**BEFORE THE**

**PENNSYLVANIA PUBLIC UTILITY COMMISSION**

Application of PPL Electric Utilities Corporation :

filed pursuant to 52 Pa.Code Chapter 57, :

Subchapter G, for approval of the siting and :

construction of transmission lines associated : A-2012-2340872

with the Northeast-Pocono Reliability Project :

in portions of Luzerne, Lackawanna, Monroe, :

and Wayne Counties, Pennsylvania :

 :

Petition of PPL Electric Utilities Corporation :

for a finding that a building to shelter control :

equipment at the North Pocono 230/69 kV :

Substation in Covington Township, : P-2012-2340871

Lackawanna County, Pennsylvania is :

reasonably necessary for the convenience :

or welfare of the public :

 :

Petition of PPL Electric Utilities Corporation :

for a finding that a building to shelter control :

equipment at the West Pocono 230/69 kV :

Substation in Buck Township, Luzerne : P-2012-2341105

County, Pennsylvania is reasonably necessary :

for the convenience or welfare of the public :

 :

Application of PPL Electric Utilities Corporation :

under 15 Pa.C.S. § 1511(c) for a finding and :

determination that the service to be furnished by :

the applicant through its proposed exercise of the :

power of eminent domain to acquire a certain :

portion of the lands of the property owners listed :

below for siting and construction of transmission :

lines associated with the proposed :

Northeast-Pocono Reliability Project in portions of :

Luzerne, Lackawanna, Monroe, and Wayne :

Counties, Pennsylvania is necessary or proper :

for the service, accommodation, convenience :

or safety of the public :

 :

John C. Justice and Linda S. Justice : A-2012-2341107

 :

Margaret G. Arthur and Barbara A. Saurman :

Trustees of the Residuary Trust of : A-2012-2341115

James C. Arthur :

 :

Anthony J. Lupas, Jr. and Lillian Lupas, :

John Lupas and Judy Lupas, : A-2012-2341118

Grace Lupas, Eugene A. Bartoli and :

Robert J. Frankelli :

 :

Ronald G. Sidovar and Gloria J. Sidovar : A-2012-2341120

 :

FR First Avenue Property Holding, LP : A-2012-2341123

 :

Transcontinental Gas Pipe Line Company, LLC : A-2013-2341208

 :

William Petrouleas and Joanna Petrouleas : A-2013-2341209

 :

Peter Palermo and Francine Palermo : A-2013-2341211

 :

Doanld Januszewski : A-2013-2341215

 :

International Consolidated Investment :

Company : A-2013-2341216

 :

Bradley D. Hummel : A-2013-2341220

 :

Michael Palermo and Joanne Palermo : A-2013-2341221

 :

John F. and Veronica Iskra : A-2013-2341233

 :

Michael A. Mitch and Sue K. Mitch : A-2013-2341234

 :

Clifton Acres, Inc. : A-2013-2341236

 :

Dietrich Hunting Club : A-2013-2341237

 :

NLMS, Inc. : A-2013-2341239

 :

Duke Realty 400 First Avenue :

Gouldsboro Holding, LLC : A-2013-2341241

 :

Ronald Solt : A-2013-2341249

 :

Edward R. Schultz : A-2013-2341253

 :

Donald W. Henderson and Louis Bellucci : A-2013-2341262

 :

Fr E2 Property Holding LP : A-2013-2341263

 :

Sylvester J. Coccia : A-2013-2341267

 :

Lawrence Duda : A-2013-2341271

 :

Blueberry Mountain Realty, LLC : A-2013-2344605

 :

Grumble Knot, LLC : A-2013-2344612

 :

Pennsylvania Glacial Till, LLC : A-2013-2344616

 :

 :

Joe and Vanessa Caparo :

 :

 v. : C-2011-2276731

 :

PPL Electric Utilities Corporation :

**RECOMMENDED DECISION**

Before

David A. Salapa

Administrative Law Judge

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I. INTRODUCTION

An electric utility is requesting authorization to construct new substations and transmission lines in northeastern Pennsylvania. Several parties oppose this request, challenging the necessity for the new facilities and arguing that the environmental damage that construction and maintenance of the new facilities will cause outweighs the need for the new facilities. This decision finds that the new facilities are necessary and that the electric utility has taken reasonable steps to minimize the environmental damage caused by the construction and maintenance of the facilities and authorizes the electric utility to construct the new facilities.

II. HISTORY OF THE PROCEEDING

On December 28, 2012, PPL Electric Utilities Corporation (PPL) filed an application with the Pennsylvania Public Utility Commission (Commission) for authority to construct transmission lines as part of its Northeast-Pocono Reliability Project. The Northeast-Pocono Reliability Project consists of several parts.

As part of the Northeast-Pocono Reliability Project, PPL will construct a new 230 kV transmission line, approximately 58 miles in length, through portions of Luzerne, Lackawanna, Monroe, and Wayne Counties. In addition, PPL will construct two new substations, the North Pocono Substation and the West Pocono Substation, in Covington Township, Lackawanna County and Buck Township, Luzerne County respectively. These two substations will be connected to the existing 230 kV transmission system by the new 58 mile long 230 kV transmission line. Finally, PPL will construct five new 138/69 kV lines totaling approximately 11.3 miles to connect the new North Pocono and West Pocono Substations to the existing 138/69 kV transmission system.

Also on December 28, 2012, in conjunction with its application for authority to construct the transmission lines associated with the Northeast-Pocono Reliability Project, PPL filed two petitions, pursuant to 52 Pa.Code § 5.41 and 53 P.S. § 10619. These petitions request that the Commission find that the buildings to shelter control equipment at the proposed North Pocono and West Pocono Substations are reasonably necessary for the convenience or welfare of the public and therefore exempt from any local zoning ordinance.

In Prehearing Order #1, dated January 8, 2013, I consolidated the application and two petitions for the purposes of discovery, litigation and decision. Prehearing Order #1 also set forth the procedural matters to be addressed at the prehearing conference to be held on March 6, 2013 at 10:00 a.m. in Hearing Room 3 of the Commonwealth Keystone Building in Harrisburg.

Also on December 28, 2012, PPL filed thirty-two applications requesting that the Commission make a finding and determination, pursuant to 15 Pa.C.S. § 1511(c), that the service to be furnished by PPL, through its proposed exercise of eminent domain to acquire portions of the lands of various property owners for the siting and construction of the Northeast-Pocono Reliability Project, is necessary or proper for the service, accommodation, convenience or safety of the public. The Commission docketed the applications as follows:

John C. Justice and Linda S. Justice A-2012-2341107

Three Griffins Enterprises, Inc. A-2012-2341114

 Margaret G. Arthur and Barbara A.

Saurman, Trustees of the Residuary

Trust of James C. Arthur A-2012-2341115

 Anthony J. Lupas, Jr. and Lillian Lupas,

John Lupas and Judy Lupas, Grace Lupas,

Eugene A. Bartoli and Robert J. Frankelli A-2012-2341118

 Ronald G. Sidovar and Gloria J. Sidovar A-2012-2341120

 FR First Avenue Property Holding, LP A-2012-2341123

 Transcontinental Gas Pipe Line Co., LLC A-2013-2341208

 William Petrouleas and Joanna Petrouleas A-2013-2341209

 Peter Palermo and Francine Palermo A-2013-2341211

 Christopher Maros and Melinda Maros A-2013-2341213

 Dianne L. Doss A-2013-2341214

 Donald Januszewski A-2013-2341215

 International Consolidated Investment

Company A-2013-2341216

 Bradley D. Hummel A-2013-2341220

 Michael Palermo and Joanne Palermo A-2013-2341221

 Roberta Searfoss a/k/a Judy Searfoss

 Executrix of the Estate of Euylla Hughes

a/k/a Eylla Hughes A-2013-2341232

 John F. and Veronica Iskra A-2013-2341233

 Michael A. Mitch and Sue K. Mitch A-2013-2341234

 Clifton Acres, Inc. A-2013-2341236

 Dietrich Hunting Club A-2013-2341237

 Art Borrower Propco 2010-5 LLC A-2013-2341238

 NLMS, Inc. A-2013-2341239

 US Industrial Reit II A-2013-2341241

 Ronald Solt A-2013-2341249

 Merel J. and Arlene J. Swingle A-2013-2341250

 Edward R. Schultz A-2013-2341253

 Donald W. Henderson and Louis Bellucci A-2013-2341262

 Fr E2 Property Holding LP A-2013-2341263

 Sylvester J. Coccia A-2013-2341267

 Lawrence Duda A-2013-2341271

 Mark M. Mack, J. Dean Mack and

 Heather K. Mack A-2013-2341272

 Blue Ridge Real Estate A-2013-2341277

Notice of PPL’s application, two petitions and thirty-two eminent domain applications was published in the January 19, 2013 Pennsylvania Bulletin at 43 Pa.B. 397, specifying a deadline of February 27, 2013, for filing protests to the applications or petitions to intervene in the proceeding. The notice also stated that I would preside over a prehearing conference to be held on March 6, 2013 at 10:00 a.m. in Hearing Room 3 of the Commonwealth Keystone Building in Harrisburg. A copy of Prehearing Order #1, dated January 8, 2013, was also published in the January 19, 2013 Pennsylvania Bulletin at 43 Pa.B. 397.

On January 18, 2013, PPL filed five more eminent domain applications. The Commission docketed the applications as follows:

James L. and Michaelene J. Butler A-2013-2344353

Susan Butler Reigeluth Living Trust A-2013-2344604

Blueberry Mountain Realty, LLC A-2013-2344605

Grumble Knot, LLC A-2013-2344612

Pennsylvania Glacial Till, LLC A-2013-2344616

Notice of PPL’s five additional eminent domain applications was published in the February 9, 2013 Pennsylvania Bulletin at 43 Pa.B. 944, specifying a deadline of February 27, 2013, for filing protests to the applications or petitions to intervene in the proceeding.

Prior to the filing of PPL’s application for authority to construct transmission lines as part of its Northeast-Pocono Reliability Project, PPL was served with a complaint by Secretarial Letter dated December 7, 2011. The complaint was filed by Joe & Vanessa Caparo at Docket No. C-2011-2276731 (Caparo Complaint). The Caparo Complaint raised issues related to the siting and route selection of the proposed transmission lines associated with the Northeast-Pocono Reliability Project, including the adverse effect on real estate values, the risk of danger to the health and safety of the public, and adverse effect on the aesthetics of the Caparo’s property. The Caparo Complaint requested that PPL select an alternative route and/or that the proposed transmission line be constructed underground. The Caparo Complaint sought, among other relief, monetary compensation for the alleged future loss of property value.

PPL was also served with a complaint by Secretarial Letter dated May 18, 2012. The complaint was filed by Christopher and Melinda Maros at Docket No. C-2012-2305047 (Maros Complaint). The Maros Complaint raised issues related to the siting and route selection of the proposed transmission lines associated with the Northeast-Pocono Reliability Project, including the adverse effect on real estate values, the risk of danger to the health and safety of the public, and issues related to eminent domain. The Maros Complaint requested that PPL select an alternative route.

On January 25, 2013, PPL filed a motion to consolidate the thirty-seven eminent domain proceedings and two complaints with the application and petitions filed on December 28, 2012. The motion alleged that the proceedings all involved common questions of law or fact and that it would be more efficient to resolve the issues in these proceedings in one consolidated proceeding. The motion requested that the Commission enter an order consolidating the proceedings for purposes of discovery, litigation and disposition.

In Prehearing Order #2, dated January 29, 2013, I consolidated the thirty-seven eminent domain proceedings and two complaints with the application and petitions filed on December 28, 2012 for purposes of discovery, litigation and decision.

On February 13, 2013, PPL filed a petition to withdraw the eminent domain application regarding the property of Merel J. and Arlene J. Swingle (Swingles) at A-2013-2341250. The petition stated that PPL and the Swingles had executed an agreement by which the Swingles conveyed a right of way and easement to PPL. As a result, PPL’s application was no longer necessary.

On February 13, 2013, Bradley D. Hummel (Hummel) filed a motion to intervene in the proceeding. According to the motion, the proposed Northeast-Pocono Reliability Project will traverse a portion of his property in Salem Township, Wayne County. PPL filed an eminent domain application regarding Hummel’s property at A-2013-2341220.

On February 21, 2013, Blue Ridge Real Estate Company (Blue Ridge) filed a petition to intervene in the proceeding. According to the petition, the proposed Northeast-Pocono Reliability Project will traverse a portion of its properties in Buck Township, Luzerne County and Thornhurst Township, Lackawanna County. PPL filed an eminent domain application regarding Blue Ridge’s property at A-2013-2341277.

On February 22, 2013, Covington Township (Covington) filed a petition to intervene, a request for waiver to file an answer and new matter to PPL’s petition filed at P-2012-2340871 and an answer and new matter to PPL’s petition filed at P-2012-2340871. The proposed North Pocono Substation and the building to shelter control equipment that is the subject of the petition at P-2012-2340871 are to be constructed in Covington Township as part of the Northeast-Pocono Reliability Project. According to the petition, the proposed building does not comply with Covington Township’s zoning ordinance. The request for waiver and the answer and new matter made the same allegations.

On February 27, 2013, John C. Justice and Linda S. Justice (Justices) and Ronald G. Sidovar and Gloria Sidovar (Sidovars), represented by the same counsel, filed protests in the proceeding. According to the protests, the proposed Northeast-Pocono Reliability Project will traverse portions of their properties. According to the protests, the Justices and Sidovars both own property in Salem Township, Wayne County. PPL filed eminent domain applications regarding the Justices’ property at A-2012-2341107 and the Sidovers’ property at A-2012-2341120.

On February 27, 2013, North Pocono Citizens Alert Regarding the Environment (NP CARE) filed a petition to intervene in the proceeding. The petition alleged that NP CARE is a non-profit organization with approximately 100 members who own property in the area of the proposed Northeast-Pocono Reliability Project, a property owners’ association, and visitors who enjoy the public lands and waters in the area of the proposed Northeast-Pocono Reliability Project. The petition alleged that NP CARE also has members who live in PPL’s service territory, are customers of PPL, and take electric service from PPL. The petition alleged that the proposed Northeast-Pocono Reliability Project will cause significant environmental damage to the Northeast-Pocono area.

On February 27, 2013, the Office of Consumer Advocate (OCA) filed a notice of intervention and public statement.

On February 27, 2013, Transcontinental Gas Pipe Line Company, LLC (Transco) filed a petition to intervene in the proceeding. According to the petition, the proposed Northeast-Pocono Reliability Project will traverse a portion of its property in Buck Township, Luzerne County. PPL filed an eminent domain application regarding Transco’s property at A-2013-2341208.

On February 27, 2013, US Industrial REIT II (US Industrial) filed a petition to intervene in the proceeding. According to the petition, the proposed Northeast-Pocono Reliability Project will traverse a portion of its property in Covington Township, Lackawanna County. PPL filed an eminent domain application regarding US Industrial’s property at A-2013-2341241.

On February 27, 2013, FR E2 Property Holding, LP (FR E2) filed a petition to intervene in the proceeding. According to the petition, the proposed Northeast-Pocono Reliability Project will traverse a portion of its property in Covington Township, Lackawanna County. PPL filed an eminent domain application regarding FR E2’s property at A-2013-2341263.

On February 27, 2013, FR First Avenue Property Holding, LP (FR First) filed a petition to intervene in the proceeding. According to the petition, the proposed Northeast-Pocono Reliability Project will traverse a portion of its property in Covington Township, Lackawanna County. PPL filed an eminent domain application regarding FR First’s property at A‑2013‑2341123.

On February 27, 2013, Pennsylvania Glacial Till, LLC (Glacial Till) filed a petition to intervene in the proceeding. According to the petition, the proposed Northeast-Pocono Reliability Project will traverse a portion of its property in Tobyhanna Township, Monroe County. PPL filed an eminent domain application regarding Glacial Till’s property at A-2013-2344616.

On February 28, 2013, PPL filed a response to Covington’s request for waiver. PPL’s response pointed out that any entity wishing to become a party to this proceeding must file a petition to intervene or a protest. PPL alleged that Covington’s request for waiver is therefore improper and should be denied.

On March 1, 2013, PPL filed a petition to withdraw the eminent domain application regarding the property of Christopher Maros and Melinda Maros (Maroses) at A-2013-2341213. The petition stated that PPL and the Maroses had executed an agreement by which the Maroses conveyed a right of way and easement to PPL. As a result, PPL’s application was no longer necessary.

Also on March 1, 2013, PPL filed a certificate of satisfaction regarding the Maros Complaint at C-2012-2305047. The certificate of satisfaction alleged that the Maroses had executed an agreement by which the Maroses conveyed a right of way and easement to PPL and that the right of way agreement fully resolved all of the issues and concerns raised in the Maros complaint.

I conducted a prehearing conference on March 6, 2013 at 10:00 a.m. in Harrisburg. Present were counsel for PPL, OCA, Blue Ridge, Covington, NP CARE, Transco, US Industrial, FR E2, FR First, and Glacial Till. Counsel for Justices and Sidovars participated in the prehearing conference by telephone.

As a result of the prehearing conference, I issued Prehearing Order #3 on March 13, 2013. Prehearing Order #3 granted the petitions to intervene set forth above, granted PPL’s petition to withdraw the eminent domain applications regarding the properties of Swingles at A‑2013-2341250 and Maroses at A-2013-2341213, ordered public input hearings to be held at the Thornhurst Volunteer Fire Company and established a litigation schedule.

By notice dated March 13, 2013, the Commission scheduled evidentiary hearings on July 24-26 and 29-30, 2013 in Hearing Room 2, Commonwealth Keystone Building, Harrisburg.

On March 15, 2013, PPL filed a motion requesting that I issue a protective order in this proceeding and enclosing a proposed order with its motion. In Prehearing Order #4, dated March 20, 2013, I granted the motion and approved, adopted and incorporated the proposed order into the March 20, 2013 order.

By notice dated March 28, 2013, the Commission scheduled public input hearings for this case on May 2, 2013 at 2:00 and 6:00 p.m. in Thornhurst, Lackawanna County.

In Prehearing Order #5, dated March 28, 2013, I directed PPL to publish notice of the public input hearings in a local newspaper and file proof of that publication with the Commission.

By letter dated April 1, 2013, NP CARE requested that I conduct a site view at 10:30 a.m. on May 2, 2013, the same day as the public input hearings. NP CARE contended that this would allow parties time to view the location and still arrive at the location for the public input hearing ahead of the scheduled hearing time.

The letter requested a site view on Phelps Road which, according to NP CARE, is located twenty minutes from the site of the public input hearings. According to the letter, the site view would allow me and the parties to view the location of the proposed line. NP CARE stated that the area of the site view is situated in one of the primary natural tourist attractions of the area.

By letter dated April 3, 2013, PPL responded to NP CARE’s request for a site view. PPL opposed the request because 1) NP CARE had failed to describe the details of the site visit; 2) the site view would not be useful since there is no cleared right of way for the parties to observe; 3) the majority of the Phelps Road loop is unrelated to the proposed route for the 230 kV transmission line; 4) the site view would confuse and mislead the parties; 5) the better course of action would be to introduce photographs of the area at the evidentiary hearings; and 6) the site view should not be conducted on the same day as the public input hearings since it would result in a long day for the parties.

By letter dated April 4, 2013, NP CARE responded to PPL’s letter. According to NP CARE, PPL’s objections and concerns were unfounded. NP CARE asserted that the proposed site visit was reasonable, appropriate and similar to site visits in similar proceedings.

In Prehearing Order #6, dated April 9, 2013, I denied NP CARE’s request for a site view. I agreed with PPL that trying to conduct a site view and two public input hearings in the same day would be attempting to accomplish too much in a single day.

On April 5, 2013, PPL filed a petition to withdraw the eminent domain application regarding the property of Art Mortgage Borrower Propco 2010-5 LLC (Art Mortgage) at A-2013-2341238. The petition stated that PPL and Art Mortgage had executed an agreement by which Art Mortgage conveyed a right of way and easement to PPL. As a result, PPL’s application was no longer necessary.

In Prehearing Order #7, dated April 25, 2013, I granted PPL’s petition to withdraw the eminent domain application regarding the property of Art Mortgage at A‑2013‑2341238.

On April 26, 2013, PPL filed a petition to withdraw the eminent domain application regarding the property of Mark M. Mack, J. Dean Mack and Heather K. Mack (Macks) at A-2013-2341272. The petition stated that PPL and the Macks had executed an agreement by which the Macks conveyed a right of way and easement to PPL. As a result, PPL’s application was no longer necessary.

I conducted public input hearings as scheduled on May 2, 2012. Twenty-five individuals testified under oath at the 2:00 p.m. hearing. N.T. 35-158. Twenty-five individuals testified under oath at the 6:00 p.m. hearing. N.T. 158-273.

In Prehearing Order #8, dated May 17, 2013, I granted PPL’s petition to withdraw the eminent domain application regarding the Macks’ property at A-2013-2341272.

On June 4, 2013, NP CARE, pursuant to 52 Pa.Code § 1.15, requested by e-mail that I extend the time for it to serve its direct and surrebuttal testimony as well as to extend the time for PPL to serve its rebuttal testimony in response to NP CARE’s direct testimony. The June 4, 2013, email indicated that counsel for NP CARE had a family medical emergency that had required him to be away from the office during the previous week. In Prehearing Order #9, dated June 5, 2013, I granted NP CARE’s request.

On June 5, 2013, counsel for US Industrial contacted me by e-mail to inform me that she had been contacted on June 4, 2013 by a representative of Duke Realty Limited Partnership to inform her that it had purchased the property of US Industrial on May 31, 2013. US Industrial’s property is the subject of PPL’s eminent domain application at A-2013-2341241. According to counsel for US Industrial, Duke did not have the opportunity to speak to PPL regarding the proceeding or have the opportunity to evaluate PPL’s offer regarding an easement on the property. Given these facts, counsel for US Industrial requested that I grant Duke the opportunity to file to substitute as a party and that I extend the time for Duke to serve direct and surrebuttal testimony and that I extend the time for PPL to serve rebuttal testimony in response to Duke’s direct testimony. In Prehearing Order #10, dated June 6, 2013, I granted US Industrial’s request.

On June 5, 2013, OCA, Hummel, Covington, Transco, FR E2, and FR First all served prepared direct testimony on the parties.

On June 13, 2013, NP CARE served prepared direct testimony on the parties.

On June 28, 2013, Duke Realty 400 First Avenue Gouldsboro Holding, LLC (Duke) filed a motion to substitute as a party for US Industrial. Duke’s motion alleged that it had purchased US Industrial’s property located in Covington Township, Lackawanna County that is the subject of PPL’s eminent domain application at A-2013-2341241. Duke’s motion stated that it adopted the pleadings filed in this proceeding by its predecessor in interest, US Industrial. The motion requested that the Commission substitute Duke for US Industrial in the eminent domain application at A-2013-2341241. In Prehearing Order #11, dated July 9, 2013, I granted Duke’s request.

On July 8, 2013, PPL served prepared rebuttal testimony on the parties. By letter served on July 8, 2013, OCA stated that it would not be serving prepared rebuttal testimony.

On July 15, 2013, PPL served prepared rebuttal testimony in response to NP CARE’s direct testimony on the parties.

On July 17, 2013, OCA, Transco, FR E2, and FR First all served prepared surrebuttal testimony on the parties.

On July 22, 2013, NP CARE served prepared surrebuttal testimony on the parties.

On July 23, 2013, PPL served prepared rejoinder testimony on the parties.

On July 25, 2013, PPL served prepared rejoinder testimony in response to NP CARE’s surrebuttal testimony on the parties.

I conducted evidentiary hearings on July 24 and 26, 2013. The parties agreed that they could complete cross examination of witnesses on those two days and that the hearings scheduled for July 25, 29 and 30, 2013 were not necessary and could be cancelled. David B. MacGregor, Esquire, Christopher Wright, Esquire and Paul Russell, Esquire appeared on behalf of PPL, Darryl Lawrence, Esquire and Amy E. Hirakis, Esquire appeared on behalf of OCA, Elizabeth Witmer, Esquire appeared on behalf of FR E2, FR First and Transco, Paul Schmidt, Esquire appeared on behalf of NP CARE and Brian Yeager, Esquire appeared on behalf of Covington. At the conclusion of the hearings, I granted the parties’ request that I waive the page limitation for briefs set forth at 52 Pa.Code § 5.501(f). N.T. 487. The evidentiary hearings resulted in a transcript of 214 pages, consisting of pages 274 through 488.

On July 30, 2013, PPL filed a petition to withdraw the eminent domain application regarding the property of Roberta Searfoss a/k/a Judy Searfoss, Executrix of the Estate of Euylla a/k/a/ Eylla Hughes (Searfoss) at A-2013-2341232. The petition stated that PPL and Searfoss had executed an agreement by which Searfoss conveyed a right of way and easement to PPL. As a result, PPL’s application was no longer necessary.

In Interim Order #12, August 20, 2013, I granted PPL’s petition to withdraw the eminent domain applications regarding the Searfoss property at A-2013-2341232.

On August 16, 2013, PPL filed a petition to withdraw the eminent domain application regarding the property of Blue Ridge at A-2013-2341277. The petition stated that Blue Ridge had conveyed its property and that PPL had reached agreements with the new property owners. As a result, PPL’s application was moot.

On August 20, 2013, PPL filed petitions to withdraw the eminent domain applications regarding the properties of James L. and Michaelene Butler (Butler) and Dianne L. Doss (Doss) at A-2013-2344353 and A-2013-2341214, respectively. The petitions stated that Butler conveyed Parcel WP2 to PPL and that PPL and Doss had executed an agreement by which Doss conveyed a right of way and easement to PPL. As a result, PPL’s applications were no longer necessary.

On August 22, 2013, Covington filed its Main Brief (M.B.).

On August 26, 2013, Main Briefs were filed by PPL, OCA and NP CARE.

In Interim Order #13, dated September 6, 2013, I granted PPL’s petition to withdraw the eminent domain application regarding the Blue Ridge property at A-2013-2341277.

On September 9, 2013, Reply Briefs (R.B.) were filed by PPL, OCA, NP CARE and Transco. FR E2 and FR First filed a joint Reply Brief.

In Interim Order #14, dated September 10, 2013, I granted PPL’s petition to withdraw the eminent domain applications regarding the Butler and Doss properties at A-2013-2344353 and A-2013-2341214, respectively.

On September 18, 2013, PPL filed a petition to withdraw the eminent domain application regarding the property of the Susan Butler Reigeluth Living Trust (Reigeluth) at A-2013-2344604. The petition stated that Reigeluth conveyed Parcel WP3 to PPL. As a result, PPL’s application was no longer necessary.

In Interim Order #15, dated September 30, 2013, I granted PPL’s petition to withdraw the eminent domain application regarding the Reigeluth property at A-2013-2344604.

 On October 4, 2013, PPL filed a petition to withdraw the eminent domain application regarding the property of Three Griffins Enterprises, Inc. (Three Griffins) at A-2012-2341114. The petition stated that Three Griffins had executed an agreement by which it had conveyed a right of way and easement to PPL. As a result, PPL’s application was no longer necessary.

In Interim Order #16, dated October 7, 2013, I granted PPL’s petition to withdraw the eminent domain application regarding the Three Griffins property at A-2012-2341114.

The record closed on October 7, 2013. The matter is now ready for decision.

III. FINDINGS OF FACT

A. Introduction

1. PPL is a public utility that provides electric distribution and transmission services in Pennsylvania, subject to the Commission’s regulatory jurisdiction.

2. On December 28, 2012, PPL filed an application with the Commission for authority to construct transmission lines as part of its Northeast-Pocono Reliability Project.

3. On December 28, 2012, PPL filed two petitions, pursuant to 52 Pa.Code § 5.41 and 53 P.S. § 10619, requesting that the Commission find that the buildings to shelter control equipment at the proposed North Pocono and West Pocono Substations are reasonably necessary for the convenience or welfare of the public and therefore exempt from any local zoning ordinance.

4. On December 28, 2012, PPL filed thirty-two applications requesting that the Commission make a finding and determination, pursuant to 15 Pa.C.S. § 1511(c), that the service to be furnished by PPL, through its proposed exercise of eminent domain to acquire portions of the lands of various property owners for the siting and construction of the Northeast-Pocono Reliability Project, is necessary or proper for the service, accommodation convenience or safety of the public.

5. Notice of PPL’s application, two petitions and thirty-two eminent domain applications was published in the January 19, 2013 Pennsylvania Bulletin at 43 Pa.B. 397, specifying a deadline of February 27, 2013, for filing protests to the applications or petitions to intervene in the proceeding.

6. On January 18, 2013, PPL filed five additional eminent domain applications.

7. Notice of PPL’s five additional eminent domain applications was published in the February 9, 2013 Pennsylvania Bulletin at 43 Pa.B. 944, specifying a deadline of February 27, 2013, for filing protests to the applications or petitions to intervene in the proceeding.

B. Existing Transmission System

8. The Northeast-Pocono area is loosely bounded by several 230 kV transmission lines on its western side, a single 230 kV transmission line on its northern and eastern sides and a double-circuit 138 kV transmission line on its southern side. PPL St. 2, p. 8.

9. The sources of electric power for the Northeast-Pocono area are provided by four non Bulk Electrical System (non-BES) transmission substations. Those substations are: 1) the Peckville 230/69 kV Substation located in the northwestern portion of the area; 2) the Blooming Grove 230/69 kV Substation located east of the Peckville 230/69 kV Substation in the northeastern portion of the area; 3) the East Palmerton 230/69 kV Substation located south of the Peckville 230/69 kV Substation in the southwestern portion of the area; and 4) the Jackson 138/69 kV Substation located northeast of the East Palmerton 230/69 kV Substation in the southern portion of the area. PPL St. 2, p. 9.

10. The northern and western portions of the Northeast-Pocono area are the subject of the Northeast-Pocono Reliability Project. PPL St. 2, p. 9.

11. The only sources of electric power to the northern portion of the Northeast-Pocono area are the Peckville-Jackson 138/69 kV and the Blooming Grove-Jackson 138/69 kV circuits. PPL St. 2, p. 9.

12. From the Jackson 138/69 kV Substation north to the Gouldsboro 69/12 kV Substation, the Blooming Grove-Jackson and Peckville-Jackson 138/69 kV circuits are built on double-circuit 138/69 kV towers. PPL St. 2, p. 9.

