

**BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION**

Application of Transource Pennsylvania, LLC :
filed Pursuant to 52 Pa. Code Chapter 57, : Docket No. A-2017-_____
Subchapter G, for Approval of the Siting and :
Construction of the 230 kV Transmission Line :
Associated with the **Independence Energy** :
Connection-East Project in Portions of York :
County, Pennsylvania :

**Transource Pennsylvania, LLC
Independence Energy Connection-East Project**

Statement No. 4

**Written Direct Testimony of
Barry A. Baker**

**Topics Addressed: Summary of the Siting Study for the IEC-East Project;
and
Selection of the Proposed Route for the IEC-East
Project.**

1 **I. INTRODUCTION**

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

3 A. My name is Barry Alan Baker. My business address is 625 West Ridge Pike, Suite E-
4 100, Conshohocken, PA 19428.

5

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

7 A. I am employed by AECOM Corporation as an Associate Vice-President and Department
8 Manager for the Natural Resources Department and also serve as a Technical Lead in the
9 AECOM U.S. Transmission & Distribution and Impact Assessment & Permitting
10 practices.

11

12 **Q. What are your principal responsibilities in these positions?**

13 A. In these roles I am a Certified Project Manager and manage projects for siting and
14 permitting of new transmission lines, power plants, and other facilities. I manage a
15 Department of approximately sixty (60) individuals responsible for environmental and
16 information technology services. Additionally I serve as a Technical Lead for
17 Transmission & Distribution and Impact Assessment & Permitting services on the east
18 coast of the United States.

19

20 **Q. Please explain what AECOM does in the context of transmission projects.**

21 A. AECOM provides comprehensive, life cycle services for transmission and distribution
22 projects, from alternative route analyses, licensing and permitting, conceptual
23 engineering, right-of-way services, and public involvement to detailed engineering and

1 design, geotechnical engineering and subsurface investigation, site preparation,
2 construction management, and regulatory compliance.

3
4 **Q. Please provide a summary of your education and professional work experience.**

5 A. I received a Bachelor of Science with Honors degree in Environmental Science from the
6 University of East Anglia in Norwich, England in 1996. A key focus was on the use of
7 GIS and computer applications for environmental problem solving.

8 I have been employed by AECOM for the last eleven years in the roles previously
9 discussed. In these positions I have been responsible for siting studies both as a Project
10 Manager and as a technical lead for transmission line siting as well as new power
11 development throughout the northeast region of the U.S., including: PA, NJ, MD, NY,
12 CT, OH, IL, VA, DE, and MA. I also manage the Pennsylvania Area Impact Assessment
13 & Permitting Department where I am responsible for a team of biologists, ecologists, and
14 GIS specialists. Additionally, I am an AECOM Technical Lead designated for
15 supporting and developing major transmission opportunities on the U.S. East Coast with
16 a focus in the northeast. Prior to joining AECOM, I held GIS and environmental
17 development positions for other environmental and government consultants.

18
19 **Q. Have you previously testified in public utility commission proceedings?**

20 A. Yes, I have provided siting testimony before the Pennsylvania Public Utility Commission
21 (“Commission” or “PUC”). I have also provided siting testimony before the New Jersey
22 Board of Public Utilities.

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

2 A. My testimony provides a summary of the Siting Study and explains the selection of the
3 proposed route for the Furnace Run-Conastone 230 kV Transmission Line associated
4 with the Independence Energy Connection-East Project (hereinafter, the “IEC-East
5 Project”).

6

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

9 A. Yes. I am sponsoring certain attachments to Transource PA, LLC’s (Transource PA)
10 IEC-East Siting Application. Specifically, I am responsible for portions of the following
11 attachments to the Siting Application:

- 12 • Attachment 1 PUC Cross-Reference
- 13 • Attachment 3 Siting Study
- 14 • Attachment 7 List of Government Agencies
- 15 • Attachment 8 Government Agencies Contacted
- 16 • Attachment 12 Agency Coordination

17 I was integrally involved in preparing these attachments to the Siting Application and
18 providing oversight to AECOM technical staff that were involved with their preparation.
19 I also provided review for the complete Siting Application prior to assembly and
20 submission to the Commission.

