Alternative Route network shown in Figure 2-2 in the LRE. From this  
5 network, four Alternative Routes, Routes A through D, were identified for  
6 detailed analysis between the 502 Junction Substation site and the Prexy  
7 Substation site (LRE Figure 2-3). Between the 502 Junction Substation site and  
8 the Mt. Storm Substation, eight Alternative Routes (Routes A through H) were  
9 identified. These eight routes utilized three different alignments in Pennsylvania  
10 for the 502 Junction Segment, ranging from 1.2 miles to 13.4 miles in length.

11 The routing team identified two routes, Alternative Routes A and B (LRE  
12 Figure 5-2), to connect the Prexy Substation site to the existing Manifold-Houston  
13 transmission line. The routing study and review of right-of-way records held by  
14 Allegheny Power further resulted in the development of three alternative routes  
15 for the Prexy-Union Jct./Peters Line. Two of these routes employ unused right-  
16 of-way easements purchased in the 1970's at the time that the Prexy Substation  
17 site was purchased. Two alternative routes were identified for the Prexy-  
18 Washington/Charleroi Line. Alternative Route A also employs a segment of  
19 unused right-of-way purchased by Allegheny Power in the 1970's when the Prexy  
20 Substation site was purchased. Alternative Route B was developed by the routing  
21 team.

1 Q. WHAT ROUTE WAS SELECTED, AND WHY?

2 A. The Pennsylvania portion of the 502 Junction-Mt Storm 500 kV routing study was  
3 evaluated as part of the overall routing effort in both West Virginia and  
4 Pennsylvania. Because most of the approximately 68 mile route was located in  
5 West Virginia, and because of the need to avoid extensive developments  
6 immediately south of Pennsylvania in the area of Morgantown, West Virginia, the  
7 alignment in Pennsylvania was selected primarily based on the routing of the  
8 West Virginia line. Between the 502 Junction Substation site and the Mt. Storm  
9 Substation, eight Alternative Routes (Routes A through H) were identified. These  
10 eight routes utilized three different alignments in Pennsylvania ranging from 1.2  
11 miles to 13.4 miles in length. Because these alignments have widely varying  
12 lengths and would have widely varying effects on Pennsylvania resources, it  
13 would be unreasonable to compare the Pennsylvania portions of these alternatives  
14 in isolation from the overall context of the complete route between the 502  
15 Junction Substation Site and the Mount Storm Substation.

16 Alternative Route H was ultimately recommended by the routing team for  
17 the Preferred Route for the 502 Junction Substation site-Mt Storm Substation 500  
18 kV transmission line. Therefore, in Pennsylvania the 1.2-mile alignment to the  
19 south from the 502 Junction Substation became the Preferred Route between the  
20 502 Junction Substation site and the West Virginia state line. This was the  
21 shortest of the Pennsylvania 502 Junction Segment alternatives.

1           The routing team recommended Alternative Route C as the Preferred Route  
2 for the proposed 502 Junction Substation-Prexy Substation 500 kV transmission  
3 line for the following reasons:

- 4           • Route C crosses the least amount of the Pennsylvania State Game Lands.  
5
- 6           • Route C crosses the least amount of forested lands and would therefore  
7 require less clearing of forested land.  
8
- 9           • Route C is comparatively moderate in terms of impacts to steep soils,  
10 cultivated cropland and developed land.  
11
- 12          • Route C would place the line primarily on the right-of-way previously  
13 acquired in the 1970s for a 500 kV transmission line.  
14

15           Approximately 94 percent of Route C is on the previously acquired but never  
16 used right-of-way intended specifically for a 500 kV transmission line. Field  
17 observations and study of aerial photography indicate that few property owners  
18 have placed new developments or otherwise encroached on this right-of-way.

19           For the Prexy-Manifold/Houston Line, the routing team recommended  
20 Alternative Route A as the Preferred Route for the following reasons:

- 21          • Route A crosses the least amount of forested lands and would require less  
22 clearing.  
23
- 24          • Route A avoids what appears to be a rapidly developing commercial area  
25 along US Highway 19 south of Racetrack Road.  
26
- 27          • Route A would place the line primarily on the right-of-way previously  
28 acquired by Allegheny Power for a 138 kV transmission line.  
29

30           Approximately 76 percent of Route A is on the previously acquired but never  
31 used right-of-way intended specifically for a 138 kV transmission line.  
32           Developments have not generally encroached on the existing right-of-way.