13. From the Gouldsboro 69/12 kV Substation, the Blooming Grove-Jackson 138/69 kV circuit proceeds east on separate single-circuit 138/69 kV tower structures to the Blooming Grove 230/69 kV Substation. PPL St. 2, p. 9.

14. The Peckville-Jackson 138/69 kV circuit proceeds north from the Gouldsboro 69/12 kV Substation on separate single-circuit 138/69 tower structures to the Peckville 230/69 kV Substation. PPL St. 2, p. 9-10.

15. The only power sources for the western portion of the Northeast-Pocono area are the East Palmerton-Wagners #1 & #2 138/69 kV circuits. PPL St. 2, p. 10.

16. From the East Palmerton 230/69 kV Substation north to the Lake Harmony 69/12 kV Substation, the East Palmerton-Wagners #1 & #2 138/69 kV circuits are built on double-circuit 138/69 kV tower structures. PPL St. 2, p. 10.

17. The East Palmerton-Wagners #2 138/69 kV circuit terminates at the Lake Harmony 69/12 kV Substation. PPL St. 2, p. 10.

18. The East Palmerton-Wagners #1 circuit proceeds north then east on separate single-circuit 138/69 tower structures to the Wagners 69/12 kV Substation. PPL St. 2, p. 10,

C. Need for the Northeast-Pocono Reliability Project

19. The specific problems that the Northeast-Pocono Reliability Project are designed to address are a result of load growth in the Northeast-Pocono area. PPL St. 2, p. 11.

20 The study area for the Northeast-Pocono Reliability Project includes all or parts of six counties: Wayne, Pike, Monroe, Luzerne, Carbon and Lackawanna. PPL St. 2, p. 11.

21. The populations in these six counties have increased between 2000 and 2010. PPL St. 2, p. 11.

22. The populations in several of the townships in these counties have increased 20 to 40 percent between 2000 and 2010. PPL St. 2, p. 11.

23. Some township’s populations are expected to double by 2020. PPL St. 2, p. 11.

24. PPL, between 2003 and 2012, has experienced a 12% increase in peak load in the Northeast-Pocono area from 565 MW to 635 MW. PPL St. 2, p. 11.

25. Between 2003 and 2012, the number of customers in the Northeast-Pocono area that PPL serves has increased from approximately 119,000 to 128,000. PPL St. 2, p. 11.

26. PJM Interconnection, LLC (PJM) projects a 1.1% annual future winter growth rate for the area. PPL St. 2, p. 11.

27. There have been no significant improvements to the electric transmission systems serving the area since the early 1980s. PPL St. 2, p. 11-12.

28. The existing 138/69 kV lines serving the Northeast-Pocono region are very long. PPL Ex. LRK-6.

29. Due to the length of these circuits and the large number of customers they serve, customers in the Northeast-Pocono area are vulnerable to long duration outages due to loss of the transmission circuit that serves them. PPL St. 2, p. 12.

30. The amount of load that PPL can restore in the Northeast-Pocono area after an outage is limited during certain peak winter conditions due to unacceptable low voltage levels that result at certain distribution substations when loading on one circuit is transferred to an adjacent circuit. PPL St. 2, p. 12.

31. In addition to the long, heavily loaded 69 kV transmission lines, and the lack of a 230 kV source within the Northeast-Pocono region, PPL also determined that if the transmission system serving the Northeast-Pocono region is not reinforced, violations of the system planning and reliability practices set forth in the Reliability Principles and Practices (RP&P) would occur as follows:

a) double-circuit outage of the Blooming Grove-Jackson and Peckville-Jackson 138/69 kV transmission line.

b) single-circuit outage of the Peckville-Jackson 138/69 kV circuit on the double-circuit Blooming Grove-Jackson and Peckville-Jackson 138/69 kV transmission line.

c) single-circuit outage of the Blooming Grove-Jackson 138/69 kV circuit on the double-circuit Blooming Grove-Jackson and Peckville-Jackson 138/69 kV transmission line.

d) double-circuit outage of the East Palmerton-Wagners #1 & #2 138/69 kV transmission line.

e) single-circuit outage of the East Palmerton-Wagners #2 138/69 kV circuit on the double circuit East Palmerton-Wagners #1 & #2 138/69 kV transmission line. PPL St. 2, p. 13, PPL M.B. p. 40-41.

f) under peak winter conditions, by the winter of 2015-2016, the load on the Blooming Grove-Jackson 138/69 kV circuit will exceed normal loading guidelines set forth in the RP&P.

g) under peak winter conditions, by the winter of 2014-2015, the load on the Peckville-Jackson 138/69 kV circuit will exceed normal loading guidelines set forth in the RP&P. PPL St. 2, p. 13-15, 21-22.

32. PPL’s updated analysis determined that the violation due to a single circuit outage of the Peckville-Jackson 138/69 kV circuit, originally expected to occur in the winter of 2014-2015 will not occur until the winter of 2024-2025 because of alternative switching methods. PPL St. 2-R, p. 4-5.

33. The updated analysis also determined that the violation due to a single circuit outage of the Blooming Grove-Jackson 138/69 kV circuit, originally expected to occur in the winter of 2015-2016 will not occur until the winter of 2029-2030 because of alternative switching methods. PPL St. 2-R, p. 5.

34. The updated analysis further determined the violation due to a single circuit outage on the East Palmerton-Wagners #2 circuit could be resolved through alternative switching methods. PPL St. 2-R, p. 5.

35. The updated analysis confirmed that a double circuit outage of the Blooming Grove-Jackson and Peckville-Jackson 138/69 kV transmission line will result in a violation by winter 2014-2015. PPL St. 2-R, p. 5.

36. The updated analysis determined that a double circuit outage of the East Palmerton-Wagners #1 & #2 138/69 kV transmission line will result in a violation by the winter of 2024-2025. PPL St. 2-R, p. 5.

37. The updated analysis confirmed that the projected normal line loadings on the Blooming Grove-Jackson and Peckville-Jackson 138/69 kV circuits will result in a violation by winter 2015-2016 and winter 2014-2015 respectively. PPL St. 2-R, p. 5.

D. The Proposed Project

38. PPL requires construction of the Northeast-Pocono Reliability Project in order to reinforce the 138/69 kV systems serving the Northeast Pocono region. PPL St. 1, p. 8.

39. PPL proposes to reinforce the 138/69 kV systems in the region by bringing a new 230 kV supply source closer to growing load centers in order to resolve reliability and planning violations. PPL St. 1, p.8.

40. In order to bring a new 230 kV supply source to these growing load centers, PPL proposes to construct two new 230/69 kV transmission substations, the West Pocono 230/69 kV Substation and the North Pocono 230/69 kV Substation, located centrally to the load they will serve. PPL St. 1, p. 8-9,

 41. The new substations and new transmission lines will reduce the distance between the supply of power and the homes and businesses that use the electricity. PPL St. 1, p. 9.

42. The new substations and new transmission lines will also provide an alternate source of power to the region in the event that normal supply sources are interrupted. PPL St. 2, p. 24-25.

43. Having an alternate source of power will improve power restoration times and improve reliability for customers. PPL St. 1, p. 9, PPL St. 2, p. 25-28.

44. The Northeast-Pocono Reliability Project will reduce the number of customers affected by a single facility outage, as well as the duration of the outage. PPL St. 1, p. 9, PPL St. 2, p. 25-28.

 45. The West Pocono and North Pocono Substations will be connected to the existing 230 kV transmission system by 58 miles of new 230 kV transmission line. PPL St. 1, p. 9, PPL St. 2, p. 25-28.

46. PPL also proposes constructing five new 138/69 kV transmission lines totaling approximately 11.3 miles to connect the West Pocono and North Pocono Substations to the existing local 138/69 kV transmission system. PPL St. 1, p. 9, PPL St. 2, p. 25-28.

47. The new regional West Pocono 230/69 kV Substation will be constructed and located between the existing East Palmerton 230/69 kV Substation and the existing Jackson 138/69 kV Substation. PPL St. 2, p. 25-28.

48. The proposed location for the new West Pocono 230/69 kV Substation is central to the load it will serve. PPL St. 2, p. 25-28.

49. The West Pocono 230/69 kV Substation will tie into the East Palmerton-Wagners #1 & #2 and Jackson-Wagners #1 & #2 138/69 kV Transmission Lines, which will (1) reduce the load on these lines by providing a new 230 kV source, and (2) reduce the length of each 138/69 kV line through re-sectionalizing. PPL St. 2, p. 25-28.

50. The West Pocono 230/69 kV Substation also will provide a backup source to the East Palmerton 230/69 kV and Jackson 138/69 kV Substations using interconnected 138/69 kV lines. PPL St. 2, p. 25-28.

51. The new regional North Pocono 230/69 kV Substation will be constructed and located centrally with respect to the existing Jackson 138/69 kV, Blooming Grove 230/69 kV, and Lackawanna 230/69 kV substations. PPL St. 2, p. 22-28.

52. The proposed location for the North Pocono 230/69 kV Substation is central to the load it will serve. The North Pocono 230/69 kV Substation will tie into the Blooming Grove-Jackson and Peckville-Jackson 138/69 kV Transmission Lines, which will (1) reduce the load on these lines by providing a new 230 kV source, and (2) reduce the length of each 138/69 kV line through re-sectionalizing. PPL St. 2, p. 25-28.

53. The North Pocono 230/69 kV Substation also will provide a backup source to the Blooming Grove 230/69 kV, Lackawanna 230/69 kV and Jackson 138/69 kV Substations using interconnected 138/69 kV lines. PPL St. 2, p. 25-28.

54. Following the completion of the Northeast-Pocono Reliability Project, the number of customers served, the length, and the peak loading on each line will be greatly reduced. PPL St. 2, p. 25-28, PPL Ex. LRK-6, PPL St. 2-R, p. 39-40.

55. The 230 kV portion of the Northeast-Pocono Reliability Project is divided into three separate segments as follows: 1) the existing Jenkins 230/69 kV Substation in Plains Township, Luzerne County to the proposed West Pocono 230/69 kV Substation in Buck Township, Luzerne County; 2) the proposed West Pocono 230/69 kV Substation to the proposed North Pocono 230/69 kV Substation in Covington Township, Lackawanna County; and 3) the proposed North Pocono 230/69 kV Substation to the Paupack 230/69 kV Substation in Paupack Township, Wayne County. PPL St. 5, p. 5.

56. Approximately 15 miles of new 230 kV transmission line will be constructed between the existing Jenkins 230/69 kV Substation and the new West Pocono 230/69 kV Substation and will be named the Jenkins-West Pocono 230 kV Transmission Line. PPL St. 5, p. 6.

57. The new Jenkins-West Pocono 230 kV Transmission Line will require the installation of approximately 83 structures with an average height of 155 feet. PPL St. 5, p. 6.

58. The average spans between the structures will be approximately 1,000 feet. PPL St. 5, p. 6.

59. The Jenkins-West Pocono 230 kV Transmission Line will consist of approximately 58 self-weathering tubular steel tangent structures equipped with upswept arms and installed on concrete caisson foundations. PPL St. 5, p. 7.

60. There will be approximately 25 angle/dead-end structures, which will consist of one-pole or two-pole steel structures. PPL St. 5, p. 7.

61. Approximately 21 miles of new 230 kV transmission line will be constructed from the new West Pocono 230/69 kV Substation to the new North Pocono 230/69 kV Substation and will be named the West Pocono-North Pocono 230 kV Transmission Line. PPL St. 5, p. 7.

62. The West Pocono-North Pocono 230 kV Transmission Line will require the installation of approximately 107 structures with an average height of 150 feet. PPL St. 5, p. 7.

63. The average spans between the structures will be approximately 1,000 feet. PPL St. 5, p. 7.

64. The West Pocono-North Pocono 230 kV Transmission Line will consist of approximately 69 self-weathering tubular steel tangent structures equipped with upswept arms and installed on concrete caisson foundations. PPL St. 5, p. 7.

65. There will be approximately 38 angle/dead-end structures, which will consist of one-pole or two-pole steel structures. PPL St. 5, p. 7.

66. Approximately 22 miles of new 230 kV transmission line will be constructed from the new North Pocono 230/69 kV Substation to the Paupack 230/69 kV Substation and will be named the North Pocono-Paupack 230 kV Transmission Line. PPL St. 5, p. 8.

67. The North Pocono-Paupack 230 kV Transmission Line will require the installation of approximately 120 structures with an average height of 150 feet. PPL St. 5, p. 8.

68. The average spans between structures will be approximately 1,000 feet. PPL St. 5, p. 8.

69. The North Pocono-Paupack 230 kV Transmission Line will consist of approximately 72 self-weathering tubular steel tangent structures equipped with upswept arms and installed on concrete caisson foundations. PPL St. 5, p. 8.

70. There will be approximately 48 angle/dead-end structures, which will consist of one-pole or two-pole steel structures. PPL St. 5, p. 8.

71. The new 230 kV segments of the Northeast-Pocono Reliability Project will be designed for 230 kV double-circuit capacity but initially only one 230 kV circuit will be installed until load growth in the area makes it appropriate to add the second 230 kV circuit. PPL St. 5, p. 5.

72. The 230 kV double–circuit design will utilize six power conductors and two overhead ground wires. PPL St. 5, p. 5.

73. The power conductors will be 1590 thousand circular mils (kcmil) 45/7 aluminum conductor steel reinforced (ACSR) conductors. PPL St. 5, p. 5.

74. The overhead ground wires will be 48 count single mode fiber optical ground wires which will provide lightning protection and communication between circuit breakers that remove the line from service should a fault in the line be detected. PPL St. 5, p. 5.

75. PPL also proposes to construct approximately 11.3 miles of new 138/69 kV transmission lines to connect the new North Pocono and West Pocono 230/69 kV Substations into the existing local 69kV transmission lines. PPL St. 5, p. 5.

76. The 138/69 kV portion of the Northeast Pocono Reliability Project is divided into two major sections, the West Pocono Connecting Lines and the North Pocono Connecting Lines. PPL St. 5, p. 5.

77. The new West Pocono 138/69 kV Connecting Lines will require the installation of approximately 48 steel mono-poles with an average height of 105 feet. PPL St. 5, p. 9.

78. The average spans between structures will be approximately 650 feet. PPL St. 5, p. 9.

79. The West Pocono 138/69 kV Connecting Lines will consist of approximately 34 self-weathering tubular steel tangent structures equipped with upswept arms that will be either directly embedded or installed on concrete caisson foundations as necessary. PPL St. 5, p. 9.

80. There will be approximately 14 angle structures, which will consist of one or two-pole steel mono pole structures. PPL St. 5, p. 9.

81. Three new 138/69 kV transmission lines, collectively North Pocono 138/69 kV Connecting Lines, will be constructed to connect the new North Pocono 230/69 kV Substation to the existing Blooming Grove-Jackson and Peckville-Jackson 138/69 kV Transmission Lines. PPL St. 5, p. 9-10.

82. Two new 138/69 kV transmission lines, each approximately 1.1 miles in length, will connect the North Pocono 230/69 kV Substation to the single-circuit Peckville-Jackson 138/69 kV Transmission Line. PPL St. 5, p. 10.

83. One single-circuit line will be named the Lackawanna-North Pocono 138/69 kV Transmission Line and the other single-circuit line will be named the North Pocono-Jackson #2 138/69 kV Transmission Line. PPL St. 5, p. 10.

84. The new Lackawanna-North Pocono 138/69 kV Transmission Line will require the installation of approximately 10 structures with an average height of 110 feet. PPL St. 5, p. 11.

85. The spans between structures will be approximately 650 feet. PPL St. 5, p. 11.

86. The Lackawanna-North Pocono 138/69 kV Transmission Line will consist of approximately 7 self-weathering tubular steel tangent structures equipped with upswept arms that will be either direct embedded or installed on concrete caisson foundations as necessary. PPL St. 5, p. 11.

87. There will be approximately 3 angle structures, which will consist of one-pole or two-pole steel structures. PPL St. 5, p. 11.

88. The new North Pocono-Jackson #2 138/69 kV Transmission Lines will require the installation of approximately 12 structures with an average height of 110 feet and an average span of 650 feet. PPL St. 5, p. 11.

89. The North Pocono-Jackson #2 138/69 kV Transmission Line will consist of approximately 7 self-weathering tubular steel tangent structures equipped with upswept arms that will be either direct embedded or installed on concrete caisson foundations as necessary. PPL St. 5, p. 11.

90. There will be approximately 5 angle/dead-end structures, which will consist of one-pole or two-pole steel structures. PPL St. 5, p. 11-12.

91. The third 138/69 kV transmission line will be approximately 3.1 miles in length and will connect the North Pocono 230/69 kV Substation to the existing Blooming Grove-Jackson and Peckville-Jackson #1 138/69 kV Transmission Lines near the Gouldsboro Substation. PPL St. 5, p. 12.

92. One circuit on this double-circuit connecting line will be named the North Pocono-Jackson #1 138/69 kV circuit and the other circuit will be named the North Pocono-Blooming Grove 138/69 kV circuit. PPL St. 5, p. 12.

93. The new North Pocono Jackson #1 138/69 kV circuit will break into one of the circuits on the existing double-circuit Blooming Grove-Jackson and Peckville-Jackson 138/69 kV Transmission Line, and then proceed southeast to the Jackson Substation. PPL St. 5, p. 12.

94. The new North Pocono-Blooming Grove 138/69 kV circuit will tie into the existing single-circuit Blooming Grove-Jackson 138/69 kV Transmission Line, and then proceed northeast to the Blooming Grove Substation. PPL St. 5, p. 12.

95. The new North Pocono-Jackson #1 & North Pocono-Blooming Grove 138/69 kV Transmission Line will require the installation of approximately 25 structures with an

average height of 110 feet. PPL St. 5, p. 13.

96. The spans between structures will be approximately 650 feet. The North Pocono-Jackson #1 & North Pocono-Blooming Grove 138/69 kV Transmission Line will consist of approximately 18 self-weathering tubular steel tangent structures equipped with upswept arms that will be either directly embedded or installed on concrete caisson foundations as necessary. PPL St. 5, p. 13.

97. There will be approximately 7 angle/dead-end structures, which will consist of one-pole or two-pole steel structures. PPL St. 5, p. 13.

98. The new 138/69 kV segments of the Northeast-Pocono Reliability Project will be designed for future 138 kV double circuit capacity but initially will be operated at 69 kV until load growth in the area makes it appropriate to increase operating voltage. PPL St. 5, p. 6.

99. The 138/69 kV design will utilize six power conductors and two overhead ground wires. PPL St. 5, p. 6.

100. The power conductors will be 556 kcmil 24/7 ACSR conductors. The overhead ground wires will be 48 count single mode fiber optical ground wires which will provide lightning protection and communication between circuit breakers that remove the line from service should a fault in the line be detected. PPL St. 5, p. 5-6.

E. Health and Safety

101. PPL designed both the 230 and 138/69 kV transmission lines in compliance with National Electric Safety Code (NESC) standards. PPL St. 5, p. 13.

102. In addition to these standards, PPL has additional, more stringent design standards. PPL St. 5, p. 13.

103. PPL design loading conditions for structures, wires and clearances exceed NESC standards. PPL St. 5, p. 13.

104. PPL employs relay protection systems to automatically de-energize a line in the event that a line fails and it contacts the ground or a grounded object. PPL St. 5, p. 13-14.

105. PPL has designed the transmission lines for conductor-to-conductor clearances and conductor-to-ground clearances which support live-line maintenance and inspection practices. PPL St. 5, p. 14.

106. Work procedures and tooling have been developed to allow PPL employees to perform work in a safe manner on energized facilities. PPL St. 5, p. 14-15.

107. PPL furnishes its employees with appropriate protective equipment for the performance of construction or maintenance activities in a safe manner. PPL St. 5, p. 13-14.

108. PPL has taken electric and magnetic fields (EMF) mitigation into account by designing the proposed lines to reduce EMFs and to maximize the distance from the centerline to any residences. PPL St. 5, p. 15.

109. To reduce EMFs, PPL has adopted a Magnetic Field Management Program. PPL St. 5, p. 15.

110. Under this program, to lower EMF exposure, PPL uses a line design that provides ground clearances five feet higher than the minimum clearances required by the NESC. PPL St. 5, p. 15.

111. PPL also employs reverse phasing of new double circuit lines where it is feasible to do so at low or no cost. PPL St. 5, p. 15.

112. PPL will use these measures for the proposed Northeast-Pocono Reliability Project to mitigate the effects of EMFs. PPL St. 5, p. 15.

113. There is no reliable scientific basis to conclude that exposures to EMFs from electric power lines causes or contributes to adverse health effects in people. PPL St. 5-R, p. 6.

114. There currently is approximately 50 feet between the right-of-way for the proposed transmission line and the Transco easement. PPL St. 1-RJ, p. 6.

115. This separation will provide sufficient room for the construction activities of both companies. PPL St. 1-RJ, p. 6.

116. If both the Northeast-Pocono Reliability Project and Transco’s Leidy Southeast Project are approved and additional work space is needed for construction, PPL will agree to temporary work space for construction of the Leidy Southeast project within its proposed easement and on PPL owned property. PPL St. 1-R, p. 9.

117. Electromagnetic interference between high voltage transmission lines and natural gas pipelines can be vetted, modeled and mitigated through engineering to ensure there are no hazards. PPL St. 5-R, p. 8.

118. PPL has successfully worked with many different pipeline owners to ensure that there are no conflicts between the two companies’ operations. PPL St. 1-R, p. 6-7.

119. PPL has agreed to fund an impact study to determine what, if any, impact the proposed transmission lines may have on Transco’s natural gas pipelines. PPL St. 5-R, p. 7‑9.

120. PPL and Transco have not reached an agreement on the terms of the impact study. PPL St. 5-R, p. 7-9, N.T. 342.

121. FR First owns the only access road and entrance to the Covington Industrial Park, called First Avenue. FR First St. 1, p. 1.

122. Covington Industrial Park is an industrial park with five existing industrial buildings, four of which are occupied by industrial, storage and transportation users and an undeveloped lot that is approved for a sixth industrial facility. FR First St. 1, p. 1.

123. The Covington Industrial Park provides employment for approximately 700 people. FR First St. 1, p. 2.

 124. The access road owned by FR First is used by large tractor trailers and other traffic. FR First St. 1, p. 2.

125. Covington Industrial Park is partially surrounded by the private communities of Big Bass Lake and Eagle Lake. PPL St. 1-R, p. 2, PPL Ex. DLH-1.

126. The segment of the Northeast-Pocono Reliability Project that traverses the Covington Industrial Park is approximately 2.1 miles of 230 kV transmission line located on the line segment between the North Pocono and West Pocono Substations. PPL St. 1-R, p. 2.

127. PPL has declined to select the alternative route for the transmission line proposed by FR First because following the property line of Covington Industrial Park would place the transmission line in close proximity to the residences that abut the park. PPL St. 1-R, p. 4.

128. PPL initially considered routing the transmission line along the property line of Covington Industrial Park but several home owners whose properties adjoin the park objected to that route. PPL St. 1-R, p. 4.

129. PPL considered these objections and determined that it would create the least overall impact if the route for the transmission line were located further away from residential dwellings and closer to the industrial buildings located in Covington Industrial Park. PPL St. 1-R, p. 4.

130. The proposed route for the transmission line through Covington Industrial Park crosses State Route 435 near the entrance to Covington Industrial Park, follows Industrial Road, then turns to situate the line behind the buildings located in the park. PPL St. 1-R, p. 2.

131. The proposed route through the Covington Industrial Park crosses State Road 435 near the entrance to the Covington Industrial Park and parallels First Avenue for approximately 1,740 feet along the property line that separates the Art Mortgage and FR First properties. PPL St. 1-R, p. 2; PPL St. 1-RJ, p. 3; PPL Ex. DLH-1.

132. The proposed route crosses approximately 175 feet north of the entrance to Covington Industrial Park. PPL St. 1-R, p. 3.

133. The only pole proposed near the Covington Industrial Park entrance will be located approximately 50 feet from the edge of State Route 435. PPL St. 1-R, p. 3, PPL Ex. DLH-2.

134. The poles carrying the proposed transmission lines for the portion of the proposed route that parallels the FR First property will be located entirely on the property of Art Mortgage, for which PPL has secured an easement for the proposed route. PPL St. 1-RJ, p. 2.

135. The closest pole will be 36 feet from the edge of the existing pavement of the access road to the Covington Industrial Park. PPL St. 1-RJ, p. 2.

F. Compliance with Environmental Statutes and Regulations

136. PPL has constructed 118 transmission projects over the last 15 years. PPL St. 4-R-2, p. 22.

137. PPL maintains approximately 5,000 miles of transmission lines operating at 69 kV or higher, approximately 375 substations with a capacity of 10 megavolt ampere (MVA) or more, and approximately 43,000 miles of distribution lines. PPL St. 4-R-2, p. 22.

138. PPL has committed to obtain all required permits for construction of the Northeast-Pocono Reliability Project and will comply with any and all conditions placed on such permits by those agencies that have appropriate jurisdiction over environmental matters. PPL St. 4-R-2, p. 4, 24; N.T. 479.

G. Minimum Adverse Environmental Impact

139. PPL retained URS Corporation (URS) to assist it in developing and evaluating alternative routes for the Northeast-Pocono Reliability Project. PPL St. 4, p. 3.

140. The siting team used a siting methodology developed by the Electric Power Research Institute (EPRI) and Georgia Transmission Corporation (GTC). PPL St. 4, p.  3.

141. The EPRI-GTC methodology incorporates Geographic Information Systems (GIS) technology, statistical evaluation, site assessment and expert judgment into its decision making process. PPL St. 4, p. 3.

142. The siting study had as its objective the selection of a transmission line route that would minimize impacts to the communities and the natural environment while still being practicable to construct. PPL St. 4, p. 3.

143. The siting study included determining a Study Area, compiling an environmental inventory, identifying and analyzing alternative line routes and finally selecting a preferred line route corridor. PPL St. 4, p. 5.

144. The Study Area is the territory where transmission line route alternatives could be sited to meet the Northeast-Pocono Reliability Project’s functional requirements and at the same time, minimize environmental impacts and project costs. PPL St. 4, p. 5.

145. PPL intended that the Study Area encompass all reasonable potential routes for each of three segments of the Northeast-Pocono Reliability Project. PPL St. 4, p. 5.

146. The team that conducted the siting study identified a Study Area encompassing these three segment areas and covering approximately 385 square miles in parts of Carbon, Lackawanna, Luzerne, Monroe, Pike and Wayne Counties. PPL St. 4, p. 5-6.

147. The team that conducted the siting study determined the Study Area using the EPRI-GTC methodology to define the outer edges of the Study Area from within a larger regional context. PPL St. 4, p. 7.

148. After determining the Study Area, the siting team generated alternative corridors for the proposed transmission line, located within the Study Area, considering four perspectives: 1) protection of the built environment; 2) protection of the natural environment; 3) engineering considerations; and 4) a composite of these three perspectives. PPL St. 4, p. 7.

149. After generating alternative corridors for the proposed transmission lines, the siting team then generated the alternative routes most suitable for the transmission lines within the alternative corridors. PPL St. 4, p. 7.

150. The alternative routes provide the necessary connections between the Jenkins, West Pocono, North Pocono and Paupack Substations, while minimizing potential social, cultural, and natural environmental impacts. PPL St. 4, p. 8.

151. After generating alternative routes for the proposed transmission lines, the siting team then selected the preferred routes, based on assessment of the alternative routes. PPL St. 4, p. 7-8.

152. The selection process involved both qualitative and quantitative analysis. PPL St. 4, p. 8.

153. The quantitative evaluation scored and ranked the alternative routes according to certain selected evaluation metrics. PPL St. 4, p. 8.

154. The qualitative evaluation incorporated the results of the quantitative evaluation with the professional judgment of the siting team regarding specific non-measurable aspects of the Northeast-Pocono Reliability Project to identify the selected routes. PPL St. 4, p. 8-9.

155. The qualitative evaluation considered among other factors, permitting requirements and community concerns. PPL St. 4, p. 8-9.

156. PPL considered local comprehensive plans and zoning ordinances in selecting the preferred routes for the Northeast-Pocono Reliability Project. PPL St. 4, p. 10.

157. PPL reviewed these local plans and ordinances to evaluate the impact of the proposed Northeast-Pocono Reliability Project on the local plans and ordinances. PPL St. 4, p. 10.

158. PPL reviewed the Northeast-Pocono Reliability Project with Luzerne County, Lackawanna County, Wayne County and Monroe County officials. PPL St. 4, p. 10.

159. PPL reviewed the Northeast-Pocono Reliability Project with 31 municipalities along the entire selected routes. PPL St. 4, p. 10.

160. PPL determined the locations for the West Pocono and North Pocono 230/69 kV Substations before it developed the potential corridors for the transmission lines. PPL St. 4, p. 13.

161. PPL identified locations for the West Pocono and North Pocono 230/69 kV Substations that would be central to the 230 kV source and within close proximity to the existing 138/69 kV network. PPL St. 4, p. 13.

162. Locating the West Pocono and North Pocono 230/69 kV Substations in this manner minimizes the length of the transmission lines needed to connect the substations to the electric grid as well as minimizing the costs and environmental impacts of connecting the transmission lines to the substations. PPL St. 4, p. 13.

163. PPL established functional areas around each substation location where it assessed existing land use and social and environmental constraints. PPL St. 4, p. 14.

164. The selected substation locations had to have accessibility from adjacent established roads, a level grade, sturdy soil condition and a buffer from surrounding residential development. PPL St. 4, p. 14.

165. PPL reviewed the functional area for the West Pocono 230/69 kV Substation and discovered two additional attributes: 1) the existence of an established gas pipeline right of way; and 2) the existence of future use right of way easements owned by PPL parallel to the gas pipeline right of way. PPL St. 4, p. 14.

166. PPL recognized that using these rights of way would be beneficial to the siting of the transmission line in the area because the existing rights of way would decrease environmental impacts and project costs. PPL St. 4, p. 14.

167. PPL’s evaluation of the functional area for the West Pocono 230/69 kV Substation indicated environmental constraints including conserved lands, natural areas, state game lands, wetlands and the Lehigh River and its tributaries. PPL St. 4, p. 13.

168. PPL narrowed the selection of a location for the West Pocono 230/69 kV Substation to an upland area surrounding an isolated section of Buck River Road, over which the gas pipeline and future use right of way extend. PPL St. 4, p. 14.

169. Buck Road could provide access to the substation and a buffer would be provided by surrounding forest land. PPL St. 4, p. 14.