21

22 **Q. What are your responsibilities in connection with the IEC-East Project?**

23 A. Transource PA retained AECOM to prepare a Siting Study for the development and
24 evaluation of Alternative Routes and selection of the Proposed Route for the IEC-East

1 Project. I led the team that conducted the Siting Study for the IEC-East Project. I was
2 integrally involved in preparing various attachments to the IEC-East Project Application,
3 most notably Attachment 3 - Siting Study. In this capacity, I reviewed and provided
4 oversight on all items prepared, coordinated and managed all team members, technical
5 experts and writers, and helped assemble the document submitted to the Commission.

6
7 **Q. Please provide an overview of the project.**

8 A. As explained in the written direct testimony of Company witness Mr. Kamran Ali
9 (Transource PA Statement No. 2) and Mr. Paul F. McGlynn (Transource PA Statement
10 No. 3), PJM identified a need to alleviate transmission congestion constraints in
11 Pennsylvania, Maryland, West Virginia, and Virginia. To address these congestion
12 constraints, PJM approved "Project 9A" as Baseline Upgrade Numbers b2743 and b2752.
13 The IEC Project is a major component of the PJM-approved Project 9A.¹

14 The IEC Project approved by PJM involves: (i) construction of two new
15 substations in Pennsylvania, the Rice Substation and the Furnace Run Substation; and (ii)
16 construction of two new overhead double-circuit 230 kV interstate transmission lines, the
17 Rice-Ringgold 230 kV Transmission Line and the Furnace Run-Conastone 230 kV
18 Transmission Line.

19 Upon receipt of all necessary approvals, the new Rice-Ringgold 230 kV
20 Transmission Line will extend approximately 29 miles, connecting the existing Ringgold
21 Substation located near Smithsburg, Washington County, Maryland, and the new Rice

¹ Project 9A also involves upgrades at existing transmission facilities in Pennsylvania and Maryland, which are the responsibility of other incumbent entities. The upgrades to existing facilities, while not part of the IEC Project, are inter-dependent components of the solution approved by PJM, and are described in more detail in Mr. Ali's testimony (Transource PA Statement No. 2).

1 Substation to be located in Franklin County, Pennsylvania. This transmission line project
2 is referred to as Independence Energy Connection-West Project (“IEC-West Project”)
3 and is the subject of a separately filed Siting Application.

4 Upon receipt of all necessary approvals, the new Furnace Run-Conastone 230 kV
5 Transmission Line will extend approximately 16 miles, connecting the existing
6 Conastone Substation located near Norrisville, Harford County, Maryland, and the new
7 Furnace Run Substation to be located in York County, Pennsylvania. This transmission
8 line project is referred to as Independence Energy Connection-West Project (“IEC-East
9 Project”) and is the subject of this Siting Application.

10 As further explained by Mr. Kamran Ali (Transource PA Statement No. 2),
11 Transource PA is obligated and responsible for the construction, ownership, maintenance,
12 and operation of the two new substations in Pennsylvania; and the Pennsylvania portion
13 of the two new interstate transmission lines between Maryland and Pennsylvania.
14 Transource PA’s affiliate, Transource Maryland, LLC (“Transource MD”), is obligated
15 and responsible for the construction, ownership, maintenance, and operation of the
16 Maryland portion of the two new interstate transmission lines between Maryland and
17 Pennsylvania.

18
19 **II. SITING STUDY**

20 **Q. Please describe the purpose of the Siting Study prepared for the IEC-East Project.**

21 A. The purpose of the Siting Study is to develop feasible Alternative Routes for the IEC-
22 East Project, evaluate potential impacts associated with these Alternative Routes, and
23 identify a Proposed Route to be constructed to meet the need for the IEC-East Project.

24 The Siting Study provides Transource PA with a means to assess the human/built

1 environment, natural environmental, and engineering variables associated with the
2 different Alternative Routes identified for a transmission line alignment that connects the
3 existing Conastone Substation located near Norrisville, Harford County, Maryland, and
4 the new Furnace Run Substation to be located in York County, Pennsylvania so that a
5 Proposed Route can be determined. A complete copy of the Siting Study, along with
6 supporting materials and maps, is provided as Attachment 3 to the Siting Application.