1 For the Prexy-Union Jct./Peters Line, the routing team recommended

2 Alternative Route C as the Preferred Route for the following reasons:

- 3 • Route C has the least number of residences within 500 feet of the route  
4 centerline compared to the other routes.
- 5
- 6 • Route C would not require the removal of any residences.  
7
- 8 • Approximately 83 percent of the length of Route C is on an unused right-  
9 of-way acquired by Allegheny Power for a 138 kV line.  
10

11 Developments have not generally encroached on the existing right-of-way. Future  
12 development plans are already limited in terms of the types of buildings or other  
13 developments that can be placed on the right-of-way.

14 With respect to the Prexy-Washington/Charleroi Line, the routing team  
15 recommended Alternative Route A as the Preferred Route for the following  
16 reasons:

- 17 • Route A would parallel the future 500 kV line.  
18
- 19 • 100 percent of the length of Route A is on an unused right-of-way  
20 acquired by Allegheny Power for several 138 kV lines and for a 500 kV  
21 line.

22 Observations in the area indicate that developments have not generally  
23 encroached on the existing right-of-way.

24 Q. BASED UPON YOUR EXPERIENCE AND EXPERTISE, DOES THE LRE  
25 CONSTITUTE A REASONABLE, THOROUGH STUDY CONSISTENT  
26 WITH CURRENT SITING METHODS?

27 A. Yes. Over a study period of five months, numerous potential routes were  
28 developed by the routing team and analyzed using existing aerial photography  
29 and maps, from information gained from field inspections and public meetings,

1 from governmental agency contacts, and from numerous computerized data  
2 sources. The study conducted by Berger Team utilized the latest technologies  
3 available for data acquisition and manipulation. Ultimately, multiple Alternative  
4 Routes were identified for the Prexy 138 kV Lines, Prexy and Pennsylvania 502  
5 Junction Segments. These routes were analyzed using a wide range of  
6 environmental and cultural factors to determine the best alignment for the  
7 transmission line in terms of minimizing impacts to the natural and cultural  
8 environment. The LRE represents a study consistent with current siting methods.

9 Q. IN YOUR EXPERT OPINION, IS THE ROUTE RECOMMENDED IN THE  
10 LRE THE APPROPRIATE ROUTE FOR TRAIL?

11 A. Yes. With respect to the Prexy to 502 Junction Line, as detailed above, the  
12 routing team selected Alternative Route C because Route C crosses a smaller  
13 amount of wetlands, the least amount of the Pennsylvania State Game Lands, the  
14 least amount of forested lands and thus would require less clearing of forested  
15 land. Route C is comparatively moderate in terms of impacts to steep soils,  
16 cultivated cropland, and developed land. Hence, this route is the appropriate  
17 route for TrAIL.

18 For the 502 Junction to West Virginia Line, Alternative Route H was  
19 ultimately recommended by the routing team for the Preferred Route in West  
20 Virginia. Therefore in Pennsylvania, the 1.2-mile alignment to the south from the  
21 502 Junction Substation became the Preferred Route between the 502 Junction  
22 Substation site and the West Virginia state line to tie in to the West Virginia  
23 Segments.

1           As to the Prexy-Manifold/Houston Line, the routing team recommended  
2           Alternative Route A as the Preferred Route because Route A crosses the least  
3           amount of forested lands, and would require less clearing. This route also avoids  
4           what appears to be a rapidly developing commercial area along US Highway 19  
5           south of Racetrack Road.

6           For the Prexy-Union Jct./Peters Line, the routing team recommended  
7           Alternative Route C because it has the least number of residences within 500 feet  
8           of the route centerline. Route C also would not require the removal of any  
9           residences.

10           Finally, looking at the Prexy-Washington/Charleroi Line, the routing team  
11           recommended Alternative Route A as the Preferred Route because it would  
12           parallel the future 500 kV line and 100 percent of the route is on an unused right-  
13           of-way acquired by Allegheny Power.

14    Q.    DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

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