170. PPL determined the most practicable location for the West Pocono 230/69 kV Substation and has purchased the property, identified in Figure 4-5 of Attachment 4 of its application, as the location for the West Pocono 230/69 kV Substation. PPL St. 4, p. 14.

171. PPL reviewed the functional area for the North Pocono 230/69 kV Substation and that review indicated environmental constraints including Lackawanna State Forest, natural areas, state game lands, wetlands and several stream networks. PPL St. 4, p. 15.

172. The functional area also included residences along Freytown Road but also a large concentration of homes located along the southwestern perimeter associated with the Eagle Lake and Big Bass Lake developments. PPL St. 4, p. 15.

173. PPL narrowed the selection of a location for the North Pocono 230/69 kV Substation to an upland area surrounding an isolated section of Freytown Road. PPL St. 4, p. 15.

174. Freytown Road could provide access to the substation and a buffer would be provided by surrounding forest land. PPL St. 4, p. 15.

175. Based on these considerations, PPL determined the most practicable location for the North Pocono 230/69 kV Substation and has purchased the property, identified in Figure 4-7 of Attachment 4 of its application, as the location for the North Pocono 230/69 kV Substation. PPL St. 4, p. 16.

176. The alternative routes for the 230 kV transmission lines assessed the region associated with each of three separate segments: 1) the existing Jenkins 230/69 kV Substation in Plains Township, Luzerne County to the proposed West Pocono 230/69 kV Substation in Buck Township, Luzerne County; 2) the proposed West Pocono 230/69 kV Substation to the proposed North Pocono 230/69 kV Substation in Covington Township, Lackawanna County; and 3) the proposed North Pocono 230/69 kV Substation to the Paupack 230/69 kV Substation in Paupack Township, Wayne County. PPL St. 4, p. 16.

177. Analysis of the three segments resulted in identification of two alternative routes per segment. PPL St. 4, p. 16.

178. In July 2011, PPL held a series of public open houses to present the alternative routes, provide information on how it selected the alternative routes and state how it would determine the selected route. PPL St. 4, p. 16.

179. PPL received feedback from landowners, adjacent property owners, state agencies and public interest groups. PPL St. 4, p. 16.

180. These open house meetings resulted in the creation of a third alternative route for the West Pocono-North Pocono and North Pocono-Paupack segments. PPL St. 4, p. 16.

 181. PPL’s analysis of the Jenkins-West Pocono segment resulted in two alternative routes, Alternative Route A and Alternative Route B. PPL St. 4, p. 17-20.

182. Alternative Route Ais 17.10 miles (90,360 feet) in length. PPL St. 4, p. 17‑20.

183. Alternative Route Bis 15.00 miles (79,250 feet) in length. PPL St. 4, p. 17‑20.

184. PPL evaluated Alternative Routes A and B using both qualitative and quantitative analysis. PPL St. 4, p. 21.

185. The quantitative analysis indicated that Alternative Route B would produce fewer impacts relative to Alternative Route A and would be less challenging to construct. PPL St. 4, p. 21.

186. Alternative Route B had a lower score for build environment and engineering consideration and matched Alternative Route A for natural environment. PPL St. 4, p. 21.

187. Based on the results of the quantitative analysis, the siting team concluded that Alternative Route B would result in fewer social and physical impacts than Alternative Route A. PPL St. 4, p. 21.

188. The results of the qualitative assessment show that Alternative Route B has lower scores for visual concerns, community concerns, construction issues and schedule delay risk. PPL St. 4, p. 22.

189. Based on the quantitative and qualitative assessments, the siting team selected Alternative Route B for the Jenkins-West Pocono segment of the Northeast-Pocono Reliability Project. PPL St. 4, p. 22-26.

 190. PPL’s analysis of the West Pocono-North Pocono segment resulted in three alternative routes, Alternative Route C, Alternative Route D and Alternative Route D-1. PPL St. 4, p. 22-26.

 191. PPL established Alternative Route D-1 following public open houses and agency coordination meetings. PPL St. 4, p. 22.

192. Alternative Route D-1 combines significant components of Alternative Route D with aspects of Alternative Route C. PPL St. 4, p. 22.

 193. Alternative Route Cis 19.10 miles (101,000 feet) in length. PPL St. 4, p. 22‑26.

194. Alternative Route Dis 19.90 miles (105,072 feet) in length. PPL St. 4, p. 22‑26.

195. Alternative Route D-1is 20.75 miles (109,600 feet) in length and is a combination of Alternative Route D and several portions of Alternative Route C. PPL St. 4, p. 22‑26.

196. PPL evaluated Alternative Routes C, D and D-1 using both qualitative and quantitative analysis. PPL St. 4, p. 27.

197. The quantitative analysis indicated that Alternative Route D-1 had the lowest score for build environment and engineering consideration but the highest for natural environment. PPL St. 4, p. 27-28.

198. Environment impacts for Alternative Route D-1 were elevated by the need to avoid social conflicts and reduce the effects of the alignment on conserved lands. PPL St. 4, p. 27‑28.

199. The siting team concluded that Alternative Route D-1 would result in less social and physical impacts than the two alternative routes. PPL St. 4, p. 27.

200. The results of the qualitative assessment show that Alternative Route D-1 has lower scores for visual concerns, community concerns, construction issues and schedule delay risk. PPL St. 4, p. 27.

201. Based on the quantitative and qualitative assessments, the siting team selected Alternative Route D-1 for the West Pocono-North Pocono segment of the Northeast-Pocono Reliability Project. PPL St. 4, p. 28.

202. PPL’s analysis of the North Pocono-Paupack segment resulted in three alternative routes, Alternative Route E, Alternative Route F and Alternative Route F-1. PPL St. 4, p. 28-33.

203. PPL established Alternative Route F-1 following public open houses and agency coordination meetings. PPL St. 4, p. 28.

204. Alternative Route F-1 combines significant components of Alternative Route E with aspects of Alternative Route F. PPL St. 4, p. 28.

205. Alternative Route Eis 20.88 miles (110,250 feet) in length. PPL St. 4, p. 28‑33.

206. Alternative Route Fis 23.88 miles (126,000 feet) in length. PPL St. 4, p. 28‑33.

207. Alternative Route F-1is 23.93 miles (126,200 feet) in length and is a modified version of Alternative Route F combined with several portions of Alternative Route E. PPL St. 4, p. 28-33.

208. PPL evaluated Alternative Routes E, F and F-1 using both qualitative and quantitative analysis. PPL St. 4, p. 33.

209. The quantitative evaluation scored and ranked the alternative routes according to certain selected evaluation metrics. PPL St. 4, p. 33-34.

210. The quantitative analysis indicated that Alternative Route F-1 had the lowest score for build environment and was second lowest for natural environment and engineering considerations. PPL St. 4, p. 33-34.

211. The siting team concluded that Alternative Route F-1 would result in less social and physical impacts than the two alternative routes. PPL St. 4, p. 33.

212. The results of the qualitative assessment show that Alternative Route F-1 has lower scores for visual concerns, community concerns, construction issues and schedule delay risk. PPL St. 4, p. 33-34.

213. Based on the quantitative and qualitative assessments, the siting team selected Alternative Route F-1 for the North Pocono-Paupack segment of the Northeast-Pocono Reliability Project. PPL St. 4, p. 33.

214. A pair of new parallel 138/69 kV transmission lines are required to connect the West Pocono Substation to the nearest existing 138/69 kV transmission line alignment. PPL St.‑4, p. 35.

215. The 138/69 kV transmission alignment nearest to the site proposed for the West Pocono Substation is the existing East Palmerton-Wagners 138/69 kV transmission line in Tobyhanna Township, Monroe County, located approximately three miles east of the West Pocono Substation site. PPL St. 4, p. 35.

216. Constructing the new West Pocono 138/69 kV Connector lines will require clearing a new 150 foot wide right of way between the West Pocono Substation and the East Palmerton-Wagners #1 & #2 and Jackson-Wagners #1 & #2 138/69 kV transmission lines. PPL St. 4, p. 35.

217. PPL’s analysis of the West Pocono 138/69 Connector lines resulted in two alternative routes, Connector Line 1 and Connector Line 2. PPL St. 4, p. 35-36.

218. Connector Line 1is 2.94 miles (15,523 feet) in length. PPL St. 4, p. 33‑34.

219. Connector Line 2is 3.12 miles (16,473 feet) in length. PPL St. 4, p. 33‑34.

220. PPL evaluated Connector Lines 1 & 2 using both qualitative and quantitative analysis. PPL St. 4, p. 36.

221. The quantitative analysis indicated that Connector Line 2 had the lowest score for metrics evaluated. PPL St. 4, p. 36.

222. The results of the qualitative assessment show that Connector Line 2 has lower scores for the aspects assessed. PPL St. 4, p. 36.

223. Based on the quantitative and qualitative assessments, PPL concluded that Connector Line 2 would result in less social and physical impacts than Connector Line 1. PPL St. 4, p. 36.

224. The siting team selected Connector Line 2 as the West Pocono 138/69 kV Connector Line for the Northeast-Pocono Reliability Project. PPL St. 4, p. 36-37.

225. A set of three new parallel 138/69 kV transmission lines is required to connect the North Pocono Substation to the nearest existing 138/69 kV transmission line alignment. PPL St. 4, p. 35.

226. The 138/69 kV transmission alignments nearest to the site proposed for the North Pocono Substation are the existing Blooming Grove-Jackson and Peckville-Jackson 138/69 kV transmission lines. PPL St. 4, p. 35.

227. Two new single-circuit 138/69 kV lines would be required to connect the North Pocono Substation to the existing single circuit Blooming Grove-Jackson and Peckville-Jackson 138/69 kV transmission lines located in Sterling Township, Wayne County, located approximately one mile southeast of the North Pocono Substation site. PPL St. 4, p. 35.

228. Constructing the new single circuit North Pocono 138/69 kV Connector lines will require a new shared 200 foot wide right of way between the North Pocono Substation to the tap point of the existing Peckville-Jackson Gouldsboro-Madison Line No. 365. PPL St. 4, p. 37.

229. A third new double-circuit 69 kV transmission line would be required to connect the North Pocono Substation to the existing double circuit Blooming Grove-Jackson and Peckville-Jackson 138/69 kV transmission line which is located approximately two miles south of the North Pocono Substation site near the existing Gouldsboro 69 kV substation in Leigh Township, Wayne County. PPL St. 4, p. 37.

230. The new double-circuit 138/69 kV transmission line would utilize the same 200 foot right of way shared by the two new single-circuit 138/69 kV connecting lines between the north Pocono Substation and the tap point of the existing Peckville-Jackson Gouldsboro-Madison 69 kV line and would require an additional new 100 foot wide right of way where it would intersect the existing double-circuit Blooming Grove-Jackson and Peckville-Jackson 138/69 kV transmission line. PPL St. 4, p. 37-38.

231. PPL’s analysis of the North Pocono 138/69 Connector lines resulted in two alternative routes, Connector Line 3 and Connector Line 4. PPL St. 4, p. 38.

232. Connector Line 3is 2.84 miles (14,995 feet) in length. PPL St. 4, p. 38‑39.

233. Connector Line 4is 2.97 miles (15,682 feet) in length. PPL St. 4, p. 38.

234. PPL evaluated Connector Lines 3 & 4 using both qualitative and quantitative analysis. PPL St. 4, p. 39.

235. The quantitative evaluation scored and ranked the alternative routes according to certain selected evaluation metrics. PPL St. 4, p. 39.

236. The quantitative analysis indicated that Connector Line 4 had the lowest score for metrics evaluated. PPL St. 4, p. 39.

237. The results of the qualitative assessment show that Connector Line 4 has lower scores for the aspects assessed. PPL St. 4, p. 39.

238. Based on the quantitative and qualitative assessments, PPL concluded that Connector Line 4 would result in less social and physical impacts than Connector Line 3. PPL St. 4, p. 39.

239. The siting team selected Connector Line 4 as the North Pocono 138/69 kV Connector Line for the Northeast-Pocono Reliability Project. PPL St. 4, p. 39.

240. Burying high voltage transmission lines generally costs six to ten times more than constructing overhead transmission lines. PPL St. 5-R, p. 5.

241. Repair of underground transmission lines can require weeks compared to hours to repair overhead lines. PPL St. 5-R, p. 5.

242. There would be substantial environmental impacts associated with burying transmission lines in wetlands and across streams and the installation of underground facilities would have a greater impact on earth disturbance. PPL St. 5-R, p. 5.

243. The closest point between the Big Bass Lake community and proposed Route D-1 is a quarter of a mile. PPL St. 1-R, p. 10.

244. PPL assessed the location of its proposed transmission line route relative to Choke Creek Falls and has moved the route further from the falls in order not to affect the falls’ aesthetic value. PPL St. 4-R, p. 11.

245. PPL’s adjustment moves the proposed transmission line route approximately .3 miles to the east. PPL St. 4-R, p. 11.

246. PPL’s Route D-1 initially ran parallel to a section of Phelps Road at the southern edge of Lackawanna State Forest, consistent with Department of Conservation and natural Resources (DCNR) guidelines for right of way development in state forest lands. PPL St. 4-R, p. 12.

247. As a result of discussions with DCNR officials, PPL will move its Route D-1 further to the southeast, away from Phelps Road to maintain the aesthetic setting. PPL St. 4‑R, p. 12.

248. Route D-1 through southern Lackawanna County does not cross any actively farmed parcels of land. PPL St. 4-R, p. 22.

249. No farms in the southern portion of Lackawanna County are protected by an Agricultural Conservation Easement. PPL St. 4-R, p. 22.

250. The closest farms in Lackawanna County with a preservation easement are located near Moscow, approximately a mile north of the proposed route D-1. PPL St. 4-R, p. 22.

251. NP CARE documented two reptiles considered Pennsylvania Species of Special Concern, the Wood Turtle and the Smooth Green Snake, in close proximity to the preferred route for PPL’s proposed transmission lines and access roads. NP CARE St. 3, p. 3.

252. NP CARE found the Wood Turtle, along Sand Springs Creek and found the Smooth Green Snake along Phelps Road. NP CARE St. 3, p. 3.

253. NP CARE also documented one amphibian considered a Pennsylvania Species of Special Concern, the four-toed Salamander, in close proximity to the preferred route for PPL’s proposed transmission lines and access roads. NP CARE St. 3, p. 4.

254. NP CARE found the four-toed Salamander in a Palustrine hemlock wetland near Phelps Road. NP CARE St. 3, p. 4.

255. NP CARE documented one butterfly considered a Pennsylvania Species of Special Concern, the Artic Skipper, in close proximity to the preferred route for PPL’s proposed transmission lines and access roads. NP CARE St. 3, p. 6.

256. NP CARE found the Artic Skipper along Phelps Road. NP CARE St. 3, p. 6.

257. NP CARE documented one moth considered a Pennsylvania Species of Special Concern, the Slender Clearwing, in close proximity to the preferred route for PPL’s proposed transmission lines and access roads. NP CARE St. 3, p. 6.

258. NP CARE observed the Slender Clearwing feeding in a blueberry/heath opening between Choke Creek and Phelps Road. NP CARE St. 3, p. 6.

259. NP CARE documented six dragonflies and damselflies considered Pennsylvania Species of Special Concern, the Uhler’s Sundragon, Azure Bluet, Turquoise Bluet, Harlequin Darner, American Emerald and Superb Jewelwing, in close proximity to the preferred route for PPL’s proposed transmission lines and access roads. NP CARE St. 3, p. 7-8.

260. NP CARE found the Uhler’s Sundragon at several locations along Ash Creek, Choke Creek, Lehigh River headwaters and Sand Springs Creek, the Azure Bluet along a vernal pool near Choke Creek, the Turquoise Bluet along Choke Creek, the Harlequin Darner along the headwaters of the Lehigh River, the American Emerald along the headwaters of the Lehigh River and the Superb Jewelwing along Choke Creek. NP CARE St. 3, p. 7-8.

261. NP CARE documented six plant species considered Pennsylvania Species of Special Concern in close proximity to the preferred route for PPL’s proposed transmission lines and access roads. NP CARE St. 3, p. 8-9.

262. NP CARE found the Creeping Snowberry in a coniferous wetland forest on the Bednarz property located near Bear Lake Road, the Early Coralroot Orchid in a coniferous wetland forest on the Bednarz property located near Bear Lake Road, the Golden Club growing in the Lehigh River near Lehigh Pond, the Bladderworth in a semi-permanent pool along Choke Creek, the Balsam Fir in a coniferous wetland forest on the Bednarz property located near Bear Lake Road and the Fly-Poison Ivy in the forest adjacent to Phelps Road. NP CARE St. 3, p. 8-9.

263. NP CARE also documented Plant Communities of Special Concern in close proximity to the preferred route for PPL’s proposed transmission lines and access roads. NP CARE St. 3, p. 9-10.

264. NP CARE found a Hemlock Palustrine Forest located adjacent to Phelps Road, a Coniferous-Broadleaf Palustrine Forest on the Bednarz property adjacent to Bear Lake Road, a Golden Saxifrage/Pennsylvania Bittercress Spring Runs on the Bednarz property along Choke Creek and Vernal Pools in the floodplain area along Choke Creek and Sand Springs Creek as well as near the intersection of Bear Lake Road and Phelps Road. NP CARE St. 3, p. 9-10.

265. NP CARE documented a large population of Fly-poison Lily occurring adjacent to and near Phelps Road. NP CARE St. 3, p. 11.

266. NP CARE located a Bur-reed species in the headwaters of the Lehigh River near Lehigh Pond. NP CARE St. 3, p. 11.

267. NP CARE located what appears to be the Mountain Starwort in spring runs along Sand Springs Creek and on the Bednarz property. NP CARE St. 3, p. 11.

268. NP CARE located and measured Red Spruce and Eastern Hemlock trees exceeding 70 feet in height. NP CARE St. 3, p. 13.

269. NP CARE also discovered old-growth mature Red Spruce and Eastern Hemlock along the Lehigh River near Lehigh Pond, along Choke Creek, near Phelps Road and on the Bednarz property. NP CARE St. 3, p. 13.

270. NP CARE recorded a possible Pennsylvania State Champion Gray Birch in Lackawanna State Forest within the proposed transmission line corridor near the intersection of Tannery Road and Bear Lake Road. NP CARE St. 3, p. 13.

271. NP CARE found a large Red Spruce along Choke Creek in proximity to the proposed transmission line corridor near the Lackawanna State Forest boundary. NP CARE St. 3, p. 13-14.

272. Only threatened and endangered amphibians, birds, fish, mammals, mussels, snails, reptiles and vascular plants are protected by the Commonwealth of Pennsylvania and Pennsylvania may request actions to mitigate negative impacts to other species but such requests are voluntary, not mandatory. PPL St. 9-R, p. 4.

273. Many species on the list of Pennsylvania Species of Special Concern are common and secure and have no need for protection. PPL St. 9-R, p. 4.

274. These species are not afforded any legal protection in spite of the fact that they are on the Species of Special Concern list. PPL St. 9-R, p. 4-5.

275. Wetlands are regulated by the Department of Environmental Protection (DEP) under 25 Pa.Code, Chapter 105 governing Dam Safety and Waterway Management. PPL St. 9-R, p. 5.

276. Within these regulations, the presence of threatened or endangered species elevates an “other” wetland to Exceptional Value (EV) wetland with more stringent regulations. PPL St. 9-R, p. 5.

277. Common wetlands like Cattail marsh and Highbush blueberry-meadow-sweet wetlands are not classified as exceptional value based on Species of Special Concern, unless there are threatened or endangered species in the wetland. PPL St. 9-R, p. 5.

278. PPL is required to identify all Species of Special Concern. PPL St. 9-R, p. 5

279. PPL is only required to obtain clearances from the DCNR, Pennsylvania Fish and Boat Commission (PFBC), Pennsylvania Game Commission (PGC) and U.S. Fish and Wildlife Service (USFWS) for threatened or endangered species prior to receiving any DEP permits. PPL St. 9-R, p. 5.

280. Species of Special Concern that are not threatened or endangered are not protected by the Commonwealth of Pennsylvania. PPL St. 9-R, p. 5, PPL M.B. p. 152-153.

281. PPL will obtain all environmental permits necessary for construction of the Northeast-Pocono Reliability Project and will comply with all the terms and conditions placed on those permits. PPL St. 9-R, p. 6.

282. PPL will complete field surveys of the proposed route, documenting all threatened and endangered species, while recording all plant species of special concern and major habitats in the study area. PPL St. 9-R, p. 6.

283. Reports will be prepared documenting the findings and be submitted to DCNR, which will review the report and will respond to PPL and DEP. PPL St. 9-R, p. 6.

284. If DEP has any concerns, PPL will contact DEP and develop an appropriate solution. PPL St. 9-R, p. 6.

285. The Citizens’ Route is located north of PPL’s Route D-1. PPL St. 4-R, p. 4.

286. The Citizens’ Route moves the location for the West Pocono Substation approximately 4.7 miles northwest from PPL’s Route D-1. PPL St. 4-R, p. 4.

287. If the Citizens’ Route were adopted and the West Pocono Substation moved northwest, PPL would have to build approximately 5.2 additional miles of 69 kV transmission line from the substation to connect it to the existing 69 kV lines located near Thomas Road in Monroe County. PPL St. 4-R, p. 4-5.

288. The Citizens’ Route would have a greater impact on intact forest lands than PPL’s Route D-1. PPL St. 4-R, p. 8.

289. PPL’s Route D-1 mirrors the boundary of the Lackawanna State Forest with adjacent privately owned lands. PPL St. 4-R, p. 8.

290. The Citizens’ Route crosses through the north central section of the Lackawanna State Forest, then turns northeast and crosses two additional sections of the Lackawanna State Forest. PPL St. 4-R, p. 8.

291. The Citizens’ Route would traverse through isolated sections of forest that are presently much less fragmented by human influenced land uses than PPL’s Route D-1. PPL St. 4-R, p. 9.

292. North American Electric Reliability Corporation (NERC) Standard FAC-003-1 requires that transmission facility owners, such as PPL, adopt and keep current a formal transmission vegetation management program that has been reviewed and approved by NERC. PPL St. 7-R, p. 2.

293. The plan is required to specify clearances between vegetation and transmission conductors that must be maintained during all operating conditions. PPL St. 7-R, p. 2.

294. NERC Standard FAC-003-1 is mandatory and binding on owners and operators of transmission systems, such as PPL. PPL St. 7-R, p. 2.

295. For new rights-of-way, such as those required for the Northeast-Pocono Reliability Project, PPL initially removes all vegetation except for grasses and herbaceous or non-woody plants in both the Wire and Border Zones. PPL St. 7-R, p. 4.

296. This is necessary to both establish the extent of the new right-of-way and to accommodate the many construction activities that will occur within the right-of-way to install new foundations, tower structures, and conductors. PPL St. 7-R, p. 4.

297. After the initial clearing of a new right-of-way, compatible species are allowed to grow back and PPL then maintains the right-of-way by (i) selectively removing vegetation except grasses and herbaceous or non-woody plants in the Wire Zone and (ii) removing only non-compatible species in the Border Zone. PPL St. 7-R, p. 4.

298. Clearing the entire width of a new right-of-way for the construction of a new high voltage transmission line is an industry best practice, and is PPL standard practice for the construction of a new high voltage transmission line. PPL St. 7-RJ, p. 5.

299. As part of the required environmental studies, PPL conducts full wetland and waterway delineations that will define these features as well as any additional low-order perennial or intermittent streams that are not identified in the GIS stream data. PPL St. 4-R, p. 12-13.

300. Through this process, PPL has identified a total of 24 stream crossings for the West Pocono-North Pocono segment of the northeast-Pocono Reliability Project. PPL St. 4‑R, p. 6.

301. PPL is aware that many of the intermittent and perennial streams that will be spanned by the West Pocono-North Pocono segment are classified as exceptional value (EV) by DEP or are considered Wild Trout Waters (Naturally Reproducing or Class A) by PFBC, and that the wetlands located in the floodplains of these streams are considered EV wetlands due to their association with these special waters. PPL St. 4-R, p. 25.

302. PPL has defined an alignment for the West Pocono-North Pocono segment that will result in no permanent encroachment upon any of the streams and only three poles are located within two separate EV wetlands. PPL St. 4-R, p. 9-10.

303. Stream impacts will be limited to the removal of the riparian zone trees at all of the crossings and the construction of approximately six temporary stream crossings, which will be removed upon completion of the project. PPL St. 4-R-2, p. 26.

304. Prior to and during construction, PPL will design the project to minimize earth disturbance associated with the project construction to the extent practicable and temporary access roads and work areas will be restored following construction. PPL St. 4-R-2, p. 16.

305. With respect to soil erosion and sedimentation and crossings of jurisdictional waters, PPL is required through the federal and state permitting process to account for any impacts to intermittent and perennial streams. PPL St. 4-R-2, p. 12-13.

306. As part of the required environmental studies and permitting process, full wetland and waterway delineations are conducted that will define these features as well as any additional low-order perennial or intermittent streams that were not initially identified. PPL St. 4-R-2, p. 12-13.

307. PPL will prepare erosion and sedimentation control plans in accordance with DEP regulations found at Title 25, Chapter 102 of the Pennsylvania Administrative Code and consistent with DEP’s standards and guidance. PPL St. 4-R-2, p. 12-13.

308. The erosion and sedimentation control plans will present best management practice measures that will limit the potential for erosion and sediment migration for the specific work activities, including construction of poles, temporary workspace requirements/dimensions, and access roads. PPL St. 4-R-2, p. 13-14.

309. Following construction, PPL will continue to inspect and maintain erosion and sedimentation best management practice measures until disturbed areas are restored through vegetal stabilization in accordance with permit conditions. PPL St. 4-R-2, p. 17, 25-27.

310. The Northeast-Pocono Reliability Project will be designed and constructed to minimize the duration of disturbance resulting from stream and wetland crossings and to satisfy any DEP timing restrictions for working in the respective streams. PPL St. 4-R-2, p. 27.

311. In this regard, stream crossings will be designed in accordance with DEP guidance to allow for natural stream flow to continue through the crossing and to limit impact to the stream bed and banks. PPL St. 4-R-2, p. 27.

312. Crossings will be installed and maintained in accordance with the design requirements and all permit conditions. PPL St. 4-R-2, p. 27.

313. The use of herbicides is a key component of PPL’s vegetation management program to effectively manage undesirable vegetation conditions within rights-of-way. PPL St. 7‑R, p. 10.

314. PPL’s vegetation management contractors are licensed by the Pennsylvania Department of Agriculture as Certified Commercial Pesticide Applicators and only apply herbicide products which have been approved for use on utility rights-of-way by the U.S. Environmental Protection Agency. PPL St. 7-R, p. 11.

315. PPL does not use any aerial herbicide application techniques and herbicides are applied manually by trained professionals. PPL St. 7-R, p. 11.

316. Only those species that require control are treated, such as non-compatible and invasive species. PPL St. 5-R, p. 10-11.

317. PPL does not apply herbicides in the following areas or situations: pastures within 50 feet of any body of water, except that PPL will use herbicides approved for watershed/aquatic use for stump treatments; within any actively maintained orchard or cultivated planting; near susceptible crops or other non-target vegetation where drift, runoff, or vapors can cause injury; where weather conditions create excessive drift; on rights-of-way under jurisdiction of the DCNR, Pennsylvania Game Commission (PGC), PFBC, and the U. S. Park Service unless prior approval is granted by these agencies; on watershed properties, or in the vicinity of springs, irrigation ditches, or other potable water sources, unless prior approval is granted by the property owner for use of a watershed/aquatic approved herbicide; in gullies or ravines where tree clearing is minimal. PPL St. 7-R, p. 11.

318. PPL will only use watershed/aquatic approved herbicide near watershed areas, and will comply with all federal and state requirements regarding the use of herbicides, including in areas near EV streams, EV wetlands, and vernal pools. PPL St. 7-R, p. 11.

319. Of the 477 total monopoles for the entire Northeast-Pocono Reliability Project, only 16 (3%) would be in a wetland and only 14 (3%) would infringe upon a riparian zone around a stream. PPL St. 4-R-2, p. 9-10, PPL St. 4-RJ, p. 7.

320. For the West Pocono-North Pocono segment, including the North Pocono 138 kV Connector lines, of the 183 total poles for this segment, only 3 poles are located in a wetland (less than 2%) and only 4 within a stream riparian area (approximately 2%). PPL St. 4-R-2, p. 9-10, PPL St. 4-RJ, p. 7.

321. With respect to the use of heavy machinery or equipment near EV streams and wetlands, prior to and during construction, PPL will design the project to minimize earth disturbance associated with the project construction, including equipment operation, and its encroachment into riparian buffers to the extent practicable. PPL St. 4-R-2, p. 16.

H. Zoning Petitions

322. The area for the West Pocono Substation will occupy approximately 7.55 acres. PPL St. WP-1, p. 6.

323. The new West Pocono Substation will include a building. PPL St. WP-1, p. 6.

324. Substations must include certain control equipment-primarily switches, relays and other control equipment to control the flow of electricity into, within and from the substation as well as Supervisory Control and Data Acquisition (SCADA) equipment-to monitor the operation of the substation. PPL St. WP-1, p. 6.

325. In order to function properly, SCADA equipment must be protected from the elements. PPL St. WP-1, p. 6.

326. The purpose of the proposed building in the substation is to protect the control and SCADA equipment from the elements so that the equipment, and the entire substation, can function properly. PPL St. WP-1, p. 6.

327. The control equipment building will be approximately 40 feet by 70 feet. It will be constructed on a concrete slab. PPL St. WP-1, p. 9.

328. The exterior walls will be constructed of corrugated aluminum. PPL St. WP‑1, p. 9.

329. There will be minimal space heating and cooling equipment for the building for the purpose of keeping the temperature inside the building within limits tolerated by the control and SCADA equipment. PPL St. WP-1, p. 9.

330. The control equipment building will not be intended for occupancy and there will be no supply of water and no sanitary facilities. PPL St. WP-1, p. 9.

331. The substation will be surrounded by a high fence to prevent entry by unauthorized persons. PPL St. WP-1, p. 9.

332. The fenced area for the West Pocono Substation will be approximately 900 feet by 450 feet. PPL St. WP-1, p. 9.

333. Access to the substation, including the control equipment building, must be limited because the high voltages at which the substation will operate present dangers to untrained persons and the control equipment building will be contained within the fenced perimeter of the substation. PPL St.WP-1, p. 9.

334. PPL’s proposed control equipment building for the West Pocono Substation will be located in a portion of Buck Township designated as C-1, Conservation. PPL St. WP-2, p. 6.