7
8 **Q. Please summarize the route development process used in the Siting Study.**

9 A. The Siting Team conducted a detailed siting analysis to determine a location for the IEC-
10 East Project that best balances human/built, environmental, and engineering
11 considerations. The route development process is inherently iterative with modifications
12 made throughout the siting analysis as a result of the identification of new constraints,
13 input from agencies, landowners, and other stakeholders, periodic re-assessment of routes
14 with respect to the siting criteria, and adjustments to the overall route network. This
15 analysis included the determination of a Study Area, the compilation of an environmental
16 inventory, identification and analysis of Alternative Routes and, finally, selection of a
17 Proposed Route.

18 *The first step in the route development process is to identify the Study Area. The*
19 *Study Area is the region in which transmission line route alternatives could be sited to*
20 *practicably meet the functional requirements of the project. The Study Area is selected*
21 *based on professional judgment, field reviews, the geographic characteristics of the*
22 *region, and the physical endpoints of the project (i.e., substation locations).*

1 Once the Study Area has been determined, the next step is to identify large area
2 constraints and opportunity features within the Study Area. These areas are typically
3 identified using a combination of readily available public data sources. The Siting Team
4 uses this information to first develop an array of Conceptual Routes for the project
5 adhering to a series of general siting and technical guidelines and factors.

6 Where two or more of these Conceptual Routes intersect, Study Segments are
7 formed between two common nodes or points of intersection. As the route development
8 process progresses, the Siting Team continues to evaluate new data and modifies, if
9 necessary, the Study Segments included in the network. Eventually, feasible Alternative
10 Routes are developed by assembling the Study Segments that best meet the siting
11 guidelines and factors into individual routes for analysis.

12 Alternative Routes are assessed and compared with land uses, natural and cultural
13 resources, human/built environment, and engineering and construction concerns.
14 Ultimately, through a quantitative and qualitative analysis and comparison of the
15 Alternate Routes, the Siting Team identifies a Proposed Route.

16 A detailed description of the sources of information used to develop data for the
17 Siting Study is provided in Appendix A of Attachment 3 to the Application. A detailed
18 description of the route development process used for the IEC-East Project is provided in
19 Section 2.0 of Attachment 3 to the Siting Application.

20
21 **Q. Please summarize the guidelines and factors used to identify and evaluate the**
22 **potential routes.**

1 A. The Siting Team used a series of general siting guidelines and factors to direct the
2 development, evaluation, and ultimate selection of the routes. The following guidelines
3 and factors were used to identify and evaluate routes:

- 4 • Consider parallel alignments along existing utility rights-of-way or other
5 infrastructure, such as roadways and railroads.
- 6 • Maximize the distance from residential dwellings, schools, daycare facilities,
7 hospitals, and other community facilities.
- 8 • Consider stakeholder input.
- 9 • Minimize visibility from federal and state listed scenic roadways and designated
10 scenic resources.
- 11 • Minimize conflict with designated public resource lands, recreation lands, nature
12 preserves, or other conservation areas.
- 13 • Minimize conflict with existing and approved future development and land uses.
- 14 • Minimize potential environmental and land use impacts by avoiding circuitous
15 routes.
- 16 • Minimize new crossings of large wetland complexes, critical habitat, and other
17 unique or distinct natural resources.
- 18 • Minimize habitat fragmentation and impacts on designated areas of biodiversity
19 concern.
- 20 • Avoid crossing hazardous waste sites or sites with active mineral extraction
21 activities.

22 Using these established routing guidelines, the Siting Team identified opportunity and
23 constraint features within the Study Area that would take advantage of existing corridors
24 to the extent practicable and minimize potential impacts to the natural and human (or
25 built) environment. Details of the opportunity and constraints used to develop Study
26 Segments are included in Section 3.3 of Attachment 3 to the Application.

27

28 **Q. Please describe how the Proposed Route is selected.**

1 A. Once the feasible Alternative Routes were identified, the Siting Team undertook a
2 quantitative and qualitative analysis of potential impacts of each Alternative Route to
3 human/built environment, the natural environment and engineering considerations. The
4 Alternative Routes were reviewed in detail and compared using a combination of
5 information collected in the field, GIS data sources, public and regulatory input, resource
6 documents referenced in the Siting Study, engineering considerations, and the collective
7 knowledge and experience of the Siting Team.

8 The goal of the quantitative and qualitative analysis is to select a suitable route for
9 the project that minimizes the overall impacts on land use and natural and cultural
10 resources while avoiding circuitous routes, extreme costs, and non-standard design
11 requirements. However, in practice, it is not usually possible to minimize all potential
12 impacts. There are often inherent tradeoffs in potential impacts to every siting decision.
13 For example, in heavily forested study areas, the route that avoids the most developed
14 areas will likely have the greatest amount of forest clearing, while the route that has the
15 least impact on vegetation and wildlife habitats often impacts more residences or farm
16 lands. Thus, an underlying goal of comparative analysis is to reach a reasonable balance
17 between minimizing potential impacts on one resource versus increasing the potential
18 impacts on another.

19 Using the quantitative and qualitative analysis described above, the Siting Team
20 selects a Proposed Route that, on balance, best minimizes the overall impacts of the
21 project. The rationale for selecting the Proposed Route is derived from the accumulation
22 of the siting decisions made throughout the process, the knowledge and experience of the

1 Siting Team, comments from the public and regulatory agencies, and the comparative
2 analysis of potential impacts of each Alternative Route.

3 A detailed description of the process used to select the Proposed Route for the
4 IEC- East Project is provided in Section 3.0 of Attachment 3 to the Application.

5
6 **Q. Was public outreach part of the route selection process?**

7 A. Yes. Transource PA conducted extensive outreach with the public throughout the siting
8 process. Transource conducted two rounds of public open houses during different phases
9 of the siting process to inform the public about the Project and obtain information from
10 landowners about their properties. The first round of open houses were held June 7-8,
11 2017, and focused on a wide network of Study Segments with the goal to obtain
12 information from the public to help modify, eliminate or add Study Segments. Following
13 the first round of open houses and subsequent qualitative and quantitative analysis, the
14 second round of open houses were held August 9-10, 2017, and focused on a refined set
15 of Study Segments.

16 The open houses were an open format where the public could attend at any time
17 during the scheduled hours for each open house. All attendees were given comment
18 cards, and were encouraged to identify the location of their residences, places of business,
19 property of concern, or other sensitive resources on the printed maps. After the public
20 open house, handwritten comments were digitized and entered into a GIS database. In
21 addition, all comment cards were entered into a database with the unique identifier so the
22 comment and the parcel could easily be correlated. A description of the public open

1 houses held for the IEC-East Project is provided in Section 2.5 of Attachment 3 to the
2 Siting Application.

3 In addition to the open houses, Transource established an IEC Project website
4 which was updated throughout the various phases of the siting process. The website
5 provided access to maps. Through the website, members of the general public could
6 submit comments about the Project or add points to the map to provide specific
7 information about resources or structures on their property. The IEC Project website also
8 offered the public the ability to virtually review the printed materials presented at the
9 open houses such as the explanatory boards and the large format Project maps.
10 Transource PA monitored the comments provided through the website and provided
11 answers to questions from the public. A description of the IEC Project website is
12 provided in Section 2.5.2 of Attachment 3 to the Siting Application.

13
14 **Q. Did Transource PA consider local comprehensive plans and zoning ordinances in
15 selecting the Proposed Route for the IEC-East Project?**

16 A. Yes. Preliminarily, I note that I have been advised by counsel for Transource PA that
17 public utility facilities, such as transmission lines and substations, are generally exempt
18 from local municipal authority. However, as required by the Commission's interim siting
19 guidelines found at 52 Pa. Code, § 69.1101 (2)(3) and § 69.3104 (1), local zoning
20 ordinances and comprehensive land use plans were reviewed by Transource PA to
21 evaluate the impact of the Proposed Route on these local ordinances and plans.
22 Transource PA evaluated the Proposed Route's consistency with the zoning ordinances
23 and comprehensive plans of the government entities through which the Proposed Route

1 would pass. Transource PA has also reviewed the IEC-East Project with representatives
2 of York County, Lower Chanceford Township, Fawn Township, and Hopewell Township
3 Planning Commissions. A discussion of Transource PA's review of the local zoning
4 ordinances and land use comprehensive plans is provided in Section 5.2.7 of Attachment
5 3 to the Siting Application.