335. Pursuant to pages 3-2, 5-2 and 11-7 of Buck Township’s zoning ordinance, any electric substation or associated facilities are “essential services-closed” that are only permitted by special exception in every zoning district in Buck Township. PPL St. WP-2, p. 6.

336. In order to be eligible for a special exemption under the Buck Township zoning ordinance, an applicant, such as PPL, would have to demonstrate compliance with the criteria set forth on pages 8-6 and 8-7 of the Buck Township zoning ordinance. PPL St. WP-2, p. 7.

337. In addition, a special exception for “essential services-closed” such as facilities associated with electric substations, must meet additional requirements set forth on pages 5-2 and 5-3 of the Buck Township zoning ordinance. PPL St. WP-2, p. 8.

338. For special exceptions, the Buck Township Zoning Hearing Board may also attach such conditions as it deems necessary. PPL St. WP-2, p. 8.

339. Page 9-2 of the Buck Township zoning ordinance requires a zoning permit prior to construction of any structure. PPL St. WP-2, p. 8.

340. The area for the North Pocono Substation will occupy approximately 7.55 acres. PPL St. NP-1, p. 8.

341. The new North Pocono Substation will include a building. PPL St. NP-1, p. 9.

342. Substations must include certain control equipment, primarily switches, relays and other control equipment to control the flow of electricity into, within and from the substation as well as SCADA equipment to monitor the operation of the substation. PPL St. NP‑1, p. 9.

343. In order to function properly, this equipment must be protected from the elements. PPL St. NP-1, p. 9.

344. The purpose of the proposed building in the substation is to protect the control and SCADA equipment from the elements so that the equipment, and the entire substation, can function properly. PPL St. NP-1, p. 9.

345. The control equipment building will be approximately 40 feet by 70 feet. PPL St. NP-1, p. 9.

346. The control building will be constructed on a concrete slab. PPL St. NP-1, p. 9.

347. The exterior walls will be constructed of corrugated aluminum. PPL St. NP‑1, p. 9.

348. There will be minimal space heating and cooling equipment for the building. PPL St. NP-1, p. 9.

349. The heating and cooling equipment will be installed for the purpose of keeping the temperature inside the building within limits tolerated by the control and SCADA equipment. PPL St. NP-1, p. 9.

350. The control equipment building will not be intended for occupancy and there will be no supply of water and no sanitary facilities. PPL St. NP-1, p. 9.

351. The substation will be surrounded by a high fence to prevent entry by unauthorized persons. PPL St. NP-1, p. 9.

352. The fenced area for the North Pocono Substation will be approximately 900 feet by 450 feet. PPL St. NP-1, p. 9-10.

353. Access to the substation, including the control equipment building, must be limited because the high voltages at which the substation will operate present dangers to untrained persons and the control equipment building will be contained within the fenced perimeter of the substation. PPL St. NP-1, p. 10.

354. PPL’s proposed control equipment building will be located in a portion of Covington Township designated as SC, Special Conservation. PPL St. NP-2, p. 6.

355. Pursuant to pages III-9, IV-13 and IV-14 of Covington Township’s zoning ordinance, any electric transmission and distribution poles, wire and facilities that do not require a building are “essential services” that are a permitted use in every zoning district in Covington Township. PPL St. NP-2, p. 6.

356. Page IV-17 of the zoning ordinance provides that “semi-public buildings or uses” are not permitted within any SC, Special conservation zoning district. PPL St. NP-2, p. 6.

357. Page III-19 of the Covington Township zoning ordinance defines “semi-public buildings or uses” as any essential services or public utility facilities that require enclosure within any structure or building. PPL St. NP-2, p. 6-7.

358. The control equipment building is not permitted at the proposed substation site. PPL St. NP-2, p. 7.

359. Page VI-1 of the Covington Township zoning ordinance requires a zoning or building permit prior to construction of any structure. PPL St. NP-2, p. 7.

360. Even if the control equipment building was a permitted use, PPL would be required to obtain a building and/or zoning permit for the North Pocono Substation and control equipment building. PPL St. NP-2, p. 7.

I. Eminent Domain

361. PPL initially considered routing the transmission line along the property line of Covington Industrial Park but several home owners whose properties adjoin the park objected to that route. PPL St. 1-R, p. 4.

362. PPL considered these objections and determined that it would create the least overall impact if the route for the transmission line were located further away from residential dwellings and closer to the industrial buildings located in Covington Industrial Park. PPL St. 1-R, p. 4.

363. It was necessary for PPL to route the proposed transmission line through the conservation easement at the rear of FR E2’s property in order to avoid locating the route in close proximity to underground ammunition bunkers under contract with the United States Department of Defense. PPL St. 1-R, p. 4.

364. The proposed Route D-1 follows FR E2’s property line for a substantial portion of the route that traverses FR E2’s property. PPL St. 1-R, p. 4, PPL Ex. DLH-1.

365. PPL selected the proposed route across FR E2’s property in order to avoid the underground ammunition bunkers and there is not enough room to site the proposed transmission line along FR E2’s property line and still accommodate the need to avoid the underground ammunition bunker. PPL St. 1-R, p. 4.

IV. DISCUSSION

A. Summary of the Northeast-Pocono Reliability Project

Before discussing the burden of proof and standards for approval of PPL’s applications and petitions, I will provide a brief summary of the Northeast-Pocono Reliability Project. In order for the reader to understand the Northeast-Pocono Reliability Project, I refer the reader to Figure 2-3 in Attachment 2 of PPL’s application, which is a map showing the location of the proposed Northeast-Pocono Reliability Project described below.

According to PPL, it requires construction of the Northeast-Pocono Reliability Project in order to reinforce the 138/69 kV systems serving the Northeast-Pocono region. PPL St. 1, p. 8. PPL proposes to reinforce the 138/69 kV systems in the region by bringing a new 230 kV supply source closer to growing load centers in order to resolve reliability and planning violations. PPL St. 1, p. 8. In order to bring a new 230 kV supply source to these growing load centers, PPL proposes to construct two new 230/69 kV transmission substations, the West Pocono 230/69 kV Substation and the North Pocono 230/69 kV Substation, located centrally to the load they will serve. PPL St. 1, p. 8-9, PPL M.B. p. 52.

The new substations and new transmission lines will reduce the distance between the supply of power and the homes and businesses that use the electricity. PPL St. 1, p. 9. The new substations and new transmission lines will also provide an alternate source of power to the region in the event that normal supply sources are interrupted. Having an alternate source of power will improve power restoration times and improve reliability for customers. PPL St. 1, p. 9. The Northeast-Pocono Reliability Project will reduce the number of customers affected by a single facility outage, as well as the duration of the outage. PPL St. 1, p. 9, PPL M.B. p. 52-53.

The West Pocono and North Pocono Substations will be connected to the existing 230 kV transmission system by 58 miles of new 230 kV transmission line. PPL also proposes constructing five new 138/69 kV transmission lines totaling approximately 11.3 miles to connect the West Pocono and North Pocono Substations to the existing local 138/69 kV transmission system. PPL St. 1, p. 9, PPL M.B. p. 53-54.

Initially, PPL estimated that the cost to design and construct the Northeast-Pocono Reliability Project would be approximately $154 million. The estimated cost included approximately $36 million for substation work, $90.6 million for the 230 kV transmission line work, $10.3 million for the 138/69 kV transmission line work and $17.1 million for the acquisition of right-of-way and land for the substations. PPL St. 1, p. 9-10. At the July 24, 2013 hearing, PPL’s witnesses provided an updated estimate for the project of $247 million. PPL St. 5-RJ, p. 4, N.T. 307-309, PPL M.B. p. 53. PPL has scheduled a construction start date of Spring 2014 for the Northeast-Pocono Reliability Project in order to meet an in-service date of November 2017. PPL St. 1, p. 10, PPL M.B. p. 53.

B. Legal Standards

1. Burden of Proof

 Having provided a brief summary of the Northeast-Pocono Reliability Project, I will now briefly address the burden of proof that PPL must meet in order to obtain Commission approval for the Northeast-Pocono Reliability Project. The proponent of a Commission rule or order has the burden of proof. 66 Pa.C.S. § 332(a). As the applicant in these proceedings, PPL has the burden of proof to establish that it is entitled to the relief it is seeking. PPL must establish its case by a preponderance of the evidence. Samuel J. Lansberry, Inc. v. Pa. Pub. Util. Comm’n, 578 A.2d 600 (Pa. Cmwlth. 1990), alloc. den., 602 A.2d 863 (Pa. 1992) To meet its burden of proof, PPL must present evidence more convincing, by even the smallest amount, than that presented by any opposing party. Se-Ling Hosiery v. Margulies, 70 A.2d 854 (Pa. 1950).

2. Standards for Approval of the Siting and Construction of High Voltage Transmission Lines

Having summarized the Northeast-Pocono Reliability Project and briefly addressed the burden of proof that PPL must meet in order to obtain Commission approval for that project, I will now discuss the standards for Commission approval of the various aspects of the Northeast-Pocono Reliability Project. I will first address the standard for approval of the siting and construction of the 230 kV and 138 kV transmission lines.

The Public Utility Code at 66 Pa.C.S. § 1501 requires PPL to furnish reasonable and adequate service and facilities. The provision states in part:

**§ 1501. Character of service and facilities.**

Every public utility shall furnish and maintain adequate, efficient, safe, and reasonable service and facilities, and shall make all such repairs, changes, alterations, substitutions, extensions, and improvements in or to such service and facilities as shall be necessary or proper for the accommodation, convenience, and safety of its patrons, employees, and the public. Such service also shall be reasonably continuous and without unreasonable interruptions or delay. Such service and facilities shall be in conformity with the regulations and orders of the commission . . . .

If PPL recognizes the need for upgraded transmission facilities and fails to provide adequate facilities, it will violate this statutory requirement. However, PPL may not upgrade its transmission facilities unless it can show that the upgrade project is necessary or proper, and that the project complies with the Commission’s regulations governing transmission line siting and construction.

The Commission has promulgated regulations regarding the siting and construction of high voltage transmission lines at 52 Pa.Code §§ 57.71-57.77. These regulations provide that a public utility must obtain Commission approval to locate and construct a high voltage transmission line. 52 Pa.Code § 57.71. The siting regulations set forth what the Commission must consider when deciding to approve or deny an application for the siting of a high voltage transmission line. 52 Pa.Code § 57.76. The Commission regulation at 52 Pa.Code § 57.76(a) states:

**§ 57.76.  Determination and order.**

(a) The Commission will issue its order, with its opinion, if any, either granting or denying the application, in whole or in part, as filed or upon the terms, conditions or modifications, of the location, construction, operation or maintenance of the line as the Commission may deem appropriate. The Commission will not grant the application, either as proposed or as modified, unless it finds and determines as to the proposed HV line:

 (1) That there is a need for it.

 (2) That it will not create an unreasonable risk of danger to the health and safety of the public.

 (3) That it is in compliance with applicable statutes and regulations providing for the protection of the natural resources of this Commonwealth.

 (4) That it will have minimum adverse environmental impact, considering the electric power needs of the public, the state of available technology and the available alternatives.

The Commission promulgated its siting regulations to comply with the requirement that it consider environmental impacts, set forth in Article I, Section 27 of the Pennsylvania Constitution which states:

The people have a right to clean air, pure water and to the preservation of the natural, scenic, historic and esthetic values of the environment. Pennsylvania’s public natural resources are the common property of all the people, including generations yet to come. As trustee of these resources, the Commonwealth shall conserve and maintain them for the benefit of all the people.

The Commission’s siting regulations apply the three-part test enunciated in Payne v. Kassab, 312 A.2d 86 (Pa. Cmwlth. 1973). The three-part test established in Payne v. Kassab requires the consideration of the following: 1) Was there compliance with all applicable statutes and regulations relevant to the protection of the Commonwealth’s environment; 2) Does the record demonstrate a reasonable effort to reduce the environmental incursion to a minimum; 3) Does the environmental harm which would result from the challenged decision or action so clearly outweigh the benefits to be derived therefrom that to proceed further would be an abuse of discretion. Energy Conservation Council of Pennsylvania v. Pa. Pub. Util. Comm'n, 995 A.2d 465 (Pa. Cmwlth. 2010); Energy Conservation Council of Pennsylvania v. Pa. Pub. Util. Comm'n, 25 A.3d 440 (Pa. Cmwlth. 2011); see, also, Re: Proposed Electric Regulation, 49 Pa. PUC 709 at 712 (1976). The Commission uses this test to determine whether a proposed transmission line having environmental impacts should be approved.

The Commonwealth Court has determined that the Commission should not approve a transmission line unless the electric utility demonstrates that the line is necessary or proper for the accommodation, convenience and safety of its patrons, employees and the public, pursuant to 66 Pa.C.S. § 1501. Pa. Power & Light Co. v. Pa. Pub. Util. Comm’n, 696 A.2d 248, 250 (Pa. Cmwlth. 1997). In applying this standard, the Commonwealth Court held that the Commission should consider the electric power needs of the public, the state of the available technology and the available alternatives, pursuant to 52 Pa.Code § 57.76.

Regarding selection of the route for an electric utility line, the Commonwealth Court stated as follows:

The applicable legal standards for review of the selection of a route for utility lines are whether the powers conferred upon the public utility have been wantonly, capriciously or arbitrarily exercised. West Penn Power Co. v. Pennsylvania Public Utility Commission, 184 A.2d 143 (1962). The degree of inconvenience to a landowner, therefore, would not constitute grounds for withholding the exercise of the power to condemn the easement, seeStone v. Pennsylvania Public Utility Commission, 162 A.2d 18 (1960), where the record establishes that the utility’s route selection was reasonable considering all of the factors involved in the selection of the line.

Paxtowne v. Pa. Pub. Util. Comm’n, 398 A.2d 254, 256 (1979).

Similarly, the Superior Court explained the selection of a route for electric transmission lines as follows:

Appellant’s [affected landowner’s] first two contentions are sufficiently answered by our opinion in Phillips v. Pa. P.U.C.*,* [124 A.2d 625 (Pa. Super. 1956)], wherein we restated the well-established proposition that the selection of routes for transmission lines is a matter for the utility in the first instance and, unless it is shown that it proposes to exercise the powers conferred upon it wantonly or capriciously, or that the rights of the landowner have been unreasonably disregarded, the Commission is not required to withhold its approval merely because another route might have been adopted.

Laird v. Pa. Pub. Util. Comm’n, 133 A.2d. 579, 581 (Pa. Super. 1957).

The Commission has adopted interim guidelines, set forth at 52 Pa.Code §§ 69.3101-69.3107, regarding information that electric utilities should provide with a transmission line siting application, in addition to the information required by 52 Pa.Code §§ 57.71-57.76. The Commission emphasized that these interim guidelines did not alter the legal standards to be met by applicants under the relevant provisions of the Public Utility Code or the regulations at 52 Pa.Code §§ 57.71-57.76. 52 Pa.Code § 69.3101(b).

3. Standards for Approval of the Siting of Substation Control Equipment Buildings

Having addressed the standard for approval of the siting and construction of the 230 kV and 138 kV transmission lines, I will next address the standard for approval of the siting of the West Pocono and North Pocono Substations’ control equipment buildings. The Pennsylvania Supreme Court has long held that municipalities have no power to zone with respect to utility facilities. Duquesne Light Co. v. Upper St. Clair Twp., 105 A.2d 287 (Pa. 1954); Duquesne Light Co. v. Monroeville Borough, 298 A.2d 252, 256 (Pa. 1972) (the PUC has exclusive regulatory jurisdiction over the implementation of public utility facilities). See, also, County of Chester v. Philadelphia Electric Co., 218 A.2d 331, 333 (Pa. 1966) (regulation by a multitude of jurisdictions would result in “twisted and knotted” public utilities with consequent harm to the general welfare of the public); Commonwealth v. Delaware & Hudson Railway Co., 339 A.2d 155, 157 (Pa. Cmwlth. 1975) (“public utilities are to be regulated exclusively by an agency of the Commonwealth with state-wide jurisdiction rather than a myriad of local governments with different regulations”).

The statute at 53 P.S. § 10619, Section 619 of the Municipalities Planning Code (MPC), provides a limited exception to this general rule. Section 619 of the MPC states as follows:

This article shall not apply to any existing or proposed building, or extension thereof, used or to be used by a public utility corporation, if, upon petition of the corporation, the Pennsylvania Public Utility Commission shall, after a public hearing, decide that the present or proposed situation of the building in question is reasonably necessary for the convenience or welfare of the public. It shall be the responsibility of the Pennsylvania Public Utility Commission to ensure that both the corporation and the municipality in which the building or proposed building is located have notice of the hearing and are granted an opportunity to appear, present witnesses, cross-examine witnesses presented by other parties and otherwise exercise the rights of a party to the proceedings.

Therefore, a municipality may zone a public utility building unless the Commission determines that the building is reasonably necessary for the convenience or welfare of the public. If the Commission finds that the building is reasonably necessary, the building is exempt from a local zoning ordinance under the MPC. Del-AWARE Unlimited, Inc. v. Pa. Pub. Util. Comm’n, 513 A.2d 593 (Pa. Cmwlth. 1986). Section 619 of the MPC does not require a utility to prove that the site it has selected is absolutely necessary or that it is the best possible site, it need only show that the building is reasonably necessary. O’Connor v. Pa. Pub. Util. Comm’n, 582 A.2d 427 (Pa. Cmwlth. 1990).

The Commission adopted a policy statement, set forth at 52 Pa.Code § 69.1101, to further the Commonwealth’s goal of making agency actions consistent with sound land use planning by considering the impact of its decision upon local comprehensive plans and zoning ordinances. The policy statement at 52 Pa.Code § 69.1101 states as follows:

To further the State’s goal of making State agency actions consistent with sound land-use planning and under the act of June 22, 2000 (P.L. 483, No. 67) and the act of June 23, 2000(P.L. 495, No. 68), the Commission will consider the impact of its decisions upon local comprehensive plans and zoning ordinances. This will include reviewing applications for:

(1) Certificates of public convenience

(2) Siting electric transmission lines.

(3) Siting a public utility “building” under section 619 of the Municipalities Planning code (53 P.S. § 10619)

(4) Other Commission decisions

4. Standards for Approval to Exercise the Power of Eminent Domain

Having addressed the standard for approval of the siting and construction of the 230 kV and 138 kV transmission lines and the standard for approval of the siting of the West Pocono and North Pocono Substations’ control equipment buildings, I will now address the standards for Commission approval to exercise the power of eminent domain. PPL filed applications requesting that the Commission make a finding and determination, pursuant to 15 Pa.C.S. § 1511(c), that the service to be furnished by PPL, through its proposed exercise of eminent domain to acquire portions of the lands of various property owners for the siting and construction of the Northeast-Pocono Reliability Project, is necessary or proper for the service, accommodation, convenience or safety of the public. The statute at 15 Pa.C.S. § 1511, Section 1511 of the Business Corporation Law of 1988 (BCL), grants a public utility the power or authority to condemn property to provide electricity to the public, stating, in part:

(a) General Rule. -- A public utility corporation shall … have the right to take, occupy and condemn property for one or more of the following principal purposes and ancillary purposes reasonably necessary or appropriate for the accomplishment of the principal purposes:

. . .

(3) The … transmission … distribution or furnishing of … electricity … to or for the public.

Section 1511 of the BCL grants a public utility, such as PPL, the power and authority to take and condemn property for the purpose of providing electricity to the public.

Section 1511(b) of the BCL, however, restricts the authority of a public utility to take and condemn property for the purpose of providing electricity to the public, stating, in part, as follows:

The powers conferred by subsection (a) shall not be exercised:

(1) To condemn for the purpose of constructing … aerial electric transmission … lines:

(i) Any dwelling house or, except in the case of any condemnation for petroleum or petroleum products transportation lines, any part of the reasonable curtilage of a dwelling house within 100 meters therefrom and not within the limits of any street, highway, water or other public way or place.

(ii) Any place of public worship or burying ground.

Before a public utility may exercise its statutorily granted authority to condemn property for the purposes of constructing aerial electric transmission facilities, it must obtain approval from the Commission. Section 1511(c) of the BCL states, in part:

(c) The powers conferred by subsection (a) [for the running of aerial electric facilities] may be exercised to condemn property … only after the Pennsylvania Utility Public Commission, upon application of the public utility corporation, has found and determined … that the service to be furnished by the corporation through the exercise of those powers is necessary for the service, accommodation, convenience or safety of the public.

On an application for condemnation, the Commission must determine whether the transmission or distribution of electricity to or for the public that will be provided if the subject property is condemned, is necessary for the service, accommodation, convenience or safety of the public.

If the record establishes that the public utility’s route selection was reasonable, considering all of the factors involved in the selection of a line, the degree of inconvenience to a landowner does not constitute grounds for withholding the exercise of the power to condemn the easement. Paxtowne v. Pa. Pub. Util. Comm’n, supra.

C. Need for the Proposed Facilities

1. Overview

 Having summarized the Northeast-Pocono Reliability Project, briefly addressed the burden of proof that PPL must meet in order to obtain Commission approval for that project and discussed the standards for Commission approval of the various aspects of the Northeast-Pocono Reliability Project, I will now address the need for the project, pursuant to 52 Pa.Code § 57.76(a)(1), starting with a brief overview of PPL’s arguments regarding need for the project. I will start by noting that none of the parties contests PPL’s assertion that there is a need for some reinforcement of the existing transmission system in the Northeast-Pocono area. OCA has conceded that the record in this proceeding shows that the existing transmission system in the Northeast-Pocono region needs some reinforcement but has offered an alternative to the Northeast-Pocono Reliability Project. OCA M.B. p. 4. NP CARE has not addressed the issue of the need for the Northeast-Pocono Reliability Project in its testimony or briefs but rather supports OCA’s position and has adopted it. NP CARE M.B. p. 9. Covington, Transco, FR E2 and FR First did not address the need for the Northeast-Pocono Reliability Project in their testimony or briefs. However, witnesses at the May 2, 2013 public input hearing contested PPL’s position that the project was necessary.

Turning to PPL’s arguments, it contends that the Northeast-Pocono Reliability Project is necessary to resolve violations of PPL’s Reliability Principles and Practices (RP&P) guidelines and reinforce the 69 kV systems in Monroe, Carbon, Wayne, Lackawanna, Luzerne and Pike Counties by bringing a new 230 kV supply to the area. PPL St. 2, p. 3. 138/69 kV transmission circuits currently provide the only source of supply to the Northeast-Pocono area. According to PPL, it has been 30 years since it built the last major transmission reinforcement in the Northeast-Pocono area. PPL St. 2, p. 3. PPL M.B. p. 35.

Generally, PPL contends that there has been substantial load growth in the Northeast-Pocono area and that load growth is expected to continue. PPL St. 2, p. 3. PPL is concerned that the existing 138/69 kV transmission facilities in the Northeast-Pocono area are long in length and serve a significant number of customers. PPL St. 2, p. 3. The customers in the Northeast-Pocono area are vulnerable to long duration outages from loss of the transmission circuit that serves them. PPL St. 2, p. 3. PPL’s ability to restore service to those customers is limited due to the lack of 230 kV transmission sources in the area. PPL St. 2, p. 3.

PPL requires the Northeast-Pocono Reliability Project to resolve the violations of the RP&P guidelines and reinforce the existing 138/69 kV transmission system by bring a new 230 kV supply source closer to the growing load centers. PPL St. 2, p. 3-4. PPL proposes to accomplish this by locating the West Pocono and North Pocono Substations central to the loads they will serve. PPL St. 2, p. 4. The reinforced network of 230 kV transmission facilities in the Northeast Pocono area with the two new transmission substations and 138/69 kV transmission circuit connections will allow for a system configuration with shorter 138/69 kV transmission circuit lengths and an improved ability to transfer load from one source to another in the event of a facility outage. PPL St. 2, p. 4. This new configuration will reduce the number of customers affected by a single facility outage and will also provide an alternate supply of power to customers for the loss of their normal transmission supply circuit, resulting in improved power restoration times. PPL St. 2, p. 4.

2. The Planning Process

Having provided a brief overview of PPL’s arguments regarding the need for the project, I will now discuss the planning process that led PPL to conclude that these problems existed, then briefly describe the existing system serving the Northeast-Pocono area before addressing the load growth in the Northeast-Pocono area and specific reliability issues. PPL determined that the Northeast-Pocono Reliability Project was necessary as a result of its transmission planning process. That process requires PPL to anticipate future needs in order to assure that its transmission system can supply electricity to all customers in a reliable manner. PPL St. 2, p. 4. PPL must develop plans far enough in advance to be able to complete a project when it is needed. PPL St. 2, p. 4.

In order to anticipate future needs, PPL has developed planning guidelines for system expansion and reinforcement. These guidelines are set forth in the RP&P, which PPL developed to provide its engineers with planning guidelines and criteria to enable them to plan for a reliable transmission and distribution system for PPL’s customers. PPL St. 2, p. 5. PPL asserts that its RP&P is consistent with good utility practices and with reliability criteria and standards used by similar distribution and transmission utilities. PPL St. 2, p. 5. PPL M.B. p. 32.

PPL uses the RP&P to plan its transmission system so that the system can operate at all projected load levels and during normal scheduled outages. PPL’s also plans its transmission system to withstand specific unscheduled contingencies without exceeding its equipment capability, causing system instability or cascade tripping, exceeding voltage tolerances or causing large scale, long term or frequent interruptions to customers. PPL St. 2, p. 5.

This planning process begins with a computer model of the future transmission system. PPL performs power flow simulations using the computer model to determine the ability of the transmission system to comply with the criteria set forth in the RP&P. PPL St. 2, p. 5. Where the transmission system does not meet the RP&P criteria, reinforcement alternatives are added to bring the transmission system into compliance. PPL St. 2, p. 5. PPL also identifies estimated costs and lead times to implement the transmission system reinforcement PPL is considering. PPL St. 2, p. 5. PPL completes computer simulations of the transmission system with the proposed reinforcement to identify the best reinforcement that will meet the needs of the area in a reliable and economical manner. PPL St. 2, p. 5, PPL M.B. p. 34.

PPL retained an independent expert witness who stated that PPL’s RP&P are consistent with good utility practice and consistent with the reliability criteria and standards that other transmission utilities utilize. PPL St. 3, p. 5, 8-10. The RP&P are consistent with how other transmission utilities perform system planning studies and make decisions regarding future transmission and distribution upgrades for meeting future system reliability and customer needs. PPL St. 3, p. 8-10. The RP&P is also consistent with PJM Interconnection, LLC (PJM) policies. PPL St. 3, p. 8-11, PPL M.B. p. 32-33.

In addition to its own transmission planning process, PPL is also included in the planning process of PJM, a Federal Energy Regulatory Commission (FERC) approved Regional Transmission Organization (RTO). PPL St. 2, p. 6. PJM has the responsibility of ensuring the reliability of the electric transmission system in thirteen states, including Pennsylvania as well as the District of Columbia. PPL St. 2, p. 6. PJM prepares an annual Regional Transmission Expansion Plan (RTEP) to identify system reinforcements required to comply with North American Electric Reliability Corporation (NERC) reliability standards, PJM reliability planning criteria and transmission owner reliability criteria. PPL St. 2, p. 6, PPL M.B. p. 33-34.

PJM conducts RTEP studies of the bulk electric system (BES) which includes transmission facilities operating at voltages of 100 kV or higher and applies NERC or PJM reliability criteria to specific conditions on the transmission system. PPL St. 2, p. 6. When these studies show that the transmission system is unable to meet a specific reliability standard under these conditions, solutions such as construction of one or more new transmission lines or one or more upgrades to existing transmission facilities may be necessary. PPL St. 2, p. 7, PPL M.B. p. 33-34.

For the non-bulk electric system (non-BES), which includes transmission facilities operated at voltages less than 100 kV, the local transmission operator is responsible for identifying reliability violations and correcting any violations to meet its own local transmission planning criteria. PPL St. 2, p. 7. Transmission owners submit their lower voltage reliability projects to PJM so that they can be presented to PJM stakeholders at the Sub-Regional RTEP Committee meetings. PPL St. 2, p. 7, PPL M.B. p. 34.

The Sub-Regional RTEP Committee review includes review of the transmission owner criteria, assumptions and models used to identify reliability criteria violations and proposed solutions. PPL St. 2, p. 7. The Committee members review and provide written comments to the transmission owners on the criteria, assumptions and models used in local planning prior to finalizing the lower voltage reliability projects. Once a local plan is finalized, the PJM Sub-Regional RTEP Committee reviews and comments on the local plans. PPL St. 2, p. 7. After the Sub-Regional RTEP Committee approves and endorses a local plan, the local plan is included in the final version of the RTEP, which is sent to the PJM Board for approval. PPL St. 2, p. 7. After the PJM Board approves the RTEP that includes the transmission owner lower voltage reliability projects, the transmission owners take steps to implement the RTEP BES transmission and non-BES facilities pursuant to their obligations set forth in the PJM Tariff and Operating Agreements. PPL St. 2, p. 7-8.

The Northeast-Pocono Reliability Project involves both BES and non-BES facilities. PPL St. 2, p. 8. However, PPL explains that the purpose of the Northeast-Pocono Reliability Project is to resolve reliability violations that occur on its non-BES 69 kV system serving portions of the Northeast and Central Regions of PPL. PPL submitted the proposed Northeast-Pocono Reliability Project to PJM for review and inclusion in the RTEP. PPL St. 2, p. 8. PPL presented the Northeast-Pocono Reliability Project to stakeholders at the Mid-Atlantic Sub-Regional RTEP meetings. The Northeast-Pocono Reliability Project was approved by the PJM Board and included in the 2011 RTEP Report. PPL St. 2, p. 8. PPL St. 3, p. 23-24.

3. The Existing Transmission System

Having discussed PPL’s planning process, I will now briefly describe the existing transmission system serving the Northeast-Pocono area. In order for the reader to understand the existing transmission system, I refer the reader to Figure 2-1 in Attachment 2 of PPL’s application, which is a map showing PPL’s existing facilities in the Northeast-Pocono area. This same map is attached to PPL’s main brief and designated Appendix B.