6
7 **III. PROPOSED ROUTE**

8 **Q. Please describe the feasible Alternative Routes identified by the Siting Team for the**
9 **IEC-East Project.**

10 A. Using the siting process described above, the Siting Team identified three (3) Alternative
11 Routes for the IEC-East Project that were carried forward for further analysis to
12 determine a Proposed Route. These three Alternative Routes are illustrated in Figure 6 of
13 Attachment 3 and described in detail below.

14
15 **Alternative Route D (16.3 miles)**

- 16 • Alternative Route D will exit from the west side of the Furnace Run Substation and
17 extend for 0.4 mile west through portions of a forested area while paralleling an
18 existing (Yorkana-Face Rock 69 kV) de-energized transmission line.
- 19 • Turning to the south for 0.3 mile, the route will cross over the de-energized line;
20 traverse over agricultural lands, and cross Chanceford Road and Delta Road (SR 74).
- 21 • At this point, the route will extend for 3.0 miles to the southwest to Muddy Creek
22 Forks Road. The route will cross primarily open agricultural lands, but would span
23 the West Branch Toms Run (PADEP Trout Stocked Fishery [TSF] stream), two
24 unnamed tributaries to this stream, Walker Road and Good Road, an evergreen tree
25 farm, and several forested areas.
- 26 • After crossing Muddy Creek Forks Road, Alternative Route D extends southwest for
27 1.8 miles to Veach Road, crossing agricultural and forested lands, as well as spanning
28 the North Branch of Muddy Creek (PADEP Cold Water Fishery [CWF] stream).

1 Near the end of this section, the route crosses to the east side of High Rocks Road to
2 bypass around the residential community along Sparklin Springs Lane.

3 • Turning to the south, the route extends for 2.3 miles across mostly open agricultural
4 fields, but also crosses Muddy Creek Forks Road, Wheat Road, and travels through
5 forested areas that border the South Branch of Muddy Creek and two of its tributaries
6 (PADEP High Quality-Cold Water Fishery [HQ-CWF] stream) while also spanning
7 these streams.

8 • At this point, Alternative Route D turns sharply to the west and bends to the
9 southwest for 2.2 miles spanning again over the forest bordering South Branch of
10 Muddy Creek and two more tributaries, as well as crossing Blue Ball Road, Lutz
11 Road, and traversing open agricultural lands towards an intersection with an existing
12 transmission line (Manor-Conastone 230 kV).

13 • The route will then parallel the east side of the existing transmission line south for 1.3
14 miles crossing Woolen Mill Road (SR 851), Kilgore Road, Leibs Creek (HQ-CWF),
15 and traversing agricultural and forested lands. The alignment does bend to the east at
16 one section to avoid a residential structure located adjacent to the existing line.

17 • Continuing south, Alternative Route D turns away from the existing transmission line
18 and extends 2.0 miles across agricultural lands to the Pennsylvania/Maryland state
19 line. This section spans Anderson Road, Spring Valley Road, and Barrens Road (SR
20 24).

21 • Alternative Route D continues south for 0.9 mile through predominantly forested
22 lands that are in the Deer Creek watershed, a Maryland scenic waterway, crossing
23 two unnamed tributaries to the is stream and Long Corner Road.

24 • Turning sharply to the southeast, the route extends for 2.1 miles to the Conastone
25 Substation. Along this section, the route spans five tributaries to Deer Creek,
26 traverses through predominantly forested lands, and parallels a portion of an existing
27 transmission line (Conastone-Hunterstown-1 500 kV) that extends into the Conastone
28 Substation. This route will pass within close proximity to homes along Long Corner
29 Road.

30

31 **Alternative Route E (15.8 miles)**

32 • Alternative Route E exits from the west side of the Furnace Run Substation and
33 extends for 0.4 mile west through portions of a forested area while paralleling the
34 existing de-energized Yorkana-Face Rock 69 kV transmission line.

35 • Turning to the south for 0.2 mile, Alternative Route E will cross over the de-
36 energized line, traverse over agricultural lands, and cross Chanceford Road and SR
37 74.

- 1 • After crossing SR 74, Alternative Route E continues to travel south across an
2 agricultural field for another 0.3 mile. The route makes a turn to the southwest prior
3 to reaching a forested area.

- 4 • Alternative Route E continues on this trajectory for approximately 0.6 mile and
5 crosses Walker Road and East Branch Toms Run, which PADEP has identified as
6 Trout Stocking Fishery (TSF).

- 7 • After the stream crossing, Alternative Route E extends to the south-southwest and
8 travels approximately 1.2 miles. This section traverses agricultural fields, crosses
9 Fulton Road, a wooded area, and Reed Road prior to making a turn to the southeast.
10 This turn is necessary to avoid homes and structures on Good Road.

- 11 • Alternative Route E travels approximately 0.3 mile to the southeast, and then travels
12 another 0.3 mile to the southwest, prior to turning back and continuing toward the
13 southeast. This section is located within agricultural fields; crosses Stewart Road,
14 then parallels Good Road before turning and heading south.

- 15 • Heading generally south for approximately 1.5 miles, Alternative Route E continues
16 through agricultural fields with intermittent wooded areas. One stream is crossed,
17 West Branch Toms Run, which is designated TSF, as well as Downs Road prior to
18 reaching Zimmerman Road.

- 19 • Alternative Route E turns slightly southwest for approximately 0.4 mile crossing
20 Zimmerman Road and a forested area that contains Muddy Creek (TSF) and its
21 associated mapped wetlands.

- 22 • Reaching the edge of an agricultural field, the Proposed Route turns in a southerly
23 direction for 0.4 mile, through a wooded area and another agricultural field. Within
24 this field, the route makes a sharp turn to the southwest for 0.6 mile, crossing another
25 wooded area, New Park Road, and additional agricultural fields.

- 26 • After the agricultural field Alternative Route E travels 0.7 miles across a wooded area
27 with an unnamed stream designated as HQ-CWF, additional agricultural fields, and
28 Orchard Road.

- 29 • Alternative Route E makes a slight turn, but continues travelling in a southwesterly
30 direction for 0.8 miles. Another unnamed stream (HQ-CWF) is crossed prior to the
31 crossing of Alum Rock Road.

- 32 • Alternative Route E continues in a southwesterly direction for 0.7 miles crossing
33 Alum Rock Run (HQ-CWF) in a wooded area which includes state-mapped wetlands,
34 turning in a southerly direction prior to crossing Cedar Valley Road.

- 35 • Alternative Route E continues in a southerly direction for 1.5 miles across
36 agricultural fields, crossing Blue Ball Road, an unnamed HQ-CWF stream, Hollow
37 Road, and additional agricultural fields.

- 1 • Alternative Route E turns sharply to the west within an agricultural field and extends
2 for 1.3 miles toward a perpendicular crossing of a different unnamed HQ-CWF
3 stream, followed by a crossing of Davis Road, another unnamed HQ-CWF stream,
4 Woolen Mill Road, South Branch Muddy Creek (HQ-CWF), and agricultural fields.
- 5 • Alternative Route E crosses Woolen Mill Road (SR 851) and travels through open
6 agricultural fields and over one unnamed HQ-CWF stream prior to turning south.
- 7 • Alternative Route E extends to the southwest for 1.3 miles crossing open fields,
8 Hopewell Road, one unnamed HQ-CWF stream, then runs parallel to a tree line
9 within an agricultural field before turning sharply (at a point just north of Marsteller
10 Road (SR 2036) to the southwest.
- 11 • Approximately 0.2 miles after crossing Marsteller Road, Alternative Route E
12 traverses the Pennsylvania/Maryland State Line.
- 13 • Travelling straight to the southwest for 0.8 mile, Alternative Route E crosses Island
14 Branch stream as it continues to travel across agricultural fields, crossing Norrisville
15 Road (MD 23), a wooded area, and additional agricultural fields before turning
16 sharply to the southeast.
- 17 • After this turn, Alternative Route E travels 1.9 miles through open agricultural fields
18 and the various wooded areas that are interspersed within these fields; an unnamed
19 tributary to Deer Creek is crossed in this area as well as Church Lane. The route
20 avoids residences to the east and west as it travels southeast.
- 21 • Prior to reaching Jolly Acres Road, the route extends for 0.4 mile as it turns
22 southwest to parallel Jolly Acres Road, crosses Green Road, and then crosses Jolly
23 Acres Road, before finally turning into the northeast corner of the Conastone
24 Substation.