The Northeast-Pocono area is loosely bounded by several 230 kV transmission lines on its western side, a single 230 kV transmission line on its northern and eastern sides and a double-circuit 138 kV transmission line on its southern side. PPL St. 2, p. 8. The sources of electric power for the Northeast-Pocono area are provided by four non-BES transmission substations. PPL St. 2, p. 8-9. Those substations are: 1) the Peckville 230/69 kV Substation located in the northwestern portion of the area; 2) the Blooming Grove 230/69 kV Substation located east of the Peckville 230/69 kV Substation in the northeastern portion of the area; 3) the East Palmerton 230/69 kV Substation located south of the Peckville 230/69 kV Substation in the southwestern portion of the area; and 4) the Jackson 138/69 kV Substation located northeast of the East Palmerton 230/69 kV Substation in the southern portion of the area. PPL St. 2, p. 9, PPL M.B. p. 35-36.

The northern and western portions of the Northeast-Pocono area are the subject of the Northeast-Pocono Reliability Project. PPL St. 2, p. 9. I will first address the existing sources of power in the northern portion of the Northeast-Pocono area. I refer the reader to a line diagram of these existing facilities labeled Figure 2-4 found in Attachment 2 of PPL’s application.

Currently, the only sources of electric power to the northern portion of the Northeast-Pocono area are the Peckville-Jackson 138/69 kV and the Blooming Grove-Jackson 138/69 kV circuits. PPL St. 2, p. 9. From the Jackson 138/69 kV Substation north to the Gouldsboro 69/12 kV Substation, the Blooming Grove-Jackson and Peckville-Jackson 138/69 kV circuits are built on double-circuit 138/69 kV towers. In other words, both circuits are installed on common structures as a double circuit transmission line. PPL St. 2, p. 9. From the Gouldsboro 69/12 kV Substation, the Blooming Grove-Jackson 138/69 kV circuit proceeds east on separate single-circuit 138/69 kV tower structures to the Blooming Grove 230/69 kV Substation. PPL St. 2, p. 9. The Peckville-Jackson 138/69 kV circuit proceeds north from the Gouldsboro 69/12 kV Substation on separate single-circuit 138/69 tower structures to the Peckville 230/69 kV Substation. PPL St. 2, p. 9-10, PPL M.B. p. 36-37.

I will now address the existing sources of power in the western portion of the Northeast-Pocono area. I refer the reader to a line diagram of these existing facilities labeled Figure 2-5 found in Attachment 2 of PPL’s application. The only power sources for the western portion of the Northeast-Pocono area are the East Palmerton-Wagners #1 & #2 138/69 kV circuits. PPL St. 2, p. 10. From the East Palmerton 230/69 kV Substation north to the Lake Harmony 69/12 kV Substation, the East Palmerton-Wagners #1 & #2 138/69 kV circuits are built on double-circuit 138/69 kV tower structures. In other words, both circuits are installed on common structures as a double circuit transmission line. PPL St. 2, p. 10. The East Palmerton-Wagners #2 138/69 kV circuit terminates at the Lake Harmony 69/12 kV Substation. PPL St. 2, p. 10. The East Palmerton-Wagners #1 circuit proceeds north then east on separate single-circuit 138/69 tower structures to the Wagners 69/12 kV Substation. PPL St. 2, p. 10, PPL M.B. p. 37‑38.

4. Load and Population Growth in the Northeast-Pocono area

Having discussed PPL’s planning process and described the existing system serving the Northeast-Pocono area, I will now address load and population growth in the area. Generally, the specific problems that the Northeast-Pocono Reliability Project are designed to address are a result of load growth in the Northeast-Pocono area. PPL St. 2, p. 11. This load growth has been caused by population growth in the area. PPL St. 2, p. 11.

As stated earlier, the study area for the Northeast Pocono Reliability Project includes all or parts of six counties: Wayne, Pike, Monroe, Luzerne, Carbon and Lackawanna. PPL St. 2, p. 11. The United States Census Bureau reports that the populations in these six counties have increased between 2000 and 2010. PPL St. 2, p. 11. The populations in several of the townships in these counties have increased 20 to 40 percent between 2000 and 2010. PPL St. 2, p. 11. Some townships are expected to double in population by 2020. PPL St. 2, p. 11.

According to PPL, between 2003 and 2012, it has experienced a 12% increase in peak load in the Northeast-Pocono area from 565 MW to 635 MW. PPL St. 2, p. 11. Between 2003 and 2012, the number of customers in the Northeast-Pocono area that PPL serves has increased from approximately 119,000 to 128,000. PPL St. 2, p. 11. PJM projects a 1.1% annual future winter growth rate for the area. PPL St. 2, p. 11. Despite this load growth in the Northeast-Pocono area, there have been no significant improvements to the electric transmission systems serving the area since the early 1980s. PPL St. 2, p. 11-12.

5. Specific Reliability Issues

 Having described the existing system serving the Northeast-Pocono area and addressed the load and population growth in the area, I will now provide a description of the reliability issues that PPL contends have led to the need for the Northeast-Pocono Reliability Project. PPL asserts that the need for the project has come about because the only sources of electrical supply to the Northeast-Pocono region are provided by transmission lines operated at 69 kV. Currently, there are no 230 kV sources located within the Northeast-Pocono region. The distance between 230 kV sources in the Northeast-Pocono study area is 45 miles between Jenkins and Bushkill Substations and 55 miles between Peckville and Siegfried Substations. Because these 230 kV sources are not located within the areas of higher population density, the power supply is too distant to reliably and effectively serve that customer load. PPL St. 2-R, p. 2-3, 39; PPL Ex. LRK-2, PPL M.B. p. 38.

 PPL states that the existing 138/69 kV lines serving the Northeast-Pocono region are very long. PPL M.B. p. 38-39. PPL provided a table with the length, number of customers served, and the peak load on each of the circuits that presently supply the Northeast-Pocono region. The table is reproduced below:

|  |  |  |  |
| --- | --- | --- | --- |
| Circuit Name (Source) | Number of Customers | Total Length of Circuit (miles) | Normal Peak Loading of Circuit (MW) |
| Blooming Grove – Jackson (Jackson) | 16306 | 37 | 112 |
| Blooming Grove – Jackson (Blooming Grove) | 8895 | 30 | 35 |
| Blooming Grove – Jackson Total | 25201 | 67 | 147 |
| Peckville – Jackson (Jackson) | 5914 | 23 | 66 |
| Peckville – Jackson (Peckville) | 11746 | 24 | 49 |
| Peckville – Jackson Total | 17660 | 48 | 115 |
| East Palmerton – Wagners #1 (East Palmerton) | 15017 | 37 | 57 |
| East Palmerton – Wagners #2 (East Palmerton) | 7974 | 32 | 42 |

 PPL Ex. LRK-6

As set forth above, the existing source of supply for the Northeast-Pocono area is provided by 138/69 kV transmission circuits. Due to the length of these circuits and the large number of customers they serve, customers in the Northeast-Pocono area are vulnerable to long duration outages due to loss of the transmission circuit that serves them. PPL St. 2, p. 12. The amount of load that PPL can restore in the Northeast-Pocono area after an outage is limited during certain peak winter conditions due to unacceptable low voltage levels that result at certain distribution substations when loading on one circuit is transferred to an adjacent circuit. PPL St. 2, p. 12, PPL M.B. p. 40. PPL concludes that these conditions have led to the need for the Northeast-Pocono Reliability Project.

In addition to the long, heavily loaded 69 kV transmission lines, and the lack of a 230 kV source within the Northeast-Pocono region, PPL also determined that violations of the system planning and reliability practices set forth in the RP&P would occur if the transmission system serving the Northeast-Pocono region is not reinforced. PPL M.B. p. 40. PPL asserts that the need for the project has also come about because of the violations of its RP&P. Using the planning process described above, the violations of the RP&P that PPL identified involve 1) acceptable load loss for various lengths of time as a result of equipment failures; 2) loading guidelines for a conductor to allow emergency transfers to restore load from an adjacent, out of service line; and 3) for a forced outage of a power transformer, the loading of the remaining transformers. PPL’s independent expert witness agrees that these issues identified by PPL’s RP&P need to be addressed. PPL St. 3, p. 21-23. I will discuss briefly how PPL identified these RP&P violations.

First, PPL’s RP&P identifies the maximum acceptable load loss for various lengths of time as a result of equipment failures. PPL St. 2, p. 12. The maximum acceptable load loss is derived from the emergency rating of the conductor. PPL St. 2, p. 12. The duration of the interruption also influences the maximum acceptable load loss. PPL St. 2, p. 12-13.

Second, PPL’s RP&P identifies normal loading guidelines for a conductor to allow emergency transfers to restore load from an adjacent, out of service line. PPL St. 2, p. 13. These guidelines help ensure that a conductor does not exceed its emergency thermal rating when load is transferred to the conductor from an adjacent line. PPL St. 2, p. 13.

Third, PPL’s RP&P also provides that, for a forced outage of a power transformer, the loading of the remaining transformers should be restricted to the two hour emergency rating and for succeeding days, the load shall be reduced to correspond with the applicable one-month and normal ratings. PPL St. 2, p. 14. The two hour emergency rating is used for the initial loss of one transformer. The remaining transformers must be below the two hour emergency rating after the initial loss of the first transformer. PPL St. 2, p. 14. PPL’s RP&P guidelines also recommend that a new non-BES substation be added when the minimum normal load at a substation exceeds the one-month emergency rating of the remaining transformer when one transformer is out of service. PPL St. 2, p. 14-15.

Having discussed briefly how PPL identified these RP&P violations, I will now address the specific RP&P violations starting with the issues regarding load loss. PPL’s transmission planning studies indicate that there are five future outage scenarios that would violate its RP&P guidelines for maximum allowable load that can be interrupted until repairs could be completed:

1) double-circuit outage of the Blooming Grove-Jackson and Peckville-Jackson 138/69 kV transmission line;

2) single-circuit outage of the Peckville-Jackson 138/69 kV circuit on the double-circuit Blooming Grove-Jackson and Peckville-Jackson 138/69 kV transmission line;

3) single-circuit outage of the Blooming Grove-Jackson 138/69 kV circuit on the double-circuit Blooming Grove-Jackson and Peckville-Jackson 138/69 kV transmission line;

4) double-circuit outage of the East Palmerton-Wagners #1 & #2 138/69 kV transmission line;

5) single-circuit outage of the East Palmerton-Wagners #2 138/69 kV circuit on the double circuit East Palmerton-Wagners #1 & #2 138/69 kV transmission line; PPL St. 2, p. 13, PPL M.B. p. 40-41.

I will explain each of these RP&P violations in order, starting with the Blooming Grove-Jackson and Peckville-Jackson 138/69 kV transmission line. Under peak winter conditions, PPL projects that by the winter of 2014-2015, an outage of the double-circuit Blooming Grove-Jackson and Peckville-Jackson 138/69 kV transmission line occurring outside the Jackson 138/69 kV Substation would interrupt approximately 124 MW of customer load for an extended period of time until repairs could be made. PPL St. 2, p. 15. The amount of load interrupted for this contingency violates the RP&P guideline for maximum allowable load loss for a double-circuit outage, which only allows 120 MW or less to be interrupted for that period of time until manual sectionalizing can be performed, usually two hours or less. PPL St. 2, p. 15, PPL M.B. p. 42-43.

The ability to restore this interrupted load by transferring load between the Blooming Grove and Jackson Substations and between the Peckville and Jackson substations is limited, due to voltage levels below 62 kV that would occur at certain distribution substations located along these circuits. PPL St. 2, p. 16. Only 56 MW of the 124 MW of the load could be restored from the Blooming Grove and Peckville Substations while maintaining acceptable voltage levels at the local 69 kV distribution substations. PPL St. 2, p. 16. The remaining 68 MW of interrupted load would violate the RP&P guideline for maximum allowable load loss for a double-circuit line outage, which allows up to 45 MW to be interrupted until overhead line repairs can be completed in an extended work day or longer. PPL St. 2, p. 16. If load restoration was attempted from Blooming Grove and Peckville Substations, customer load served by distribution substations located at Camelback, Sanofi, Mount Pocono and Pocono Farms would remain interrupted in order to maintain acceptable voltage levels on the transmission circuit. PPL St. 2, p. 16, PPL M.B. p. 42-43.

I will next address the single-circuit outage of the Peckville-Jackson 138/69 kV circuit on the double-circuit Blooming Grove-Jackson and Peckville-Jackson 138/69 kV transmission line. Under peak winter conditions, PPL projects that by the winter of 2014-2015, an outage of the Peckville-Jackson 138/69 kV circuit on the double-circuit Blooming Grove-Jackson and Peckville-Jackson 138/69 kV transmission line, occurring outside the Jackson 138/69 kV Substation would interrupt 64 MW of customer load. PPL St. 2, p. 16-17, PPL M.B. p. 45.

Given the limitation on the ability to restore interrupted load by transferring load between the Peckville and Jackson Substations set forth above, only approximately 8 MW of the 64 MW of interrupted load could be restored while maintaining acceptable voltage levels at the local 69 kV distribution substations. PPL St. 2, p. 17. The remaining 56 MW of interrupted load would violate the RP&P guideline for maximum allowable load loss for a single transmission circuit outage, which only allows 30 MW or less to be interrupted until overhead line repairs can be completed. PPL St. 2, p. 17. If load restoration was attempted from the Peckville 230/69 kV Substation, customer load served by distribution substations located at Camelback, Sanofi, Mount Pocono and Pocono Farms would remain interrupted in order to maintain acceptable voltage levels on the transmission circuit. PPL St. 2, p. 17, PPL M.B. p. 45.

I will next address the single-circuit outage of the Blooming Grove-Jackson 138/69 circuit. Under peak winter conditions, PPL projects that by the winter of 2021-2022, an outage of the Blooming Grove-Jackson 138/69 kV circuit on the double-circuit Blooming Grove-Jackson and Peckville-Jackson 138/69 kV transmission line, occurring outside the Jackson 138/69 kV Substation would interrupt 64 MW of customer load. PPL St. 2, p. 17, PPL M.B. p. 44-45.

Given the limitation on the ability to restore interrupted load by transferring load between the Blooming Grove and Jackson Substations set forth above, only approximately 30 MW of the 64 MW of interrupted load could be restored while maintaining acceptable voltage levels at the local 69 kV distribution substations. PPL St. 2, p. 17. The remaining 34 MW of interrupted load would violate the RP&P guideline for maximum allowable load loss for a single transmission circuit outage, which only allows 30 MW or less to be interrupted until overhead line repairs can be completed. PPL St. 2, p. 17-18. If load restoration was attempted from the Blooming Grove 230/69 kV Substation, customer load served by distribution substations located at Sanofi and Mount Pocono would remain interrupted in order to maintain acceptable voltage levels on the transmission circuit. PPL St. 2, p. 18, PPL M.B. p. 44-45.

I will next address the double-circuit outage of the East Palmerton-Wagners #1 & #2 138/69 kV circuit. Under peak winter conditions, PPL projects that by the winter of 2024-2025, an outage of the double circuit East Palmerton-Wagners #1 & #2 138/69 kV circuit occurring outside the East Palmerton 230/69 kV Substation would interrupt 75 MW of customer load. PPL St. 2, p. 18. Restoring load from the Jackson138/69 kV Substation results in unacceptable low voltage along the East Palmerton-Wagners #1 & #2 138/69 kV transmission circuits. If load restoration was attempted from the Jackson 138/69 kV Substation, customer load served by distribution substations located at Weissport, Lehighton Boro and Little Gap would remain interrupted in order to maintain acceptable voltage levels on the transmission circuit. PPL St. 2, p. 18, PPL M.B. p. 43‑44.

Given the limitation on restoring load from the Jackson 138/69 kV Substation, only approximately 29 MW of the 75 MW of interrupted load could be restored while maintaining acceptable voltage levels at the local 69 kV distribution substations. PPL St. 2, p. 18. The remaining 46 MW of interrupted load would violate the RP&P guideline for maximum allowable load loss for a double-circuit outage, which only allows 45 MW or less to be interrupted until overhead line repairs can be completed. PPL St. 2, p. 18-19, PPL M.B. p. 43‑44.

Finally, I will address the single-circuit outage of the East Palmerton-Wagners #2 138/69 kV circuit. Under peak winter conditions, PPL projects that by the winter of 2014-2015, an outage of the East Palmerton-Wagners #2 138/69 kV circuit on the double-circuit East Palmerton-Wagners #1 & #2 138/69 kV transmission line occurring outside the East Palmerton 230/69 kV Substation would interrupt 31 MW of customer load. PPL St. 2, p. 19. Transferring load between East Palmerton and Jackson Substations is limited due to the resulting unacceptable low voltage that would occur along the East Palmerton-Wagners #2 138/69 kV circuit. If load restoration was attempted from the Jackson 138/69 kV Substation, customer load served by distribution substations located at Weissport, Lehighton Boro and Little Gap would remain interrupted in order to maintain acceptable voltage levels on the transmission circuit. PPL St. 2, p. 19, PPL M.B. p. 46.

Given the limitation on restoring load from the Jackson 138/69 kV Substation, only approximately 31 MW of load would remain interrupted for an extended period of time to maintain acceptable voltage levels at the local 69 kV distribution substations. PPL St. 2, p. 18. The amount of interrupted load would violate the RP&P guideline for maximum allowable load loss for a single-circuit outage, which only allows 30 MW or less to be interrupted until overhead line repairs can be completed. PPL St. 2, p. 18-19, PPL M.B. p. 46. PPL concludes that these violations of its RP&P contribute to the need for the Northeast-Pocono Reliability Project.

Having addressed the specific RP&P violations regarding load loss, I will now address the issue regarding loading guidelines for conductors. PPL has identified a future scenario on the Blooming Grove-Jackson and Peckville-Jackson 138/69 kV circuits that will violate its RP&P. Under peak winter conditions, PPL projects that by the winter of 2015-2016, the load on the Blooming Grove-Jackson 138/69 kV circuit on the double-circuit Blooming Grove-Jackson and Peckville-Jackson 138/69 kV transmission circuit will be 61 MW. Similarly, under peak winter condition, PPL projects that by the winter of 2014-2015, the load on the Peckville-Jackson 138/69 kV circuit on the double-circuit Blooming Grove-Jackson and Peckville-Jackson 138/69 kV transmission circuit will be 64 MW. PPL St. 2, p. 20, PPL M.B. p. 47-48.

This amount of load on the Blooming Grove-Jackson and Peckville-Jackson 138/69 kV circuits violates PPL’s RP&P, which recommends that the load on a single 138/69 kV circuit not exceed 60 MW. If the circuit is loaded above 60 MW, PPL is restricted in its ability to restore load from the interruption of a neighboring circuit. Also when a circuit is heavily loaded it impacts the amount of load that can be restored by a neighboring circuit due to low voltage concerns and the thermal emergency rating limit of the conductor of approximately 120 MVA. PPL St. 2, p. 20, PPL M.B. p. 47-48. PPL concludes that these violations of its RP&P, contribute to the need for the Northeast-Pocono Reliability Project.

Having addressed the specific RP&P violations regarding load loss, and loading guidelines for conductors,I will now address the forced outage of a power transformer and the loading of the remaining transformers. PPL has identified a future scenario regarding the transformers at the Jackson 138/69 kV Substation that will violate its RP&P. The Jackson 138/69 kV Substation receives 230 kV supply from the 230 kV bulk power network through the Monroe and Siegfried 230/138 kV Substations which transform the voltage down to 138 kV. PPL St. 2, p. 21. The Jackson 138/69 kV substation transforms the voltage from 138 kV to 69 kV. The Jackson 138/69 kV Substation currently has two 138/69 kV transformers. Each of the transformers at the Jackson 138/69 kV Substation has a one month winter emergency rating of 240 MVA. PPL St. 2, p. 21, PPL M.B. p. 48-49.

PPL’s planning studies project that by the winter of 2026-2027, the loss of one of the 138/69 kV transformers at Jackson 138/69 kV Substation for an extended period of time could potentially cause the remaining transformer to supply a total minimum load of 243 MVA, which would exceed the one month winter emergency rating of 240 MVA. PPL St. 2, p. 21. The loading of the remaining transformers should be restricted to the two hour emergency ratings and for succeeding days, the load should be further reduced to correspond with the applicable one-month and normal ratings. PPL St. 2, p. 21, PPL M.B. p. 48-49.

Currently, the excess 3 MVA can be transferred from the Jackson 138/69 kV Substation to get below the one month winter emergency rating of the remaining transformer. PPL St. 2, p. 21. While this situation does not currently constitute an RP&P violation, PPL contends it demonstrates that future load growth will eventually result in a violation of the RP&P unless PPL reinforces the Northeast-Pocono area. PPL St. 2, p. 21, PPL M.B. p. 48-49.

6. Addressing the Reliability Issues

Having described the reliability issues that PPL has determined exist in the Northeast-Pocono area, I will now state PPL’s position as to how the Northeast-Pocono Reliability Project will address the reliability issues outlined above. Generally, PPL contends that the proposed 230 kV transmission line will bring electricity to the heart of the Northeast-Pocono area, central to the load it serves. The new 230 kV transmission line will supply two new 230/69 kV substations. PPL asserts that the construction of the West Pocono and North Pocono Substations will reduce the east-west and north-south distances between transmission substations, thereby reducing the length of 69 kV lines that serve its customers. These two new transmission substations bring the sources of bulk power closer to the customer load. As a result, electric service in the area will no longer depend exclusively on 230 kV transmission sources that are outside of and do not enter the areas of population density, nor will electric service in the area depend on long and heavily-loaded 69 kV transmission lines. PPL St. 2-R, p. 2-3, PPL M.B. p. 56-57.

More specifically, the new West Pocono and North Pocono Substations and associated new transmission lines will reduce the distances between the supply of power and the homes and businesses they supply. This proposed arrangement also will provide an alternate source of power to the Northeast-Pocono region in the event that the normal sources are interrupted, which will improve power restoration times and provide operating flexibility and improved reliability for customers in the region. The Northeast-Pocono Reliability Project will reduce the number of customers affected by a single facility outage and shorten the duration of the outage. PPL St. 2, p. 24-25, PPL M.B. p. 57.

The Northeast-Pocono Reliability Project will bring a new 230 kV source into the Northeast-Pocono area. Currently the distance between 230 kV sources in the Northeast-Pocono study area is 45 miles between Jenkins and Bushkill and 55 miles between Peckville and Siegfried Substations. With the construction of the proposed Northeast-Pocono Reliability Project, including the new West Pocono and North Pocono 230/69 kV Substations and 230 kV transmission lines, PPL alleges that the distances between the transmission substations is greatly reduced to less than 20 miles. PPL St. 2-R, p. 39; PPL Ex. LRK-2 and LRK-3, PPL M.B. p. 57‑58.

The new regional West Pocono 230/69 kV Substation will be constructed and located between the existing East Palmerton 230/69 kV Substation and the existing Jackson 138/69 kV Substation. The proposed location for the new West Pocono 230/69 kV Substation is central to the load it will serve. The West Pocono 230/69 kV Substation will tie into the East Palmerton-Wagners #1 & #2 and Jackson-Wagners #1 & #2 138/69 kV Transmission Lines, which will (1) reduce the load on these lines by providing a new 230 kV source, and (2) reduce the length of each 138/69 kV line through re-sectionalizing. The West Pocono 230/69 kV Substation also will provide a backup source to the East Palmerton 230/69 kV and Jackson 138/69 kV Substations using interconnected 138/69 kV lines. PPL M.B. p. 58-59.

The new regional North Pocono 230/69 kV Substation will be constructed and located centrally with respect to the existing Jackson 138/69 kV, Blooming Grove 230/69 kV, and Lackawanna 230/69 kV substations. The proposed location for the North Pocono 230/69 kV Substation also is central to the load it will serve. The North Pocono 230/69 kV Substation will tie into the Blooming Grove-Jackson and Peckville-Jackson 138/69 kV Transmission Lines, which will (1) reduce the load on these lines by providing a new 230 kV source, and (2) reduce the length of each 138/69 kV line through re-sectionalizing. The North Pocono 230/69 kV Substation also will provide a backup source to the Blooming Grove 230/69 kV, Lackawanna 230/69 kV and Jackson 138/69 kV Substations using interconnected 138/69 kV lines. PPL M.B. p. 58-59.

PPL states that, following the completion of the Northeast-Pocono Reliability Project, the number of customers served, the length, and the peak loading on each line will be greatly reduced. PPL provided a chart showing the number of customers served by each line, the

length of each line and the peak loading on each line after the Northeast-Pocono Reliability Project has been completed. The chart is reproduced below:

|  |  |  |  |
| --- | --- | --- | --- |
| Circuit Name (Source) | Number of Customers | Total Length of Circuit (miles) | Normal Peak Loading of Circuit (MW) |
| North Pocono-Jackson #2 (Jackson) | 3329 | 9 | 33 |
| North Pocono-Jackson (North Pocono) | 7257 | 19 | 44 |
| Blooming Grove-North Pocono (Blooming Grove) | 5630 | 12 | 19 |
| Blooming Grove-North Pocono (North Pocono) | 3265 | 20 | 17 |
| North Pocono-Jackson #1 (Jackson) | 728 | 10 | 25 |
| North Pocono-Jackson #1 (North Pocono) | 5186 | 16 | 40 |
| Lackawanna-North Pocono (Lackawanna) | 10638 | 20 | 36 |
| Lackawanna-North Pocono(North Pocono) | 6834 | 16 | 29 |
| East Palmerton-West Pocono #1(East Palmerton) | 7093 | 12 | 25 |
| East Palmerton-West Pocono #1 (West Pocono) | 4455 | 18 | 22 |
| East Palmerton-West Pocono #2(East Palmerton) | 5075 | 14 | 32 |
| East Palmerton-West Pocono #2(West Pocono) | 2899 | 26 | 13 |
| West Pocono-Jackson #1 (West Pocono) | 2702 | 8 | 11 |
| West Pocono-Jackson #1(Jackson) | 2736 | 16 | 28 |
| West Pocono-Jackson #2(West Pocono) | 4335 | 19 | 22 |
| West Pocono-Jackson #2(Jackson) | 2931 | 9 | 7 |

PPL Ex. LRK-6, PPL M.B. p. 59-60.

PPL points out that the reductions in number of customers served, length, and load on each line will have the following practical benefits. First, each line will be much shorter, which means that each line will have less exposure to causes of outages. Second, the number of customers served by any line will be greatly reduced. Therefore, in the event of an outage, fewer customers will be affected. Third, each line will be much less heavily loaded. This, coupled with the new substations, will enable PPL to restore service promptly to many customers by sectionalizing the line and transferring load to other circuits through switching moves. Fourth, PPL will be able to locate the cause of an outage and make appropriate repairs more quickly. PPL St. 2-R, p. 39-40, PPL M.B. p. 60.

PPL asserts that the existing long and heavily loaded 69 kV transmission lines will be transformed from a backbone system providing the only sources of supply into a large geographic area with many customers and growing load to local transmission lines each serving much less load and fewer customers over shorter distances with much greater operating flexibility. PPL contends that these reinforcements will enable it to restore service to many more customers much more rapidly in the event of an outage. PPL concludes that the Northeast-Pocono Reliability Project will make major improvements to the reliability of service in the area. PPL M.B. p. 60.

In addition to resolving the issues related to the long, heavily-loaded 69 kV transmission lines and the lack of a 230 kV source within the Northeast Pocono region, the Northeast-Pocono Reliability Project also will resolve the projected violations of the reliability practices in PPL’s RP&P. With regard to an outage of the double-circuit Blooming Grove-Jackson and Peckville-Jackson 138/69 kV transmission line, PPL states that after it completes the Northeast-Pocono Reliability Project, all load initially interrupted after an outage occurring near the Jackson 138/69 kV Substation would be restored in a short period of time after switching is completed. PPL St. 2, p. 25. The new North Pocono 230/69 kV Substation and connecting lines will accommodate the restoration of the load interrupted from the outage of the double-circuit Blooming Grove-Jackson and Peckville-Jackson 138/69 kV transmission line occurring near the Jackson 138/69 kV Substation. PPL M.B. p. 61.

With regard to a single-circuit outage of the Peckville-Jackson 138/69 kV circuit on the double-circuit Blooming Grove-Jackson and Peckville-Jackson 138/69 kV transmission line, PPL contends that after it completes the Northeast-Pocono Reliability Project, all load initially interrupted after a single-circuit outage of the Peckville-Jackson 138/69 kV transmission circuit occurring near the Jackson 138/69 kV Substation would be restored in a short period of time after the switching is completed. PPL St. 2, p. 25. The new North Pocono 230/69 kV Substation through the new North Pocono-Jackson #1 138/69 kV circuit will accommodate the restoration of the load interrupted from the single circuit outage of the Peckville-Jackson 138/69 kV transmission circuit occurring near the Jackson 138/69 kV Substation. PPL St. 2, p. 25-26, PPL M.B. p. 62.

With regard to a single-circuit outage of the Blooming Grove-Jackson 138/69 kV circuit occurring near the Jackson 138/69 kV Substation, PPL asserts that all load interrupted after a single-circuit outage of the Blooming Grove-Jackson 138/69 kV circuit occurring near the Jackson 138/69 kV Substation would be restored in a short period of time after the switching is completed. PPL St. 2, p. 26. The new North Pocono 230/69 kV Substation, through the new North Pocono-Jackson #2 138/69 kV circuit, will accommodate the restoration of the load interrupted from the single circuit outage of the Blooming Grove-Jackson 138/69 kV transmission circuit occurring near the Jackson 138/69 kV Substation. PPL St. 2, p. 26, PPL M.B. p. 61-62.

With regard to the double-circuit outage of the East Palmerton-Wagners #1 & #2 138/69 kV circuit occurring near the East Palmerton 230/69 kV Substation, PPL asserts that all load interrupted after a double-circuit outage of the East Palmerton-Wagners #1 & #2 138/69 kV circuit occurring near the East Palmerton 230/69 kV Substation would be restored in a short period of time after the switching is completed. PPL St. 2, p. 26. The new West Pocono 230/69 kV Substation and connecting lines will accommodate the restoration of the load interrupted from the double-circuit outage of the East Palmerton-Wagners #1 & #2 138/69 kV circuit occurring near the East Palmerton 230/69 kV Substation. PPL St. 2, p. 26-27, PPL M.B. p. 61.

With regard to the single-circuit outage of the East Palmerton-Wagners #2 138/69 kV circuit, PPL asserts that all load interrupted after a single-circuit outage of the East Palmerton-Wagners #2 138/69 kV circuit occurring near the East Palmerton 230/69 kV Substation would be restored in a short period of time after the switching is completed. PPL St. 2, p. 27. The new West Pocono 230/69 kV Substation, through the new East Palmerton-West Pocono #2 circuit, will accommodate the restoration of the load interrupted from the single-circuit outage of the East Palmerton-Wagners #2 138/69 kV circuit occurring near the East Palmerton 230/69 kV Substation. PPL St. 2, p. 27, PPL M.B. p. 62.