25

26 **Alternative Route F (15.9 miles)**

- 27 • Alternate Route F exits from the east side of the Furnace Run Substation travelling
28 approximately 0.5 mile through a forested area that includes a crossing of Furnace
29 Run (CWF); within the forested area, the route parallels the existing de-energized
30 Yorkana-Face Rock 69 kV transmission line.
- 31 • For approximately 1.7 miles, Alternative Route F travels south, first crossing over the
32 de-energized line, traversing agricultural lands, and crossing SR 74. This section of
33 Alternative Route F crosses Orson Run (TSF) and then Fisher Road.
- 34 • After crossing Fisher Road, the route extends for 1.3 miles south to Kennedy Road,
35 crossing Frosty Hill Road along a wooded area, and then turns southwest through the
36 wooded area and across an unnamed TSF stream. After the stream crossing, the route

- 1 continues travelling south and generally parallels the stream and wooded area while
2 primarily staying within agricultural fields.
- 3 • At Kennedy Road, the route jogs to the east across forest and agricultural lands for
4 0.4 mile to Piney Hill Road.
 - 5 • South of Piney Hill Road, the route extends 0.8 mile and enters a forested area
6 adjacent to Muddy Creek (TSF), which it spans, and then enters additional forested
7 areas on the south side of the stream prior to reaching an agricultural field and turning
8 sharply to the west.
 - 9 • The route follows the forest edge within the agricultural field for approximately 0.3
10 mile and then turns in a southerly direction for 0.5 mile where it crosses additional
11 agriculture fields, Tyson Road, and an unnamed TSF stream.
 - 12 • Alternative Route F takes a sharp turn to the west at the edge of an agricultural field.
13 The route travels generally west-southwest for approximately 2.0 miles, and traverses
14 wooded areas, fields, and several unnamed TSF and unnamed HQ-CWF streams.
15 State-mapped wetlands are associated with the streams as well as within a wooded
16 area that does not include a stream. This two-mile section also crosses Thorne Road,
17 New Park Road, Orchard Road, and Peach Tree Road.
 - 18 • Within an agricultural field just west of Peach Tree Road, Alternative Route F turns
19 south for 0.5 mile across an open field and spans a forest-lined unnamed TSF
20 tributary before turning southwest for 0.9 miles to extend across sections of
21 agricultural and forested lands, spanning Alum Creek Road and Alum Rock Run
22 (HQ-CWF), to reach Cedar Valley Road.
 - 23 • After crossing Cedar Valley Road, the route continues in a southwest trajectory for
24 1.9 miles to Woolen Mill Road (SR 851), crossing predominantly open agricultural
25 land and spanning the South Branch Muddy Creek (HQ-CWF) and an unnamed
26 tributary.
 - 27 • From Woolen Mill Road, Alternative Route F extends to the southwest for 1.8 miles
28 crossing open fields, Hopewell Road, one unnamed HQ-CWF stream, then runs
29 parallel to a tree line within an agricultural field before turning sharply (at a point just
30 north of Marsteller Road (SR 2036) to the southwest.
 - 31 • Approximately 0.2 miles after crossing Marsteller Road, the Proposed Route traverses
32 the Pennsylvania/Maryland State Line.
 - 33 • Travelling straight to the southwest for 0.8 mile, the Proposed Route crosses Island
34 Branch stream as it continues to travel across agricultural fields, crossing Norrisville
35 Road (MD 23), a wooded area, and additional agricultural fields before turning
36 sharply to the southeast.