With regard to the line loading violations on the Blooming Grove-Jackson and Peckville-Jackson 138/69 kV circuits, PPL states that as a result of the Northeast-Pocono Reliability Project, the load of the Peckville-Jackson 138/69 kV circuit will be split between two circuits, the future North Pocono-Jackson #1 and the future Lackawanna-North Pocono 138/69 kV circuits. The load on the new North Pocono-Jackson #1 and Lackawanna-North Pocono 138/69 kV circuits will be within the RP&P guidelines to accommodate load restoration for the interruption of a neighboring circuit. PPL St. 2, p. 27-28, PPL M.B. p. 62-63.

Similarly, the load of the Blooming Grove-Jackson 138/69 kV circuit will be split between two circuits, the future North Pocono-Jackson #2 and the future North Pocono-Blooming Grove 138/69 kV circuits. The load on the new North Pocono-Jackson #2 and North Pocono-Blooming Grove 138/69 kV circuits will be within the RP&P guidelines to accommodate load restoration for the interruption of a neighboring circuit. PPL St. 2, p. 28. PPL’s independent expert witness agrees that the proposed Northeast-Pocono Reliability Project will address the reliability issues stated above. PPL St. 3, p. 24-25, PPL M.B. p. 62-63.

PPL points out that, although a loss of a transformer at the Jackson 138/69 kV Substation is not projected to violate the RP&P until 2026-2027, the Northeast-Pocono Reliability Project will resolve this future RP&P violation, making an additional project by 2026-2027 unnecessary. Although it is not necessary to resolve the violation at this time, PPL asserts that the resolution of this future issue is an additional benefit of the Northeast-Pocono Reliability Project. PPL M.B. p. 63.

7. Public Input Witnesses’ Arguments Regarding the Need for the Project and PPL’s Response

Having described PPL’s position as to how the Northeast-Pocono Reliability Project will address the reliability issues outlined above, I will set forth the challenges to PPL’s conclusion that the Northeast-Pocono Reliability Project is necessary, raised at the May 2, 2013 public input hearings and PPL’s responses to those challenges. I will then set forth OCA’s arguments regarding the need for the project and PPL’s responses to those arguments. Finally, I will discuss and resolve the issues regarding the need for the project.

Witnesses at the May 2, 2013 public input hearings challenged PPL’s conclusion that the Northeast-Pocono Reliability Project was necessary on several different grounds. Some of the witnesses who testified at the public input hearings contend that PPL has failed to demonstrate the need for the Northeast-Pocono Reliability Project because population in the counties where PPL plans to construct the project has declined since 2010 and demand for electricity has declined. Witnesses at the public input hearings presented testimony that the populations in Luzerne, Lackawanna, Monroe, and Wayne Counties have declined since 2010. N.T. 74-77, 197. These witnesses presented newspaper articles referring to data from the United States Census Bureau that these counties lost population from 2011 to 2012. N.T. 74-75, 197. In addition, information from the Pennsylvania Department of Education indicated that several school districts in the region were experiencing declines in student enrollment over the past several years. N.T. 75-76. Given this decline in population, the witnesses challenged the need for a project that is predicated on continuing increased population and resulting increased demand for electricity.

Other witnesses at the public input hearings presented testimony that the demand for electricity has declined for the past several years, citing poor economic conditions and conservation measures brought about by Act 129 of 2008. N.T. 79-80, 111-113, 197-198, 252-253. These witnesses contended that PPL’s projections for increased demand did not take into account the decline in demand for electricity brought about by the economic recession that began in 2008. According to these witnesses, the economic recovery and therefore the demand for electricity continues to be weak. The Northeast-Pocono Reliability Project is therefore unnecessary.

In addition, some witnesses testified that PPL’s projections for increased demand do not take into account the overall decline in demand brought about by Act 129 of 2008 which mandated that PPL create an energy efficiency and conservation program in order to decrease the demand for electricity during the time period 2009-2013. These witnesses contended that the program created by PPL as a result of Act 129 of 2008 has reduced demand for electricity during that time period. Given the lower demand for electricity brought about by the economic recession and Act 129 of 2008, the witnesses challenge the need for a project that is predicated on continuing increased demand for electricity.

Some witnesses at the public input hearings stated that they were satisfied with the current level of service, even with interruptions in service and power outages and saw no reason to improve their level of service. These individuals stated that they did not need the reliability improvements of the Northeast-Pocono Reliability Project because that they had backup generators that they used when there were service interruptions. N.T. 118-119, 222. These witnesses indicated their backup generators were a reasonable alternative to the Northeast-Pocono Reliability Project.

In response to public input hearing testimony regarding declining or stagnant population in Luzerne, Lackawanna, Monroe, and Wayne Counties since 2010, PPL stated that the populations in Wayne, Pike, Monroe, Luzerne, Carbon and Lackawanna Counties have increased between 2000 and 2010 from 824,000 to 880,000. PPL St. 2-R, p. 7. The population in Lackawanna and Luzerne Counties has been stationary while the population in Carbon and Wayne Counties has grown by over 10% and the population of Monroe and Pike Counties has grown by over 20%. PPL St. 2-R, p. 7. The populations in several of the townships in the growing counties have increased 20 to 40 percent between 2000 and 2010. PPL St. 2-R, p. 7-8. Some townships’ populations are expected to double by 2020. PPL St. 2-R, p. 7. Based on these growth patterns, the population in the Northeast-Pocono area is anticipated to continue to increase. PPL M.B. p. 39, 79‑81.

PPL also pointed out that the need for system reinforcement is determined by actual loads and forecasted load growth, not population growth. With the last major reinforcements in the area occurring in the early 1980s, the growth in customer load over the past 30 years has gradually used up the available capacity in the 69 kV lines to the point that near term and future loading levels under normal operating conditions or after certain contingencies create violations of PPL’s RP&P. PPL St. 2-R, p. 8, PPL M.B. p. 79-81.

In response to the testimony at the public input hearings that it had failed to account for the impact of energy efficiency and Act 129 of 2008, PPL explained that because energy efficiency and demand response programs like those created under Act 129 of 2008 may or may not continue to be available from year to year, customers who initially decided to participate in such programs may opt out. PPL St. 2-R, p. 11. Due to the voluntary nature of these programs, they are not under the control or direction of PPL and cannot be relied upon to reduce loading on facilities in a particular region. PPL St. 2-R, p. 11, PPL M.B. p. 79-81.

PPL further explained that energy efficiency and demand response programs created under Act 129 of 2008 are designed to reduce price by reducing consumption during high cost periods and assisting customers in avoiding higher energy costs. Transmission line planning is designed to assure reliable service to customers during extreme peak load conditions. PPL St. 2-R, p. 11. If energy efficiency and demand response programs are used for transmission planning purposes and the reductions in usage do not occur, the consequence is reduced reliability of the transmission system with the potential for service interruptions. PPL St. 2-R, p. 11-12, PPL M.B. p. 79-81.

In response to the testimony at the public input hearings that it had failed to account for the impact of the poor economy, PPL stated that the current state of the economy was not a reason to forego or delay the construction of the Northeast-Pocono Reliability Project. PPL reasoned that if the state of the economy in the area were trending downward, it would expect current load levels and future forecasted load levels to indicate that downward trend. However, PPL points out that load forecasts from PJM do not show that trend. PPL St. 2-R, p. 13, PPL M.B. p. 79-81.

To the contrary, PPL’s analysis shows that violations of the RP&P will occur as early as the winter of 2014-2015. PPL St. 2-R, p. 13. Because the Northeast-Pocono Reliability Project will take several years to design and construct, it must move ahead at this time in order to be completed by the time violations are expected to occur. PPL St. 2-R, p. 13, PPL M.B. p. 79‑81.

Finally, PPL argues that it cannot assume that the recession will continue forever. PPL points out that it has an obligation to provide reliable service which requires that it anticipate future load growth and not defer constructing new facilities based on the assumption that a recession will continue indefinitely. PPL St. 2-R, p. 13, PPL M.B. p. 79-81.

PPL noted that some individuals who testified at the public input hearings stated that they did not have a problem with interruptions in service or outages of power and therefore the Northeast-Pocono Reliability Project was unnecessary. N.T. 118-119, 222, PPL St. 2-R, p. 14. PPL stated that while certain residents may not have an issue with service interruptions, they do not speak for the entire area. In addition, PPL has many commercial customers in the area that rely on and demand reliable electric service. PPL St. 2-R, p. 14.

8. OCA Arguments Regarding the Need for the Project and PPL’s Response

As stated earlier, OCA has conceded that the record in this proceeding shows that the existing transmission system in the Northeast-Pocono region needs some reinforcement. OCA states that its purpose throughout the proceeding has been to compile a record for the Commission to review in order to arrive at a decision consistent with the Public Utility Code and Commission regulations. OCA M.B. p. 31. I will provide a detailed recitation of OCA’s efforts below.

OCA noted that PPL initially projected that seven separate reliability violations were driving the need for some type of transmission reinforcement in the Northeast-Pocono area. OCA M.B. p. 13-14. OCA stated that, in discovery, PPL reported that, in reviewing the need for the Northeast-Pocono Reliability Project, it had determined that the timing of certain violations had changed. OCA St. 1, p. 8. Most of the violations described in PPL’s filings and testimony have either been eliminated or pushed back ten years or more in the future. OCA St. 1, p. 8, OCA M.B. p. 14.

First, the violation due to the single circuit outage of the Jackson-Peckville 69 kV circuit is pushed back ten years from the winter of 2014-2015 to the winter of 2024-2025 because of alternative switching methods. Second, the violation due to the single-circuit outage of the Blooming Grove-Jackson 69 kV circuit is pushed back 15 years from the winter of 2014-2015 to the winter of 2029-2030 because of alternative switching methods. Third, the violation due to a single-circuit outage on the East Palmerton-Wagners #2 circuit can be eliminated entirely through alternative switching methods. Fourth, the violation due to the double circuit outage of the East Palmerton-Wagners #1 and #2 circuits is pushed back ten years from the winter of 2014-2015 to the winter of 2024-2025 through alternative switching methods. According to OCA, these four violations that are ten or more years out in the future provide inadequate support for immediate reinforcement of the regional transmission system. OCA St. 1, p. 8, OCA M.B. p. 14-15.

OCA indicates that some of violations described in PPL’s filing and testimony remain the same or are estimated to occur earlier than expected. OCA St. 1, p. 9. The violation due to the double circuit outage of the Blooming Grove-Jackson and Peckville-Jackson 69 kV transmission lines is estimated to occur in the winter of 2014-2015 as originally stated. The updated analysis indicates that line loadings with no outages will cause violations on the Blooming Grove-Jackson 69 kV circuit by the winter of 2015-2016 and on the Peckville-Jackson 69 kV circuit by the winter of 2014-2015 or one year earlier than initially stated. OCA St. 1, p. 9, OCA M.B. p. 14-15.

OCA concludes that while most of the violations of transmission planning requirements that were offered in the PPL’s application as justification for the Northeast-Pocono Reliability Project have been eliminated or deferred beyond the need for current concern, there are still reliability concerns remaining in the near term. OCA reviewed the historical loadings on PPL’s transmission facilities in the area. OCA provided Table 1 which shows peak line loadings for the past three winter peaks on the 69 kV transmission lines, along with their winter loading limits under normal conditions with no contingencies. OCA St. 1, p. 9-10. Table 1 is reproduced below.

**Table 1**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Row # | Transmission Substation | 69 kV Line Name | Winter Peak Load (MW) 2010 / 2011 | Winter Peak Load (MW) 2011 / 2012 | Winter Peak Load (MW) 2012 / 2013 | Winter Peak Average (MW) | Winter Normal Loading Limit (MW) |
| 1 | Peckville  | Peckville-Jackson | 49.0 | 68.5 | 67.9 | 61.8 | 79 |
| 6 | Blooming Grove | Blooming Grove-Jackson | 48.6 | 37.2 | 51.0 | 45.6 | 105 |
| 7 | Jackson | Blooming Grove-Jackson | 110.0 | 109.5 | 109.4 | 109.6 | 111 |
| 8 | Jackson | Peckville-Jackson | 67.6 | 50.0 | 74.5 | 64.1 | 105 |
| 9 | East Palmerton | East Palmerton-Wagners #1 | 86.0 | 86.8 | 70.0 | 80.9 | 79 |
| 10 | East Palmerton | East Palmerton-Wagners #2 | 69.7 | 47.1 | 51.3 | 56.0 | 60 |
|   |   | Total | 430.9 | 399.1 | 424.0 | 418.0 |   |

OCA states that there has been no total load growth over the past three winters. However, the loads on the segment of the Blooming Grove-Jackson 69 kV transmission line out of Jackson substation, Row #7 in Table 1, average almost 110 MW over the past three winters, while this circuit has a winter normal loading limit of 111 MW. OCA St. 1, p. 10. The loads on the two East Palmerton-Wagners 69 kV circuits were above their normal loading limits at times over the past three years. These loading levels do not show load growth over the past three years. However, OCA concludes that even at their historical levels, they reflect a need for transmission system reinforcement in the region. OCA St. 1, p. 10.

Since OCA concluded that there was a need for transmission reinforcement, it explored different options to address that need. Initially, OCA considered an alternative remedy for the violations involving a double circuit outage of the Blooming Grove-Jackson and Peckville-Jackson 69 kV transmission lines for the winter of 2014 – 2015. OCA explained that when two transmission lines share the same set of poles or towers, it is standard practice to study the effects of simultaneous outages to both circuits. If these two circuits can be separated onto separate sets of poles or towers, then, different system planning rules apply to such simultaneous outages. OCA St. 1, p. 12.

OCA asked PPL if separating the two transmission lines on the double circuit Blooming Grove-Jackson and Peckville-Jackson 69 kV transmission line would eliminate the violation for the double circuit outage. PPL confirmed that separating these lines onto separate pole lines would address the violation. However, PPL would have to build a second single-circuit pole line for more than 18 miles of mainline right of way and some 5 miles of tap right of way, and would probably require some 100 feet of additional right of way width for these distances. OCA St. 1, p. 12.

While this approach could address the double circuit outage violation, OCA stated that it would not provide any additional transmission line capacity, and would not, therefore, address the normal condition overloads that are also projected to occur. In addition, the use of single circuit transmission lines does not maximize right of way land utilization to the extent that double circuit transmission lines do. For all these reasons, OCA concluded that separating the double circuit lines in question was not a reasonable alternative. OCA St. 1, p. 12. In summary, there are still reliability concerns remaining in the near term that need to be addressed.

Having concluded that some level of reinforcement was necessary, OCA explained the potential alternatives that either OCA or PPL had explored. According to OCA, PPL considered a 69 kV alternative and another 230 kV alternative to the proposed Northeast-Pocono Reliability Project. Both PPL and OCA considered 138 kV alternatives. PPL and OCA concluded that the 69 kV alternative did not address all of the planning violations. OCA St. 1, p. 12, OCA M.B. p. 15-16.

The other 230 kV alternative considered by PPL is estimated to cost about $10 million more than the Northeast-Pocono Reliability Project and requires construction of a 500 kV substation along an in-service 500 kV transmission line that connects to the Susquehanna nuclear plant. This raises the need to coordinate line outage to facilitate construction with the operation of the nuclear plant, which OCA concludes is less desirable than alternatives without this need. OCA St. 1, p. 14, OCA M.B. p. 16.

OCA also explored the idea of a 138 kV alternative, since the 69 kV transmission lines in the area were originally built for operation at both 138 kV and at 69 kV. After exploring this option, OCA has concluded that this option is a viable alternative to the Northeast-Pocono Reliability Project. I will discuss this alternative in greater detail below.

OCA states that since their last modifications, transmission construction standards for 138 kV have changed so as to require rebuilding some of the 69 kV circuits before they could now be operated at 138 kV. OCA St. 1, p. 14, OCA M.B. p. 16. The 138 kV alternative would include: 1) building a new 230/138 kV Substation at East Palmerton; 2) converting Jackson 138/69 kV substation into a 138 kV switchyard; 3) building a new 138/69 kV substation at North Pocono; 4) building two additional 138 kV bays at the future Lackawanna 230/138 kV Substation; 5) rebuilding approximately 30 miles of the Peckville-Jackson and Lackawanna-Peckville #1 single circuit 69 kV lines to double circuit 138 kV operation; 6) rebuilding/reconductoring 20 miles of the Blooming Grove-Jackson single circuit 69 kV line to double circuit 69 kV operation; 7) replacing thirty-seven 69/12 kV distribution transformers with 138/12 kV distribution transformers at 24 substations; 8) replacing five 69 kV capacitor banks with 138 kV rated capacitor banks; and 9) installing a new 32 MVAR capacitor bank at the new North Pocono Substation. OCA St. 1, p. 13‑14.

PPL originally estimated the cost of the 138 kV alternative at $218 million. Subsequently, PPL revised its cost estimate for the alternative. OCA St. 1, p. 14. OCA explained that PPL initially conducted a 138 kV study to resolve reliability and planning criteria violations identified in both the Blooming Grove and the Northeast-Pocono areas. Under this alternative study, PPL considered converting all of the existing 69 kV transmission lines and 230/69 kV transmission substations in both the Blooming Grove and the Northeast Pocono areas to 138 kV operation. OCA St. 1, p. 14.

Subsequently, PPL filed and received Commission approval for three separate transmission line projects related to the Paupack Substation that are designed to resolve the reliability and planning criteria violations identified in the Blooming Grove area: 1) the reconstruction of a section of the existing Peckville-Honesdale 69 kV Line for double-circuit 138 kV operation, Docket No. A-2012-2301698; 2) the construction of the single-circuit Peckville-Paupack 230 kV Line and the single-circuit Paupack-Blooming Grove 230 kV Line, Docket No. A-2012-2309315; and 3) the construction of the proposed Paupack-Honesdale #1 & #2 138/69 kV Transmission Line, Docket No. A-2012-231550. These three separate projects fully address the violations discovered in the Blooming Grove area. OCA St. 1, p. 14. PPL M.B. p. 65-66.

Because the Paupack-related projects are currently being implemented, PPL needs only a subset of the initial 138 kV conversion option to address the remaining violations in the Northeast Pocono area. This subset of the 138 kV option would require conversion of portions of the 69 kV lines and the 69/12 kV distribution substations connected to those local 69 kV lines that are located in the western half of the Northeast Pocono project area. OCA St. 1, p. 15. Because these three current projects are already being undertaken, and because they address some of the violations originally included in the design of a 138 kV alternative, the 138 kV alternative became less expensive than PPL’s original $218 million estimate. OCA St. 1, p. 15. The approximate cost for the subset of the 138 kV conversion option to address the remaining violations in the Northeast Pocono area was $141 million in early 2011. OCA St. 1, p. 15-16, OCA M.B. p. 18, PPL M.B. p. 65-66.

According to OCA, the best estimates of cost to build either project currently stand at $247 million for the Northeast-Pocono Reliability Project, and $249 million for the 138 kV alternative. OCA St. 1SR, p. 4; PPL St. 5-RJ, p. 4, OCA M.B. p. 17, 21. OCA states that that both of these estimates are likely to increase. PPL St. 5-RJ at 4, OCA M.B. p. 17. OCA points out that PPL’s cost estimate for the Northeast-Pocono Reliability Project does not include any costs for upgrading or rehabilitating the existing transmission lines in Northeast-Pocono area that are at or near the end of their useful service lives. OCA St. 1SR at 7, OCA M.B. p. 17. The 138 kV alternative would include a substantial rebuild of these existing, aged transmission lines.

OCA provided information on the current state of the existing 69 kV lines in the Northeast-Pocono area. These existing lines would be substantially rebuilt to current, 138 kV standards under the 138 kV alternative. OCA M.B. p. 21. PPL’s cost estimate for the proposed Northeast-Pocono Reliability Project did not include any estimate of the costs to upgrade or rehabilitation to these lines. OCA provided information on the age of the 138/69 kV transmission lines running from Peckville, Jackson, Blooming Grove, and East Palmerton substations. OCA St. 1SR, p. 6-7, OCA M.B. p. 22. That information is reproduced below:

|  |  |  |  |
| --- | --- | --- | --- |
| Transmission Substation | 69 kV Line Name | Age Since Last Update | Age Since Original Installation |
| Peckville  | Peckville-Jackson | 44 | 52 |
| Blooming Grove | Blooming Grove-Jackson | 41 | 43 |
| Jackson | Blooming Grove-Jackson | 41 | 59 |
| Jackson | Peckville-Jackson | 44 | 52 |
| East Palmerton | East Palmerton-Wagners #1 | 41 | 60 |
| East Palmerton | East Palmerton-Wagners #2 | 41 | 60 |

OCA observes that some of these lines are 60 years old, while all but one are over 50 years old. PPL’s estimate for the Northeast-Pocono Reliability Project does not include an estimate of what it would cost to rebuild these transmission lines as they reach the end of their reliable service lives. OCA St. 1SR, p. 6-7, OCA M.B. p. 22. OCA asserts that typically, 40-50 years is the normal service life for electric transmission overhead facilities. OCA projects that it is likely that, over the next ten years, some or all of these transmission lines will need rebuilding. OCA St. 1SR, p. 6-7, OCA M.B. p. 22.

In short, the 138 kV alternative provides for rebuilding a substantial portion of these transmission lines. The estimated costs for the Northeast-Pocono Reliability Project do not. The Northeast-Pocono Reliability Project does not eliminate the need to rebuild these lines at some point or the costs of doing so. OCA contends that these costs of rebuilding the 138/69 transmission lines will increase the actual costs of the 230 kV alternative. OCA St. 1SR, p. 6-7, OCA M.B. p. 22. The existing transmission lines in the subject area are old, have not seen any major updates or rehabilitation efforts for at least 40 years, and are very likely at or near the end of their useful service life.

OCA indicates that there are considerations beside cost, including operational issues, the constructability of new facilities and safety that factor into the decision of which option is preferable. OCA M.B. p. 24. First, OCA states that neither option will be completed and in service in time to resolve the RP&P violations that are projected to occur as early as winter 2014. OCA M.B. p. 24. Therefore, there is no advantage to either option as to timeliness.

Second, construction of the 138 kV alternative, on existing ROWs, would include the replacement of the aged 69 kV lines in the subject area with new 138 kV components. OCA St. 1 at 13-14, OCA M.B. p. 25. The Northeast-Pocono Reliability Project would leave the existing 69 kV infrastructure in the subject area largely untouched. The Northeast-Pocono Reliability Project would also include the need for 58 miles of new right of way, with all of the attendant environmental and land-use concerns that would accompany such a large-scale construction project. OCA St. 1 at 17, OCA M.B. p. 25.

Third, OCA concedes that operationally, the 138 kV alternative has some disadvantages compared to the Northeast-Pocono Reliability Project, where somewhat more customers experience momentary outages when a fault occurs on a 138 kV line. PPL also has concerns about transient voltage performance during substation bus faults on the 138 kV system, but does not indicate that this performance violates mandatory planning standards. OCA St. 1, p. 16, OCA M.B. p. 25.

Fourth, as to potential safety concerns, OCA points out that Transco has raised a safety concern regarding the Northeast-Pocono Reliability Project. As proposed, the Northeast-Pocono Reliability Project would cross or be parallel to buried natural gas pipelines. Transco St. 1, p. 1. According to Transco, potential electromagnetic interference between the natural gas pipelines and the proposed transmission lines could present safety issues in the way of shock hazards and external corrosion of the pipelines. OCA asserts that if the Northeast-Pocono Reliability Project is approved, some mitigation measures would be required in order for the HV line and the natural gas pipeline to safely coexist. The record does not provide any definitive cost estimates for such mitigation, or who would be responsible for such costs. OCA M.B. p. 25.

In summary, OCA states that each alternative has benefits and detriments in terms of costs, constructability, operability, and other factors. OCA St. 1, p. 18. OCA does not take a position on which alternative is preferable. OCA M.B. p. 30.

PPL responded to OCA’s contentions. PPL takes issue with OCA’s conclusion that most of the violations described in PPL’s filings and testimony have either been eliminated or pushed back. PPL St. 2-R, p. 4. PPL contends that OCA has misinterpreted the results of PPL’s updated need analysis. PPL St. 2-R, p. 4. PPL states that its updated analysis confirmed that four of the seven original violations have not changed as to need or timing, two have been deferred and one has been resolved through alternate switching methods. PPL St. 2-R, p. 4, PPL M.B. p. 41.

PPL’s updated analysis determined that the violation due to a single circuit outage of the Peckville-Jackson 138/69 kV circuit, originally expected to occur in the winter of 2014-2015 will not occur until the winter of 2024-2025 because of alternative switching methods. PPL St. 2-R, p. 4-5. The updated analysis also determined that the violation due to a single circuit outage of the Blooming Grove-Jackson 138/69 kV circuit, originally expected to occur in the winter of 2014-2015 will not occur until the winter of 2029-2030 because of alternative switching methods. The updated analysis further determined the violation due to a single circuit outage on the East Palmerton-Wagners #2 circuit could be resolved through alternative switching methods. PPL St. 2-R, p. 5, PPL M.B. p. 42-48.

The updated analysis also confirmed that the need for and timing of four of the violations had not changed. This analysis confirmed that a double circuit outage of the Blooming Grove-Jackson and Peckville-Jackson 138/69 kV transmission line will result in a violation by winter 2014-2015. The updated analysis confirmed that a double circuit outage of the East Palmerton-Wagners #1 & #2 138/69 kV transmission line will result in a violation by the winter of 2024-2025. Finally, the updated analysis confirmed that the projected normal line loadings on the Blooming Grove-Jackson and Peckville-Jackson 138/69 kV circuits will result in a violation by winter 2015-2016 and winter 2014-2015 respectively. PPL St. 2-R, p. 5. PPL concluded that based on the updated analysis, the Northeast-Pocono Reliability Project is still needed. PPL M.B. p. 42‑48.

PPL pointed out that the OCA table showing historical loads was not representative of and does not give a complete picture of load growth in the area. PPL St. 2-R, p. 7. PPL provided a table that reflects loads by line and transmission substation for the last ten years. PPL St. 2-R, p. 8, PPL Ex. LRK-7. PPL contends that the OCA table only refers to three years when the economy was in recession while its table for the past ten years shows an upward trending load even if the recession years are included in the forecast. PPL St. 2-R, p. 9.

Even if there were not additional load growth in the future, PPL argued that the Northeast-Pocono Reliability Project would still be needed because of heavy line loadings and the number of customers affected by specific transmission outage scenarios. PPL St. 2-R, p. 9. The line loadings and load lost under these outages is very close to or exceeds the criteria identified in PPL’s RP&P. PPL St. 2-R, p. 9.

PPL also noted that there are multiple development projects planned in the future in Monroe County, including: Arcadia New Venture, a Blaskelee business park, a new campus for Northampton Community College, and an expansion of the Pocono Medical Center. PPL St. 2-R, p. 9. There is also a new multiphase 150 acre resort, Kalahari Resorts, planned near Pocono Manor. Camelback Mountain Resort is creating an indoor water park and Blue Mountain will be building a new $20 million water park, known as Summit Splash with a 100 room motel. PPL St. 2-R, p. 9. According to PPL, these are just some of the examples of future economic growth expected in the area. Each of these projects will increase the load in the area. PPL St. 2-R, p. 9‑10.

PPL also responded to OCA’s evaluation of alternatives to the Northeast-Pocono Reliability Project. With regard to the 69kV alternative, PPL is implementing a 69kV double line circuit between Jackson Substation and Lake Naomi Tap off the Blooming Grove-Jackson 69 kV line. PPL St. 2-R, p. 16. This project will address the heavy loading that currently exists on the Blooming Grove-Jackson 69 kV line served out of Jackson Substation. PPL St. 2-R, p. 16-17. The Lake Naomi Tap will have its own independent line connections at the Jackson 69 kV bus and no longer will be supplied by the Blooming Grove-Jackson 69 kV line. This project will improve the reliability to customers served by the Lake Naomi Tap and the existing Blooming Grove-Jackson 69 kV line because miles of line exposure will be reduced. PPL St. 2-R, p. 17. However, even after this project is completed, the project and additional 69 kV lines will not resolve all the reliability violations PPL has identified. PPL St. 2-R, p. 17.

With regard to the 138 kV alternative, PPL contends that the 138kV option does not address the underlying problem of long 69 kV transmission lines, heavy line loading and no 230 kV source of power within the area. PPL St. 2-R, p. 21. PPL studied converting all of the existing 69 kV transmission lines and 230/69 kV transmission substations in both the Blooming Grove and Northeast-Pocono area to 138 kV operation. PPL St. 2-R, p. 17.

PPL confirmed that it received Commission approval for three separate transmission line projects related to the new Paupack Transmission Substation that are designed to resolve the reliability and planning criteria violations identified in the Blooming Grove area. PPL St. 2-R, p. 17. These projects involve 1) the reconstruction of a large section of the existing Peckville-Varden-Honesdale 69 kV Line for initial 69 kV, future 138 kV operation; 2) the construction of the single circuit Peckville-Paupack 230 kV Line and the single circuit Paupack-Blooming Grove 230 kV Line and 3) the construction of the proposed Paupack-Honesdale #1 & #2 138/69 kV Transmission Line for initial 69 kV, future 138 kV operation. PPL St. 2-R, p. 17-18. These three projects and the new Paupack Transmission Substation fully address the violations discovered in the Blooming Grove area, while enabling PPL to connect a 230 kV source into the existing lines located in the northern part of the Blooming Grove area and to continue operating those existing transmission lines at 69 kV. PPL St. 2-R, p. 18, PPL M.B. p. 65-66.

Because PPL is implementing the above listed projects, it would only need a portion of the initial 138 kV conversion alternative to address the remaining violations in the Northeast-Pocono area. This option would require conversion of a portion of the 69 kV lines and the 69/12 kV distribution substations connected to those local 69 kV lines that are located in the western half of the Northeast Pocono project area. PPL St. 2-R, p. 18, PPL M.B. p. 65-66.