- 1 • After this turn, the Proposed Route travels 1.9 miles through open agricultural fields
2 and the various wooded areas that are interspersed within these fields; an unnamed
3 tributary to Deer Creek is crossed in this area as well as Church Lane. The route
4 avoids residences to the east and west as it travels southeast.
- 5 • Prior to reaching Jolly Acres Road, the route extends for 0.4 mile as it turns
6 southwest to parallel Jolly Acres Road, crosses Green Road, and then crosses Jolly
7 Acres Road, before finally turning into the northeast corner of the Conastone
8 Substation.

9

10 **Q. What route was selected as the Proposed Route for the IEC-East Project?**

11 A. Based on a qualitative and quantitative review of information obtained from GIS data,
12 field reconnaissance, agency consultation and public outreach as well as engineering
13 considerations for the Project, the Siting Team selected Alternative Route E as the
14 Proposed Route.

15

16 **Q. Please explain why Alternative Route E was selected as the Proposed Route.**

17 A. The Proposed Route has an approximate length of 15.8 miles (approximately 12.7 miles
18 in Pennsylvania and approximately 3.1 miles in Maryland). Being a more direct
19 alignment between the Furnace Run and Conastone Substations, it will cross fewer
20 parcels (66) and impact less landowners (49) compared to the other alternatives. The
21 alignment minimizes impacts to communities within the Project Study Area by crossing
22 undeveloped lands away from these populated areas. As a result the Proposed Route has
23 the fewest residences within 500 feet (32), compared to the other alternatives.

24 This more direct route will also help minimize impacts to agricultural lands,
25 farming operations, and orchard areas since many of the alignments across these areas
26 were identified during early coordination with the landowners. Key requests during this
27 coordination were to span fields or parallel property lines or access roads where feasible,

1 and to provide specially engineered structures near orchards to allow the orchard trees to
2 remain in production under the ROW.

3 Environmentally, the Proposed Route would span the fewest streams (13) and
4 have minimal impact on riparian areas. As noted previously, streams and floodplains will
5 be crossed at right angles and spanned with structures typically placed outside these
6 regulated areas. Since several of the streams crossed will be HQ-designated waterways,
7 the construction of this alignment will involve additional stormwater permitting
8 requirements focused on the preservation of the water quality level. In terms of wetlands,
9 this alignment would cumulatively cross the least wetland area relative to the other
10 alternatives. Similar to streams and floodplains, wetland areas will be spanned to further
11 minimize potential impact.

12 The Proposed Route has the least amount of tree clearing and reduces the forest
13 fragmentation effects and potential impacts to T&E species that use forest habitats such
14 as T&E bat species. In terms of other potential T&E habitat areas, the Proposed Route
15 would span over one large natural area in Pennsylvania and two SSPRA areas in
16 Maryland. These same habitat areas are spanned by the other alternatives, with little
17 option for avoidance.

18 From an engineering perspective, the Proposed Route would span the most roads
19 (24) and involve more heavy angles (14). These engineering challenges are slightly
20 offset by the limited steep slopes along the alignment (1.5 miles). The alignment will
21 also not be within 1-mile of an airport or cross near any quarries.

1 A detailed explanation of the comparative analysis and selection of Alternative E
2 as the Proposed Route for the IEC-East Project is provided in Attachment 3 to the
3 Application.

4
5 **IV. COMPLIANCE WITH POTENTIAL PERMIT AND MITIGATION**
6 **REQUIREMENTS**

7 **Q. Please summarize Transource PA's efforts to minimize the anticipated impacts and**
8 **potential permit and mitigation requirements of the Proposed Route for the IEC-**
9 **East Project.**

10 **A.** Efforts were made during the siting process to minimize impacts on existing and future
11 land uses, as well as avoid sensitive natural resources such as wetlands and streams.
12 Where potential impacts are unavoidable, best management practices will be employed
13 and Transource PA will obtain and comply with any necessary permits.

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

22 A detailed discussion of Transource PA's efforts to minimize the anticipated
23 impacts and potential permit and mitigation requirements of the proposed IEC-East
24 Project is provided in Section 5.2 of Attachment 3 to the Siting Application, including

1 potential impacts to: land use; natural features; rare, threatened, and endangered species;
2 cultural resources; community features and conserved lands; and agency requirements
3 and permits.

4

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

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