PPL pointed out that the proposed conversion to 138kV would require that all the transmission lines in the area be operated in networked configuration from East Palmerton to Jackson, Jackson to North Pocono, North Pocono to Lackawanna and North Pocono to Blooming Grove. This would be in addition to the existing networked 138 kV lines from Siegfried to Jackson and from Jackson to Monroe. PPL St. 2-R, p. 18. North Pocono and Jackson would be a substation and a switchyard, respectively, in this alternative. Because there are no 230 kV sources to those two stations, the lines that are terminated into those yards must operate in a networked configuration. PPL St. 2-R, p. 18-19, PPL M.B. p. 66. Since the 138 kV option would require networked operation of the transmission lines, it creates new issues regarding operability and reliability. PPL St. 2-R, p. 21, PPL M.B. p. 67.

PPL explained that an electric power system at the 69 kV and 138 kV transmission voltage level is operated either in a networked or radial configuration. In a networked configuration, the transmission line has a voltage source and power supply available at each end of the line. Power can flow from either end of the line to serve customer load. Loss of the voltage source or power supply at one end does not necessarily interrupt the flow of power along the transmission line and all customers would continue to have electric supply. PPL St. 2-R, p. 23, PPL M.B. p. 68.

In a radial configuration, the transmission line has a voltage source and power supply available at only one end of the line. Power will flow from the transmission substation source to the loads located along the line. Loss of the voltage source or power source at one end will interrupt the flow of power along that transmission line and all the customers would lose electric supply. PPL St. 2-R, p. 23. While the networked configuration appears to offer an advantage in keeping customers in service, it also creates serious technical issues that outweigh this advantage, according to PPL. PPL St. 2-R, p. 23-24.

In a networked configuration, for an outage of a line due to a fault anywhere along that line, the breakers at each end of the line would be tripped or opened to isolate the fault. If there is an outage of a line that is operated radially, only the substation breaker at the source or supply end would be tripped or opened to isolate the fault. Therefore, an outage of a network configured line would interrupt more customer load than if that line was sectionalized somewhere near the middle of the line and operated radially from each end of the line. PPL St. 2-R, p. 24.

As stated above, the 138 kV option would require that all the existing 69 kV transmission lines in the area, approximately 100 miles, be converted to 138 kV and operated in a networked configuration from East Palmerton to Jackson, Jackson to North Pocono, North Pocono to Lackawanna and North Pocono to Blooming Grove. This would be in addition to the existing networked 138 kV lines from Siegfried to Jackson and from Jackson to Monroe. PPL St. 2-R, p. 24, PPL M.B. p. 68-69.

A fault occurring anywhere on this 138 kV networked system would affect all customers served from these networked transmission lines. For example, a failure of the Peckville-Jackson 69 kV line outside the Jackson Substation, assuming a networked configuration between Jackson and North Pocono Substations, would interrupt service to approximately 6,000 customers. If the preferred 230 kV option were implemented, enabling a radial configuration of the 69 kV lines, the same failure of the Peckville-Jackson 69 kV Line would interrupt service to approximately 700 customers. PPL St. 2-R, p. 25.

In addition, instead of interrupting 66 MVA of customer load in the 138 kV option, only 25 MVA of customer load would be interrupted in the 230 kV option. The reason for this is that using the radial configuration for the 69 kV lines, the 18.54 mile main line segment of the Peckville-Jackson 69 kV line would be broken into two independent and electrically separated line segments of 7.24 and 13.8 miles. As a result, less customer load is interrupted during a line outage and restoration time is decreased because there are less line miles to patrol in order to identify the fault location. PPL St. 2-R, p. 25.

PPL also expressed concerns about operating the 69 kV or 138 kV transmission system in a networked configuration. PPL explained that the 69 kV and 138 kV transmission facilities are designed to serve load to 69/12 kV and 138/12 kV distribution substations that ultimately serve customers. PPL St. 2-R, p. 27. PPL prefers a radial configuration for these transmission lines and most transmission lines in PPL’s service territory operating at 69 kV or 138 kV voltage levels are operating in radial configuration. PPL uses a networked configuration for 69 kV or 138 kV transmission lines in order to provide service to a switchyard that does not have its own power source or to a transmission substation that only has one power transformer. PPL St. 2-R, p. 27. Network operation for these transmission facilities is non-standard operation on PPL’s system.

In a radial configuration, the protective relaying scheme is basic in design and configuration. In such a system, the relay protection only needs to be able to monitor to the end of that radial line. A networked configured system requires more protection devices and equipment to properly monitor the multiple transmission lines that are tied together and ensure proper relay operation. Analyzing and determining the settings for the relay devices is more complex because each line connected to the bus must be analyzed and numerous combinations of lines in and out of service must be examined prior to selecting the final relay settings. PPL St. 2-R, p. 28.

Due to the nature of the protection schemes, circuit breaker clearing times can be slower on networked lines versus radially configure lines. PPL St. 2-R, p. 29. With slower clearing times on the transmission system, transient voltage dips will last for a longer period of time with networked transmission lines than if the lines are operated radially. Slower clearing times and extended periods of transient voltage dips will increase the risk of harm to the public and possible damage to equipment that is connected to the networked transmission lines. PPL St. 2-R, p. 29.

When a fault occurs on a transmission line, the protective relay devices sense the abnormal current flow and direct the circuit breaker at the ends of the line to open. This action isolates the particular transmission line from the rest of the system. If these breakers open and close instantaneously, and the fault is cleared, a momentary outage will be experienced. If these breakers open, reclose and open again because the fault remains on the line, the transmission line will be de-energized and a permanent outage will be experienced. PPL St. 2-R, p. 29.

When a fault occurs on a transmission line, the voltage at the fault location and at the bus connected to that line is reduced in magnitude resulting in a large voltage drop. If the faulted transmission line is interconnected with other busses, those busses will also experience a large voltage drop. PPL St. 2-R, p. 29.

If a fault occurs on any one of the networked 138 kV lines required by the 138 kV option, the resulting voltage drop would be experienced by all customers connected to the networked 138 kV lines. PPL analyzed the effect of 138 kV bus faults on the system voltages at Seigfried, Monroe, Blooming Grove, North Pocono, Jackson and Lackawanna substations and switchyards. These transmission substations would all be network configured under the 138 kV option. PPL studies both single and phase-to-ground faults and three phase faults. PPL St. 2-R, p. 30, PPL Ex. LRK-5.

If a three phase fault were to occur at the Siegfried 138 kV station bus under the 138 kV option, the voltage at the Siegfried Substation drops to zero. In addition, the bus voltage at the Jackson 138kV Substation drops by 47.61% to 41.74 kV. At the Monroe 138 kV Substation, the bus voltage drops by 30.92% to 55.04 kV. At the North Pocono 138 kV substation, the bus voltage drops by 28.85% to 56.21 kV. At the Lackawanna 138 kV Substation, the bus voltage drops by 18.29% to 65.10 kV. PPL St. 2-R, p. 31, PPL M.B. p. 69-70.

This magnitude of voltage drop would cause adverse consequences to PPL’s customers. PPL noted that for large industrial customers using large electric motors, voltage drops of the magnitude described above would cause those motor’s protective equipment to shut the motors off. PPL also noted that voltage deviations can negatively affect computerized equipment that control manufacturing processes, causing lost production or damaged products. PPL St. 2-R, p. 32. These voltage drops would not be acceptable to PPL’s customers. Operating the system in a 138 kV networked configuration would result in a lower reliability level than under PPL’s preferred 230 kV option. PPL St. 2-R, p. 32-33.

PPL also pointed out that it would take six years to construct the 138 kV option as opposed to three years to construct the preferred 230 kV option. PPL St. 2-R, p. 33. PPL would have to rebuild or upgrade 112 miles of existing transmission lines to 138 kV double circuit configuration to comply with current PPL design standards. PPL St. 2-R, p. 33, PPL St. 5-R, p. 4. PPL indicated that, based on its experience constructing similar projects, construction of the 138 kV option is likely to exceed the six year time estimate. PPL St. 2-R, p. 33-38, PPL M.B. p. 74-75.

PPL performed an updated cost estimate for the 138 kV option, which resulted in a cost estimate of $247 million. PPL St. 2-R, p. 22, PPL St. 5-R, p. 2 PPL M.B. p. 77. This increase in the cost estimate is based on an in-depth analysis and field view. PPL St. 5-R, p. 2. Costs for this option increased due to increases in material, labor and equipment and includes the cost to rebuild the existing lines due to changing design and construction standards for 138 kV transmission lines. PPL St. 5-R, p. 2. PPL emphasized that this estimate was not final but could increase. PPL St. 5-R, p. 2.

PPL responded to OCA’s criticism that the Northeast-Pocono Reliability Project does not include rebuilding existing 69 kV transmission lines. PPL points out that under the 138 kV alternative, these 69 kV transmission lines would have to be rebuilt in order to operate at 138 kV. PPL St. 2-R, p. 18, 37, PPL R.B. p. 25. However, under the Northeast-Pocono Reliability Project, the existing 69 kV transmission lines would continue to operate at 69 kV and would not need to be rebuilt to meet current design and construction standards for 138 kV transmission lines. PPL R.B. p. 25.

PPL also took issue with OCA’s argument that the 69 kV transmission lines would have to be replaced in the near future due to their age. PPL asserted that there was no reason to replace the 69 kV lines to resolve the reliability issues it has identified. N.T. 312, PPL R.B. p. 25. PPL has no foreseeable plans to rebuild the 69 kV lines due to their age. N.T. 310, PPL R.B. p. 25. PPL asserts that if age of its facilities were the deciding factor as to whether to replace or rebuild transmission facilities, it would have to replace many miles of facilities even if there were no reliability issues regarding these facilities. PPL contends that this is not reasonable or rational. PPL R.B. p. 25.

In conclusion, PPL believes that while the 138 kV option may resolve the identified RP&P violations, the proposed 230 kV option is the best transmission system reinforcement for the area to provide the most reliable service to customers at the least cost. The 138 kV option does not address the underlying causes of the violations. PPL St. 2-R, p. 39. In addition, the 138 kV option is not practicable, is technically inferior, with many issues to overcome, has constructability and operational concerns and would not be able to be implemented in a timely fashion to address the reliability violations identified. PPL St. 2-R, p. 41.

9. Discussion and Resolution Regarding the Need for the Project

After reviewing the evidence presented regarding the need for the Northeast-Pocono Reliability Project, I conclude that PPL has met its burden to prove that the proposed Northeast-Pocono Reliability Project 230 kV and 138 kV transmission lines are necessary or proper for the accommodation, convenience and safety of its patrons, employees and the public. I do so for several reasons.

First, the population has grown significantly in Wayne, Pike, Monroe, Luzerne, Carbon and Lackawanna Counties between 2000 and 2010 from 824,000 to 880,000. The populations in several of the townships in these counties have increased 20 to 40 percent between 2000 and 2010. While the public input witnesses may be correct that the population growth in some areas may have slowed or declined slightly since 2010, there is no indication that large numbers of people are moving from the area. Based on the historic growth patterns and future growth projections, it is not unreasonable to anticipate that the population will continue to increase in these six counties and along with that population increase, an increase in electricity usage. PPL must address this increased electricity usage.

Second, along with population growth, the number of PPL customers has increased. It is undisputed that between 2003 and 2012, the number of customers in the Northeast-Pocono area that PPL serves has increased from approximately 119,000 to 128,000. There is no indication that the number of customers that PPL serves in the area will significantly decline in the future. To the contrary, there are multiple substantial development projects planned in the future that will increase the number of customers and the demand for electricity in the area. These projects include a business park, a new community college campus, a new resort, new water parks and an expansion of a medical center. PPL has an obligation, pursuant to the Public Utility Code, to provide this growing number of customers with adequate, reasonable and reliable service.

Third, it is undisputed that PPL has experienced an increase in peak load between 2003 and 2012 of approximately 12% in the Northeast-Pocono area from 565 MW to 635 MW. Contrary to the contentions of the public input witnesses, there is no indication that the energy efficiency and demand response programs established pursuant to Act 129 have had a meaningful impact in reducing this increase in peak load. At best, peak load has remained steady for the past several years. As OCA has indicated, even with no peak load growth in the past several years, the historic load levels reflect a need for transmission system reinforcement in the region. PPL must reinforce the transmission system in order to continue providing adequate, reasonable and reliable service.

Fourth, it is undisputed that there have been no significant improvements to the electric transmission systems serving the area since the early 1980s. The growth in customer load over the past 30 years outlined above has used up the capacity in theses existing facilities to the point that the facilities are in danger of becoming overloaded and failing. PPL must now undertake improvements to a transmission system that is no longer adequate to meet the needs of its customers.

Fifth, the combination of the increased population growth, increase in load, increase in number of customers and no significant improvements to the existing transmission system has led to violations of PPL’s RP&P guidelines. PPL projects that some of these violations will occur during the winter of 2014-2015. These RP&P violations will lead to an increase in the likelihood of power outages of longer duration, affecting a large number of PPL customers. PPL must address these RP&P violations.

In order to meet its obligations, pursuant to 66 Pa.C.S. § 1501, to provide and furnish reasonable and adequate service and facilities, PPL has proposed constructing the Northeast-Pocono Reliability Project to reinforce the existing transmission network in this region of its service territory. The Northeast-Pocono Reliability Project will address the issues set forth above and allow PPL to meet its statutory obligations.

OCA does not contest the necessity of reinforcing the existing transmission facilities in the project area. Instead, it presents the option of reinforcing the transmission system by upgrading the existing 69 kV facilities and using the existing right of way as an alternative to the proposed Northeast-Pocono Reliability Project.

PPL points out that it is not proposing, nor is it seeking Commission approval of the 138 kV alternative. PPL states that it considered, evaluated and rejected the 138 kV alternative. PPL argues that there is nothing in the Commission’s siting regulations that require it to present and the Commission to consider rejected electrical solutions. PPL states that it has no plans to build the 138 kV alternative and has not presented it in its filing for the Commission’s review. PPL M.B. p. 64.

I agree with PPL. The regulation at 52 Pa.Code § 57.76(a) only requires the Commission to render a decision on the proposed transmission line, not other configurations that a utility considered and rejected. Board of Supervisors of Springfield Township v. Pa. Pub. Util. Comm’n, 41 A.3d. 142 (Pa. Cmwlth. 2012).

Furthermore, as outlined in detail above by PPL, there are shortcomings with the 138 kV alternative that mandate its rejection. The 138 kV option does not address the problems of long 69 kV transmission lines, heavy line loading and lack of a 230 kV source of power within the area. The 138 kV option creates operational problems because it would require networked operation of the transmission and distribution lines instead of the current radial operation. In addition, the 138 kV alternative would take longer to construct. For all these reasons, the 138 kV alternative should be rejected.

As outlined in detail above, the proposed Northeast-Pocono Reliability Project addresses the increased demand for electricity and corrects the violations to PPL’s RP&P guidelines. The proposed project addresses present and future electricity needs of PPL’s customers, and ensures reliable electric service. I conclude that the Northeast-Pocono Reliability Project is necessary and proper for the accommodation, convenience and safety of its patrons, employees and the public. My decision is consistent with previous Commission and Pennsylvania appellate court decisions.

The Commission has found that new transmission lines were necessary or proper based on evidence similar to that presented in this case. The Commission has previously ruled that new transmission lines were necessary or proper for the accommodation, convenience and safety of its patrons, employees and the public when the existing system violates the utility’s reliability guidelines. Application of Trans-Allegheny Interstate Line Company (TrAILCo), Docket Nos. A‑110172, et al., (Order entered December 12, 2008) (TrAILCo) and Application of PPL Electric Utilities Corporation Filed Pursuant to 52 Pa.Code Chapter 57, Subchapter G, for Approval of the Siting and Construction of the Pennsylvania Portion of The Proposed Susquehanna-Roseland 500 kV Transmission Line in Portions of Lackawanna, Luzerne, Monroe, Pike and Wayne Counties, Pennsylvania, Docket No. A-2009-2082652, et al., (Order entered February 12, 2010) (Susquehanna Roseland). On appeal, the Commonwealth Court affirmed both TrAILCo and Susquehanna Roseland. See, Energy Conservation Council of Pa. v. Pa. Pub. Util. Comm’n., 995 A.2d 465 (Pa. Cmwlth. 2010) (TrAILCo Appeal) and Energy Conservation Council of Pa. v. Pennsylvania Pub. Util. Comm’n., 25 A.3d 440 (Pa. Cmwlth. 2011) (Susquehanna Roseland Appeal).

In TrAILCo, the Commission found that new transmission lines were necessary or proper based on the use of PJM’s RTEP and the supporting testimony which detailed the system stress modeling and projections relating to future NERC standard violations and heavy congestion on transmission lines. Id. at 30-31.

On appeal, the Commonwealth Court noted that, in its Opinion, the Commission was persuaded by the 2006 RTEP and TrAILCo’s supporting testimony detailing the system stress modeling and projections relating to twelve future NERC standard violations. TrAILCo Appeal at 472. The Court stated:

Finally, the PUC’s finding that ‘the [502 facilities are] needed to address reliability issues and [are] the best alternative available to achieve that result,’ is supported by substantial evidence. Here TrAILCo.’s evidence detailed the system stress modeling and projections relating to twelve projected NERC reliability standard violations for the PJM Region if the TrAIL Project, including the 502 facilities, is not constructed. TrAILCo.’s evidence established that the consequences of not constructing the 502 Facilities could severely affect Pennsylvania customers, particularly those in south central Pennsylvania, due to the far-reaching affects of the reliability problems caused by load pockets and overloaded lines. Moreover, TrAILCo.’s evidence, accepted by the PUC, established alternatives suggested by ECC, such as reconductoring and retensioning, address the reliability issues in a piecemeal manner and may not resolve the reliability issues. Conversely, the PUC found that the construction of the 502 Facilities is the best alternative to address the reliability issues demonstrated in the 2006 RTEP.

995 A.2d at 486 (citations omitted). The Court also quoted the Commission’s determination based on “heavily congested” lines. Id., *quoting*, TrAILCo at 35. The Court found: “the PUC’s finding of public need for the 502 facilities based on documented future NERC reliability violations, and the consequences of those violations, is supported by substantial evidence in the record.” Id. at 487.

In Susquehanna Roseland, the Commission found that new transmission lines were necessary or proper based on the transmission planning and analysis procedure used by PJM and the PJM finding that there existed violations of PJM’s reliability planning standards which were required to be addressed. Id. at 55 (PJM’s 2008 RTEP identified multiple future reliability violations which the proposal was intended to resolve). On appeal, the Commonwealth Court noted that:

the 2008 RTEP specifically identified twenty-three NERC Category A and B (single contingency) violations projected to occur beginning in 2012, and twenty-seven NERC Category C5 (double circuit; lower probability event) violations. Accordingly, PJM directed PPL and Public Service Electric and Gas Company (PSE&G) to construct a new line by June 1, 2012.

Susquehanna-Roseland Appeal, 25 A.3d at 443.

In another Commission decision, Application of PPL Electric Utilities Corporation Filed Pursuant to 52 Pa.Code Chapter 57, Subchapter G, For Approval of the Siting and Construction of the Effort Mountain #1 and #2 138 kV Taps in Chestnuthill and Polk Townships, Monroe County, Pennsylvania, Docket No. A-2010-2152104, et al., (Order entered March 18, 2011) (Chestnuthill), the Commission found that new transmission lines were necessary or proper where there was load growth caused by a new housing development, where the number of customers was increasing between 3-6% each year and where the load on the system was approaching the point where the transmission facilities would melt.

The facts in this case are similar to the facts in the cases cited above. There are no material facts in this case that dictate a result different from the results reached in the cases cited above. For all the reasons set forth above, I conclude that the proposed Northeast-Pocono Reliability Project transmission lines are necessary or proper for the accommodation, convenience and safety of its patrons, employees and the public.

D. Overview of Siting for the Proposed Facilities

Having addressed the need for the Northeast-Pocono Reliability Project, pursuant to 52 Pa.Code § 57.76(a)(1), I will now address the remaining three criteria set forth at 52 Pa.Code § 57.76(a)(2)-(4), which involve the siting of the project. In order to provide context for the discussion of those criteria, I will start with a brief overview of the siting process.

PPL retained URS Corporation (URS) to assist in developing and evaluating alternative routes for the Northeast-Pocono Reliability project. PPL St. 4, p. 3. An employee of URS, Barry Baker, led the team that conducted the siting study. PPL M.B. 95-96. The siting team used a siting methodology developed by the Electric Power Research Institute (EPRI) and Georgia Transmission Corporation (GTC). PPL St. 4, p. 3. The EPRI-GTC methodology incorporates GIS technology, statistical evaluation, site assessment and expert judgment into its decision making process. PPL St. 4, p. 3. The siting study had as its objective the selection of a transmission line route that would minimize impacts to the communities and the natural environment while still being practicable to construct. PPL St. 4, p. 3. The siting study included determining a Study Area, compiling an environmental inventory, identifying and analyzing alternative line routes and finally selecting a preferred line route corridor. PPL St. 4, p. 5, PPL M.B. p. 96.

The Study Area is the territory where transmission line route alternatives could be sited to meet the Northeast-Pocono Reliability Project’s functional requirements and at the same time, minimize environmental impacts and project costs. PPL St. 4, p. 5. PPL intended that the Study Area encompass all reasonable potential routes for each of three segments of the Northeast-Pocono Reliability Project. The three segments are as follows: 1) the existing Jenkins 230/69 kV Substation in Plains Township, Luzerne County to the proposed West Pocono 230/69 kV Substation in Buck Township, Luzerne County; 2) the proposed West Pocono 230/69 kV Substation to the proposed North Pocono 230/69 kV Substation in Covington Township, Lackawanna County; and 3) the proposed North Pocono 230/69 kV Substation to the Paupack 230/69 kV Substation in Paupack Township, Wayne County. PPL St. 4, p. 5, PPL M.B. p. 96‑97.

The team that conducted the siting study identified a Study Area encompassing these three segment areas and covering approximately 385 square miles in parts of Carbon, Lackawanna, Luzerne, Monroe, Pike and Wayne Counties. PPL St. 4, p. 5-6. Figure 4-3 in Attachment 4 of PPL’s application is a map depicting the Study Area. PPL M.B. p. 96-97.

The team that conducted the siting study determined the Study Area using the EPRI-GTC methodology to define the outer edges of the Study Area from within a larger regional context. PPL St. 4, p. 7. After determining the Study Area, the siting team generated alternative corridors for the proposed transmission line, located within the Study Area, considering four perspectives: 1) protection of the built environment; 2) protection of the natural environment; 3) engineering considerations; and 4) a composite of these three perspectives. PPL St. 4, p. 7, PPL M.B. p. 97-98.

After generating alternative corridors for the proposed transmission lines, the siting team then generated the alternative routes most suitable for the transmission lines within the alternative corridors. PPL St. 4, p. 7. PPL states that the alternative routes provide the necessary connections between the Jenkins, West Pocono, North Pocono and Paupack Substations, while minimizing potential social, cultural, and natural environmental impacts. PPL St. 4, p. 8.

After generating alternative routes for the proposed transmission lines, the siting team then selected the preferred routes, based on assessment of the alternative routes. PPL St. 4, p. 7-8. The selection process involved both qualitative and quantitative analysis. PPL St. 4, p. 8. The quantitative evaluation scored and ranked the alternative routes according to certain selected evaluation metrics. The qualitative evaluation incorporated the results of the quantitative evaluation with the professional judgment of the siting team regarding specific non-measurable aspects of the Northeast-Pocono Reliability Project to identify the selected routes. The qualitative evaluation considered among other factors, permitting requirements and community concerns. PPL St. 4, p. 8‑9.

In addition PPL considered local comprehensive plans and zoning ordinances in selecting the preferred routes for the Northeast-Pocono Reliability Project. PPL St. 4, p. 10. PPL reviewed these local plans and ordinances to evaluate the impact of the proposed Northeast-Pocono Reliability Project on the local plans and ordinances. PPL reviewed the Northeast-Pocono Reliability Project with Luzerne County, Lackawanna County, Wayne County and Monroe County officials and none have objected to the proposed project. PPL St. 4, p. 10. According to PPL, it reviewed the Northeast-Pocono Reliability Project with 31 municipalities along the entire selected routes and only Clifton, Covington and Thornhurst Townships, all in Lackawanna County, have objected to the project. PPL St. 4, p. 10.

In general, the route for the double circuit 230 kV transmission line linking the Jenkins 230/69 kV Substation to the Paupack 230/69 kV Substation extends southeast from the Jenkins 230/69 kV Substation in Plains Township, Luzerne County through Bear Creek Township and Buck Township, Luzerne County to the new West Pocono 230/69 kV Substation, then northeast through Thornhurst Township, Clifton Township and Covington Township, Lackawanna County to the new North Pocono 230/69 kV Substation, then north through Madison Township, Lackawanna County, Sterling Township, Salem Township and Paupack Township, Wayne County to the Paupack 230/69 kV Substation. PPL St. 4, p. 10-11.

The siting for the West Pocono and North Pocono 230/69 kV Substations involved a process similar to the siting process for the transmission lines. PPL determined the locations for the West Pocono and North Pocono 230/69 kV Substations before it developed the potential corridors for the transmission lines. PPL St. 4, p. 13. PPL identified locations for the West Pocono and North Pocono 230/69 kV Substations that would be central to the 230 kV source and within close proximity to the existing 138/69 kV network. PPL St. 4, p. 13. Locating the West Pocono and North Pocono 230/69 kV Substations in this manner minimizes the length of the transmission lines needed to connect the substations to the electric grid as well as minimizing the costs and environmental impacts of connecting the transmission lines to the substations. PPL St. 4, p. 13.

PPL established functional areas around each substation location where it assessed existing land use and social and environmental constraints. The selected substation locations had to have accessibility from adjacent established roads, a level grade, sturdy soil conditions and a buffer area surrounding the site. PPL St. 4, p. 14.

PPL reviewed the functional area for the West Pocono 230/69 kV Substation and discovered two additional attributes: 1) the existence of an established gas pipeline right of way; and 2) the existence of future use right of way easements owned by PPL parallel to the gas pipeline right of way. PPL St. 4, p. 14. PPL recognized that using these rights of way would be beneficial to the siting of the transmission line in the area because the existing rights of way would decrease environmental impacts and project costs. PPL St. 4, p. 14.

PPL’s evaluation of the functional area for the West Pocono 230/69 kV Substation indicated environmental constraints including conserved lands, natural areas, state game lands, wetlands and the Lehigh River and its tributaries. PPL St. 4, p. 13. The functional area also included residences along Buck River Road. PPL narrowed the selection of a location for the West Pocono 230/69 kV Substation to an upland area surrounding an isolated section of Buck River Road, over which the gas pipeline and future use right of way extend. PPL St. 4, p. 14. Buck Road could provide access to the substation. A buffer would be provided by surrounding forest land. PPL St. 4, p. 14.

PPL noted that lands to the northwest of Buck Road were too steep and contained potential wetlands. The lands to the southeast were level and devoid of wetlands. PPL St. 4, p. 15. Based on these considerations, PPL determined the most practicable location for the West Pocono 230/69 kV Substation. PPL has purchased the property, identified in Figure 4-5 of Attachment 4 of its application, as the location for the West Pocono 230/69 kV Substation. PPL St. 4, p. 15.

PPL reviewed the functional area for the North Pocono 230/69 kV Substation. That review indicated environmental constraints including Lackawanna State Forest, natural areas, state game lands, wetlands and several stream networks. PPL St. 4, p. 15. The functional area also included residences along Freytown Road but also a large concentration of homes located along the southwestern perimeter associated with the Eagle Lake and Big Bass Lake developments. The Delaware, Lackawanna and Western Railroad is also located in this area. PPL St. 4, p. 15.

PPL narrowed the selection of a location for the North Pocono 230/69 kV Substation to an upland area surrounding an isolated section of Freytown Road. PPL St. 4, p. 15. Freytown Road could provide access to the substation. A buffer would be provided by surrounding forest land. PPL St. 4, p. 15.

PPL noted that the lands were level and devoid of wetlands. PPL St. 4, p. 16. Based on these considerations, PPL determined the most practicable location for the North Pocono 230/69 kV Substation. PPL has purchased the property, identified in Figure 4-7 of Attachment 4 of its application, as the location for the North Pocono 230/69 kV Substation. PPL St. 4, p. 16.

1. Selection of the Preferred Routes

a. 230 kV Transmission Lines

Having provided an overview of the site selection process for the transmission lines and substations, I will now provide a more detailed explanation of the selection of the preferred routes for the transmission lines. I will start with the preferred routes for the 230 kV transmission lines.

The alternative routes for the 230 kV transmission lines assessed the region associated with each of three separate segments. The three segments are as follows: 1) the existing Jenkins 230/69 kV Substation in Plains Township, Luzerne County to the proposed West Pocono 230/69 kV Substation in Buck Township, Luzerne County; 2) the proposed West Pocono 230/69 kV Substation to the proposed North Pocono 230/69 kV Substation in Covington Township, Lackawanna County; and 3) the proposed North Pocono 230/69 kV Substation to the Paupack 230/69 kV Substation in Paupack Township, Wayne County. PPL St. 4, p. 16. Analysis of the three segments resulted in identification of two alternative routes per segment. PPL St. 4, p. 16.

In July 2011, PPL held a series of public open houses to present the alternative routes, provide information on how it selected the alternative routes and state how it would determine the selected route. PPL St. 4, p. 16. PPL received feedback from landowners and adjacent property owners. PPL also received input from state agencies and public interest groups. PPL St. 4, p. 16. These public open houses resulted in the creation of a third alternative route for the West Pocono-North Pocono and North Pocono-Paupack segments. PPL St. 4, p. 16, PPL M.B. p. 98-99. I will address each segment below.

i. Jenkins-West Pocono Segment

PPL’s analysis of the Jenkins-West Pocono segment resulted in two alternative routes, Alternative Route A and Alternative Route B. Alternative Route A is depicted in red on the maps marked Figures 4-9a and 4-10a of Attachment 4 of PPL’s application. Alternative Route Ais 17.10 miles (90,360 feet) in length. Alternative Route B is depicted in blue on the maps marked Figure 4-9a and 4-10a of Attachment 4 of PPL’s application. Alternative Route Bis 15.00 miles (79,250 feet) in length.

According to PPL, it evaluated Alternative Routes A and B in both a qualitative and quantitative analysis. PPL St. 4, p. 21. A discussion of the results of the quantitative analysis is set forth in Section 2.4.1.5 and illustrated in Table 4-6 of Attachment 4 of PPL’s application. The quantitative evaluation scored and ranked the alternative routes according to certain selected evaluation metrics. The quantitative analysis indicated that Alternative Route B would produce fewer impacts relative to Alternative Route A and would be less challenging to construct. PPL St. 4, p. 21, PPL M.B. p. 99-101. Alternative Route B had a lower score for built environment and engineering consideration and matched Alternative Route A for natural environment. Based on the results of the quantitative analysis, the siting team concluded that Alternative Route B would result in fewer social and physical impacts than Alternative Route A. PPL St. 4, p. 21.

A discussion of the results of the qualitative analysis is set forth in Section 2.4.1.6 and illustrated in Table 4-7 of Attachment 4 of PPL’s application. The results of the qualitative assessment show that Alternative Route B has lower scores for visual concerns, community concerns, construction issues and schedule delay risk. PPL St. 4, p. 22. Alternative Route B also scored similar to Alternative Route A with regard to special permit issues. Based on the quantitative and qualitative assessments, the siting team selected Alternative Route B for the Jenkins-West Pocono segment of the Northeast-Pocono Reliability Project. PPL St. 4, p. 22. The selected route is depicted on the map marked Figure 4-11 of Attachment 4 of PPL’s application, PPL M.B. p. 102-103.

ii. West Pocono-North Pocono Segment

 PPL’s analysis of the West Pocono-North Pocono segment resulted in three alternative routes, Alternative Route C, Alternative Route D and Alternative Route D-1. PPL established Alternative Route D-1 following public open house and agency coordination meetings. Alternative Route D-1 combines significant components of Alternative Route D with aspects of Alternative Route C. PPL St. 4, p. 22. Alternative Route C is depicted in yellow on the maps marked Figure 4-9b and 4-10b of Attachment 4 of PPL’s application. Alternative Route Cis 19.10 miles (101,000 feet) in length. Alternative Route D is depicted in green on the maps marked Figure 4-9b and 4-10b of Attachment 4 of PPL’s application. Alternative Route Dis 19.90 miles (105,072 feet) in length. Alternative Route D-1 is depicted in red on the map marked Figure 4-10b of Attachment 4 of PPL’s application. Alternative Route D-1is 20.75 miles (109,600 feet) in length and is a combination of Alternative Route D and several portions of Alternative Route C.

PPL evaluated Alternative Routes C, D and D-1 in both a qualitative and quantitative analysis. PPL St. 4, p. 27. A discussion of the results of the quantitative analysis is set forth in Section 2.4.2.5 and illustrated in Table 4-12 of Attachment 4 of PPL’s application. The quantitative evaluation scored and ranked the alternative routes according to certain selected evaluation metrics. PPL M.B. p. 99-101. The quantitative analysis indicated that Alternative Route D-1 had the lowest score for build environment and engineering consideration but the highest for natural environment. Environment impacts for Alternative Route D-1 were elevated by the need to avoid social conflicts and reduce the effects of the alignment on conserved lands. The siting team concluded that Alternative Route D-1 would result in less social and physical impacts than the two alternative routes. PPL St. 4, p. 27, PPL M.B. p. 99-101.

A discussion of the results of the qualitative analysis is set forth in Section 2.4.2.6 and illustrated in Table 4-13 of Attachment 4 of PPL’s application. The results of the qualitative assessment show that Alternative Route D-1 has lower scores for visual concerns, community concerns, construction issues and schedule delay risk. PPL St. 4, p. 27. Alternative Route D-1 scored high with regard to special permit issues. Based on the quantitative and qualitative assessments, the siting team selected Alternative Route D-1 for the West Pocono-North Pocono segment of the Northeast-Pocono Reliability Project. PPL St. 4, p. 28. The selected route is depicted on the map marked Figure 4-11 of Attachment 4 of PPL’s application. PPL M.B. p. 103‑104.

iii. North Pocono-Paupack Segment

PPL’s analysis of the North Pocono-Paupack segment resulted in three alternative routes, Alternative Route E, Alternative Route F and Alternative Route F-1. PPL established Alternative Route F-1 following public open house and agency coordination meetings. Alternative Route F-1 combines significant components of Alternative Route E with aspects of Alternative Route F. PPL St. 4, p. 28. Alternative Route E is depicted in violet on the maps marked Figure 4-9c and 4-10c of Attachment 4 of PPL’s application. Alternative Route Eis 20.88 miles (110,250 feet) in length. Alternative Route F is depicted in orange on the maps marked Figure 4-9c and 4-10c of Attachment 4 of PPL’s application. Alternative Route Fis 23.88 miles (126,000 feet) in length. Alternative Route F-1 is depicted in green on the map marked Figure 4-10c of Attachment 4 of PPL’s application. Alternative Route F-1is 23.93 miles (126,200 feet) in length and is a modified version of Alternative Route F combined with several portions of Alternative Route E.

PPL evaluated Alternative Routes E, F and F-1. The selection process involved both qualitative and quantitative analysis. PPL St. 4, p. 33. A discussion of the results of the quantitative analysis is set forth in Section 2.4.3.5 and illustrated in Table 4-18 of Attachment 4 of PPL’s application. The quantitative evaluation scored and ranked the alternative routes according to certain selected evaluation metrics PPL M.B. p. 99-101. The quantitative analysis indicated that Alternative Route F-1 had the lowest score for build environment and was second lowest for natural environment and engineering considerations. The siting team concluded that Alternative Route F-1 would result in less social and physical impacts than the two alternative routes. PPL St. 4, p. 33, PPL M.B. p. 99-101.

A discussion of the results of the qualitative analysis is set forth in Section 2.4.3.6 and illustrated in Table 4-19 of Attachment 4 of PPL’s application. The results of the qualitative assessment show that Alternative Route F-1 has lower scores for visual concerns, community concerns, construction issues and schedule delay risk. PPL St. 4, p. 33-34. Alternative Route F-1 scored similar to Alternative Route F with regard to special permit issues due to extensive co-location of these two alternatives. Based on the quantitative and qualitative assessments, the siting team selected Alternative Route F-1 for the North Pocono-Paupack segment of the Northeast-Pocono Reliability Project. PPL St. 4, p. 33. The selected route is depicted on the map marked Figure 4-11 of Attachment 4 of PPL’s application, PPL M.B. p. 106-107.

b. 138/69kV Transmission Lines

I will now address the preferred routes for the 138/69 kV transmission lines. PPL employed a siting selection process similar to the process used for the 230 kV lines for determining routes to connect the West Pocono and North Pocono Substation to the existing 138/69 kV transmission lines. PPL St. 4, p. 34. I will start with the lines needed to connect the West Pocono Substation.

i. West Pocono Substation

A pair of new parallel 138/69 kV transmission lines are required to connect the West Pocono Substation to the nearest existing 138/69 kV transmission line alignment. PPL St. 4, p. 35. The 138/69 kV transmission alignment nearest to the site proposed for the West Pocono Substation is the existing East Palmerton-Wagners 138/69 kV transmission line in Tobyhanna Township, Monroe County, located approximately three miles east of the West Pocono Substation site. PPL St. 4, p. 35. Constructing the new West Pocono 138/69 kV Connector lines will require clearing a new 150 foot wide right of way between the West Pocono Substation and the East Palmerton-Wagners #1 & #2 and Jackson-Wagners #1 & #2 138/69 kV transmission lines.

PPL’s analysis of the West Pocono 138/69 Connector lines resulted in two alternative routes, Connector Line 1 and Connector Line 2. PPL St. 4, p. 35. Connector Line 1 is depicted in violet on the map marked Figure 4-11a of Attachment 4 of PPL’s application. Connector Line 1is 2.94 miles (15,523 feet) in length. Connector Line 2 is depicted in blue on the map marked Figure 4-11a of Attachment 4 of PPL’s application. Connector Line 2is 3.12 miles (16,473 feet) in length.

PPL evaluated Connector Lines 1 & 2 in both a qualitative and quantitative analysis. PPL St. 4, p. 36. The results of the quantitative analysis are illustrated in Table 4-9 of Attachment 4 of PPL’s application. The quantitative evaluation scored and ranked the alternative routes according to certain selected evaluation metrics. The quantitative analysis indicated that Connector Line 2 had the lowest score for metrics evaluated.

The results of the qualitative analysis are illustrated in Table 4-10 of Attachment 4 of PPL’s application. The results of the qualitative assessment show that Connector Line 2 has lower scores for the aspects assessed. Based on the quantitative and qualitative assessments, PPL concluded that Connector Line 2 would result in less social and physical impacts than Connector Line 1. The siting team selected Connector Line 2 as the West Pocono 138/69 kV Connector Line for the Northeast-Pocono Reliability Project. PPL St. 4, p. 36-37. The selected route is depicted on the map marked Figure 4-11b of Attachment 4 of PPL’s application. PPL M.B. p. 107-109.

ii. North Pocono Substation

 A set of three new parallel 138/69 kV transmission lines is required to connect the North Pocono Substation to the nearest existing 138/69 kV transmission line alignment. PPL St. 4, p. 35. The 138/69 kV transmission alignments nearest to the site proposed for the North Pocono Substation are the existing Blooming Grove-Jackson and Peckville-Jackson 138/69 kV transmission lines.

Two new single-circuit 138/69 kV lines would be required to connect the North Pocono Substation to the existing single circuit Blooming Grove-Jackson and Peckville-Jackson 138/69 kV transmission lines located in Sterling Township, Wayne County, located approximately one mile southeast of the North Pocono Substation site. PPL St. 4, p. 35. Constructing the new single circuit North Pocono 138/69 kV Connector lines will require a new shared 200 foot wide right of way between the North Pocono Substation to the tap point of the existing Peckville-Jackson Gouldsboro-Madison Line No. 365. PPL St. 4, p. 37.

A third new double-circuit 69 kV transmission line would be required to connect the North Pocono Substation to the existing double circuit Blooming Grove-Jackson and Peckville-Jackson 138/69 kV transmission line which is located approximately two miles south of the North Pocono Substation site near the existing Gouldsboro 69 kV substation in Leigh Township, Wayne County. PPL St. 4, p. 37. The new double-circuit 138/69 kV transmission line would utilize the same 200 foot right of way shared by the two new single-circuit 138/69 kV connecting lines between the north Pocono Substation and the tap point of the existing Peckville-Jackson Gouldsboro-Madisonville 69 kV line and would require an additional new 100 foot wide right of way where it would intersect the existing double-circuit Blooming Grove-Jackson and Peckville-Jackson 138/69 kV transmission line. PPL St. 4, p. 37-38.

PPL’s analysis of the North Pocono 138/69 Connector lines resulted in two alternative routes, Connector Line 3 and Connector Line 4. PPL St. 4, p. 38. Connector Line 3 is depicted in violet on the map marked Figure 4-11c of Attachment 4 of PPL’s application. Connector Line 3is 2.84 miles (14,995 feet) in length. Connector Line 4 is depicted in blue on the map marked Figure 4-11c of Attachment 4 of PPL’s application. Connector Line 4is 2.97 miles (15,682 feet) in length.

PPL evaluated Connector Lines 3 & 4 in both a qualitative and quantitative analysis. PPL St. 4, p. 36. The results of the quantitative analysis are illustrated in Table 4-15 of Attachment 4 of PPL’s application. The quantitative evaluation scored and ranked the alternative routes according to certain selected evaluation metrics. The quantitative analysis indicated that Connector Line 4 had the lowest score for metrics evaluated.

The results of the qualitative analysis are illustrated in Table 4-16 of Attachment 4 of PPL’s application. The results of the qualitative assessment show that Connector Line 4 has lower scores for the aspects assessed. Based on the quantitative and qualitative assessments, PPL concluded that Connector Line 4 would result in less social and physical impacts than Connector Line 3. The siting team selected Connector Line 4 as the North Pocono 138/69 kV Connector Line for the Northeast-Pocono Reliability Project. PPL St. 4, p. 39. The selected route is depicted on the map marked Figure 4-11d of Attachment 4 of PPL’s application, PPL M.B. p. 109-110.

2. Construction and engineering

a. 230 kV System

Having provided an explanation of the selection of the preferred routes for the each segment of the proposed transmission lines, I will now briefly describe how PPL proposes to construct these segments, starting with the 230 kV segments. Approximately 15 miles of new 230 kV transmission line will be constructed between the existing Jenkins 230/69 kV Substation and the new West Pocono 230/69 kV Substation. This segment will be named the Jenkins-West Pocono 230 kV Transmission Line. PPL St. 5, p. 6. The new Jenkins-West Pocono 230 kV Transmission Line will require the installation of approximately 83 structures with an average height of 155 feet. The average spans between the structures will be approximately 1,000 feet. PPL St. 5, p. 6. The Jenkins-West Pocono 230 kV Transmission Line will consist of approximately 58 self-weathering tubular steel tangent structures equipped with upswept arms and installed on concrete caisson foundations. There will be approximately 25 angle/dead-end structures, which will consist of one-pole or two-pole steel structures. PPL St. 5, p. 7.

Approximately 21 miles of new 230 kV transmission line will be constructed from the new West Pocono 230/69 kV Substation to the new North Pocono 230/69 kV Substation. This segment will be named the West Pocono-North Pocono 230 kV Transmission Line. PPL St. 5, p. 7. The West Pocono-North Pocono 230 kV Transmission Line will require the installation of approximately 107 structures with an average height of 150 feet. The average spans between the structures will be approximately 1,000 feet. PPL St. 5, p. 7. The West Pocono-North Pocono 230 kV Transmission Line will consist of approximately 69 self-weathering tubular steel tangent structures equipped with upswept arms and installed on concrete caisson foundations. There will be approximately 38 angle/dead-end structures, which will consist of one-pole or two-pole steel structures. PPL St. 5, p. 7.

Approximately 22 miles of new 230 kV transmission line will be constructed from the new North Pocono 230/69 kV Substation to the Paupack 230/69 kV Substation. This segment will be named the North Pocono-Paupack 230 kV Transmission Line. PPL St. 5, p. 8. The North Pocono-Paupack 230 kV Transmission Line will require the installation of approximately 120 structures with an average height of 150 feet. The average spans between structures will be approximately 1,000 feet. The North Pocono-Paupack 230 kV Transmission Line will consist of approximately 72 self-weathering tubular steel tangent structures equipped with upswept arms and installed on concrete caisson foundations. There will be approximately 48 angle/dead-end structures, which will consist of one-pole or two-pole steel structures. PPL St. 5, p. 8.

The new 230 kV segments of the Northeast-Pocono Reliability Project will be designed for 230 kV double circuit capacity but initially only one 230 kV circuit will be installed until load growth in the area makes it appropriate to add the second 230 kV circuit. PPL St. 5, p. 5. The 230 kV double-circuit design will utilize six power conductors and two overhead ground wires. PPL St. 5, p. 5. The power conductors will be 1590 thousand circular mils (kcmil) 45/7 aluminum conductor steel reinforced (ACSR) conductors. PPL St. 5, p. 5. The overhead ground wires will be 48 count single mode fiber optical ground wires which will provide lightening protection and communication between circuit breakers that remove the line from service should a fault in the line be detected. PPL St. 5, p. 5.

b. 138/69 kV System

Having provided a brief description of how PPL proposes to construct the 230 kV segments, I will now provide a brief description of how PPL proposes to construct the 138/69 kV segments. PPL also proposes to construct approximately 11.3 miles of new 138/69 kV transmission lines to connect the new North Pocono and West Pocono 230/69 kV Substations into the existing local 69 kV transmission lines. The 138/69 kV portion of the Northeast-Pocono Reliability Project is divided into two major sections, the West Pocono Connecting Lines and the North Pocono Connecting Lines. PPL St. 5, p. 5.

The new West Pocono 138/69 kV Connecting Lines will require the installation of approximately 48 steel mono-poles with an average height of 105 feet. PPL St. 5, p. 9. The average spans between structures will be approximately 650 feet. PPL St. 5, p. 9. The West Pocono 138/69 kV Connecting Lines will consist of approximately 34 self-weathering tubular steel tangent structures equipped with upswept arms that will be either directly embedded or installed on concrete caisson foundations as necessary. There will be approximately 14 angle structures, which will consist of one or two-pole steel mono pole structures. PPL St. 5, p. 9.

Three new 138/69 kV transmission lines, collectively approximately 5.3 miles, will be constructed to connect the new North Pocono 230/69 kV Substation (collectively, North Pocono 138/69 kV Connecting Lines) to the existing Blooming Grove-Jackson and Peckville-Jackson 138/69 kV Transmission Lines. PPL St. 5, p. 9-10. Two new 138/69 kV transmission lines, each approximately 1.1 miles in length, will connect the North Pocono 230/69 kV Substation to the single-circuit Peckville-Jackson 138/69 kV Transmission Line. One single-circuit line will be named the Lackawanna-North Pocono 138/69 kV Transmission Line and the other single-circuit line will be named the North Pocono-Jackson #2 138/69 kV Transmission Line. PPL St. 5, p. 10.

The new Lackawanna-North Pocono 138/69 kV Transmission Line will require the installation of approximately 10 structures with an average height of 110 feet. The spans between structures will be approximately 650 feet. The Lackawanna-North Pocono 138/69 kV Transmission Line will consist of approximately 7 self-weathering tubular steel tangent structures equipped with upswept arms and that will be either direct embedded or installed on concrete caisson foundations as necessary. PPL St. 5, p. 11. There will be approximately 3 angle structures, which will consist of one-pole or two pole steel structures. PPL St. 5, p. 11.

The new North Pocono-Jackson #2 138/69 kV Transmission Lines will require the installation of approximately 12 structures with an average height of 110 feet and an average span of 650 feet. The North Pocono-Jackson #2 138/69 kV Transmission Line will consist of approximately 7 self-weathering tubular steel tangent structures equipped with upswept arms that will be either direct embedded or installed on concrete caisson foundations as necessary. PPL St. 5, p. 11. There will be approximately 5 angle/dead-end structures, which will consist of one-pole or two-pole steel structures. PPL St. 5, p. 11-12.

The third 138/69 kV transmission line will be approximately 3.1 miles and will connect the North Pocono 230/69 kV Substation to the existing Blooming Grove-Jackson and Peckville-Jackson #1 138/69 kV Transmission Lines near the Gouldsboro Substation. PPL St. 5, p. 12. One circuit on this double-circuit connecting line will be named the North Pocono-Jackson #1 138/69 kV circuit and the other circuit will be named the North Pocono-Blooming Grove 138/69 kV circuit. The new North Pocono Jackson #1 138/69 kV circuit will break into the one of the circuits on the existing double-circuit Blooming Grove-Jackson and Peckville-Jackson 138/69 kV Transmission Line, and then proceed southeast to the Jackson Substation. PPL St. 5, p. 12. The new North Pocono-Blooming Grove 138/69 kV circuit will tie into the existing single-circuit Blooming Grove-Jackson 138/69 kV Transmission Line, and then proceed northeast to the Blooming Grove Substation. PPL St. 5, p. 12.

The new North Pocono-Jackson #1 & North Pocono-Blooming Grove 138/69 kV

Transmission Line will require the installation of approximately 25 structures with an

average height of 110 feet. PPL St. 5, p. 13. The spans between structures will be approximately 650 feet. The North Pocono-Jackson #1 & North Pocono-Blooming Grove 138/69 kV Transmission Line will consist of approximately 18 self-weathering tubular steel tangent structures equipped with upswept arms that will be either directly embedded or installed on concrete caisson foundations as necessary. PPL St. 5, p. 13. There will be approximately 7 angle/dead-end structures, which will consist of one-pole or two-pole steel structures. PPL St. 5, p. 13.

The new 138/69 kV segments of the Northeast-Pocono Reliability Project will be designed for future 138 kV double circuit capacity but initially will be operated at 69 kV until load growth in the area makes it appropriate to increase operating voltage. PPL St. 5, p. 6. The 138/69 kV design will utilize six power conductors and two overhead ground wires. PPL St. 5, p. 6. The power conductors will be 556 kcmil 24/7 ACSR conductors. PPL St. 5, p. 6. The overhead ground wires will be 48 count single mode fiber optical ground wires which will provide lightning protection and communication between circuit breakers that remove the line from service should a fault in the line be detected. PPL St. 5, p. 5.

E. Health and Safety of the Proposed Facilities

 Having addressed the need for the Northeast-Pocono Reliability Project, pursuant to 52 Pa.Code § 57.76(a)(1) and provided an overview of the siting process, I will now address whether the Northeast-Pocono Reliability Project will create an unreasonable risk of danger to the health and safety of the public, pursuant to 52 Pa.Code § 57.76(a)(2). PPL contends that the Northeast-Pocono Reliability Project will be designed, constructed and maintained to ensure the health and safety of the public. PPL M.B. p. 83.

PPL designed both the 230 kV and 138/69 kV transmission lines in compliance with National Electric Safety Code (NESC) standards. PPL St. 5, p. 13. In addition to these standards, PPL has additional, more stringent design standards. PPL design loading conditions for structures, wires and clearances exceed NESC standards. PPL St. 5, p. 13. PPL employs relay protection systems to automatically de-energize a line in the event that a line fails and it contacts the ground or a grounded object. PPL St. 5, p. 13-14, PPL M.B. p. 83-84.

PPL has designed the transmission lines for conductor-to-conductor clearances and conductor-to-ground clearances which support live-line maintenance and inspections practices. Work procedures and tooling have been developed to allow PPL employees to perform work in a safe manner on energized facilities. PPL furnishes its employees with appropriate protective equipment for the performance of construction or maintenance activities in a safe manner. PPL St. 5, p. 13-14, PPL M.B. 83-84.

Some of the witnesses at the May 2, 2013 public input hearing testified that the proposed transmission lines were unsafe due to electric and magnetic fields (EMFs) emitted by the transmission lines. At the evidentiary hearings, Transco and FR First presented evidence that the location of the transmission lines on their properties created unsafe conditions. I will address each of these contentions in order.

1. Public Input Witness Arguments Regarding EMFs and PPL’s Responses

Turning first to the public input witnesses contentions, some of the witnesses testified that the proposed transmission lines were unsafe due to EMFs. In particular, some of the witnesses who testified at the May 2, 2013 public input hearings expressed concerns about the adverse effects on health caused by EMFs. N.T. 92, 114, 144, 151, 154, 180, 183, 204, 238, 258, 267.

PPL responded to the witnesses who testified at the public input hearings concerning the adverse effects of EMFs. N.T. 92, 144, 217-218, PPL St. 5-R, p. 6. PPL referred to its testimony that it was already taking steps to lower EMF exposure from the Northeast-Pocono Reliability Project. PPL St. 5-R, p. 6.

PPL has taken EMF mitigation into account by designing the proposed lines to reduce EMFs and to maximize the distance from the centerline to any residences. To reduce EMFs, PPL has adopted a Magnetic Field Management Program. Under this program, to lower EMF exposure, PPL uses a line design that provides ground clearances five feet higher than the minimum clearances required by the NESC. PPL also employs reverse phasing of new double circuit lines where it is feasible to do so at low or no cost. PPL will use these measures for the proposed Northeast-Pocono Reliability Project to mitigate the effects of EMFs. PPL St. 5, p. 15, PPL M.B. p. 85-86.

PPL also referred to the proceedings where it sought Commission approval for the siting and construction of other transmission lines. PPL St. 5-R, p. 6. In those proceedings, PPL presented evidence on EMF issues. Based on this testimony, the Commission concluded that there was no reliable scientific basis to conclude that exposures to EMFs from electric power lines causes or contributes to adverse health effects in people. PPL St. 5-R, p. 6, PPL M.B. p. 85-86.

2. Discussion and Resolution Regarding EMFs

After reviewing the evidence presented regarding EMFs, I conclude that PPL has met its burden to prove that the proposed transmission lines do not create an unreasonable risk of danger to the health and safety of the public pursuant to 52 Pa.Code § 57.76(a)(2), due to EMFs. I do so for several reasons.

First, PPL has designed its proposed facilities to exceed NESC standards. Through its Magnetic Field Management Program, whose purpose is to mitigate the effects of EMFs, PPL has gone beyond what is considered the industry standard for EMF mitigation.

Second, no party or witness presented any evidence that EMFs from the proposed transmission lines created an unreasonable risk of danger to the health and safety of the public. The evidence at the May 2, 2013 public input hearings regarding the adverse effects of EMFs consisted mostly of unsupported assertions. Assertions cannot form the basis of a finding that EMFs from the proposed transmission lines create an unreasonable risk of danger to the health of the public. Assertions, personal opinions or perceptions do not constitute evidence. Pennsylvania Bureau of Corrections v. City of Pittsburgh, 532 A.2d 12 (Pa. 1987). Since none of the witnesses at the public input hearings was qualified as an expert in designing transmission lines or an expert on the health effects of EMFs from transmission lines, their opinion testimony has little value as to the safety of the transmission lines. Delaware and Hudson Railroad Corporation v. Pa. Pub. Util. Comm’n, 182 A.2d 254 (Pa. Super. 1962).

Third, in numerous previous decisions, the Commission has concluded that transmission lines are not a common source of significant EMF exposure and that there is no reliable scientific basis to conclude that exposure to EMFs from transmission lines contributes to adverse health effects. Susquehanna Roseland, supra;Application of Pennsylvania Electric Company For Approval to Locate and Construct the Bedford North-Osterburg East 115 kV HV Transmission Line Project Situated in Bedford and East St. Clair Townships, Bedford County, Pennsylvania, Docket Nos. A-2011-2247862, et al*.*, (Order entered June 7, 2012).

In Brunda v PPL Electric Utilities Corporation, Docket No. C-2012-2286040 (Order entered July 16, 2013) (Brunda), the Commission concluded that the complainant’s assertions regarding the harmful effects of EMFs, evidenced by the published books that he authored and submitted into the record, represented nothing more than the complainant’s unsubstantiated views that all electric power lines were harmful. The Commission stated that the ALJ appropriately cited three prior Commission decisions where the Commission concluded that there is no conclusive or scientific evidence that EMFs have negative effects on human health.

Here, unlike Brunda, there were no studies presented that reach a conclusion contrary to the Commission’s conclusions in the above decisions. There are no material facts in this case that dictate a result different from the results reached in the cases cited above. For all the reasons set forth above, I conclude that the proposed Northeast-Pocono Reliability Project does not create an unreasonable risk of danger to the health and safety of the public pursuant to 52 Pa.Code 52 Pa.Code § 57.76(a)(2), due to EMFs.

3. Transco’s Arguments Regarding Proximity to its Pipeline and PPL’s Responses

Turning next to Transco’s contentions, Transco presented evidence that the proposed transmission lines were unsafe because of their proximity to Transco’s natural gas pipeline facilities. Transco is an interstate natural gas pipeline operator. Transco presented testimony that PPL’s preferred route conflicted with Transco’s existing and proposed natural gas pipeline facilities. Transco proposes to construct a new natural gas pipeline called the Leidy Southeast Project to provide additional natural gas transport capacity to customers in the Mid-Atlantic region, including Pennsylvania. Transco St. 1, p. 1.

In addition, Transco has existing facilities called the Leidy Line which includes three and in some places four natural gas pipelines, running parallel to one another, called Leidy Lines A, B, C and D. Transco St. 1, p. 2. Leidy Lines A, B and C are located in part in Luzerne County. One part of the Leidy Southeast Project is a proposal to construct Leidy Line D in an area near PPL’s proposed Northeast-Pocono Reliability Project. Transco St. 1, p. 2.

According to Transco, the transmission lines for the proposed Northeast-Pocono Reliability Project intersect with the Leidy Line. Transco St. 1, p. 2. Transco asserts that PPL’s proposed transmission line will be located across property owned by Transco on which the Leidy Line operates. PPL’s proposed transmission lines are also parallel and adjacent to the existing Leidy Line A on property owned by PPL in Luzerne County. Transco St. 1, p. 3. The easement that PPL seeks to establish overlaps areas identified by Transco as needed for construction of the Leidy Southeast Project. Transco St. 1, p. 3.

Transco plans to begin constructing the Leidy Southeast Project in 2014. The area needed for the construction of the Leidy Southeast Project that overlaps PPL’s easement will begin construction in 2015, the same time as the proposed construction of the Northeast-Pocono Reliability Project. Transco St. 1, p. 3, Transco Peabody Ex. 1.

Transco contends that PPL’s Northeast-Pocono Reliability Project can be realigned so that it does not conflict with the existing Leidy Line and the proposed Leidy Southeast Project. Transco St. 1, p. 3. With regard to the Leidy Line, Transco has proposed an alignment and conditions that would allow the Leidy Line and PPL’s proposed transmission line to co-exist on Transco’s property. Transco St. 1, p. 4. With regard to PPL’s proposed transmission lines parallel and adjacent to the existing Leidy Line A, the conflict can be resolved by shifting the PPL easement area slightly to the north. Transco St. 1, p. 4.

Transco’s proposed alignment will allow construction of the Leidy Southeast Project at the same time the Northeast-Pocono Reliability Project is constructed without conflict as long as construction access is coordinated. Transco St. 1, p. 4. Transco and PPL representatives have met to discuss the alternative alignment but have not been able to come to an agreement regarding the conflict between the two projects. Transco St. 1, p. 4-5.

Transco also indicated that there was a problem with electromagnetic interference between PPL’s proposed transmission lines and Transco’s natural gas pipelines and their appurtenances in areas where PPL is proposing to locate its transmission lines parallel to or crossing Transco’s natural gas pipelines. Transco St. 2, p. 2. Transco advocates that the Commission should require PPL to fund studies by Transco to allow Transco to determine the impact the proposed transmission lines will have on Transco’s existing facilities. The Commission should further direct PPL to mitigate any impacts that Transco finds. Transco St. 2, p. 2, Transco R.B. p. 5-7.

Transco explains that when it sites natural gas pipelines, it tries to locate the pipelines away from high voltage transmission lines, even where the pipeline is buried. Transco St. 2, p. 3. According to Transco, high voltage transmission lines can cause electromagnetic interference with natural gas pipelines in two ways. Transco St. 2, p. 2, Transco R.B. p. 5-7.

First, a magnetic field can be created by the high voltage transmission lines, induce voltage on the pipeline, and create a shock hazard for anyone who touches an exposed part of the pipeline such as a valve or other above ground appurtenance of the pipeline. A natural gas pipeline cannot operate if personnel cannot use the valves and other above ground equipment associated with the pipeline. This creates a direct health and safety hazard for Transco’s personnel. Transco St. 2, p. 3, Transco R.B. p. 5-7.

Second, the alternating current generated by high voltage transmission lines can be transmitted through the soil and cause accelerated external corrosion damage to buried natural gas pipeline. Transco St. 2, p. 3. Transco uses a system to mitigate corrosion of its natural gas pipeline, called a cathodic protection system but that system can be compromised by electromagnetic interference from the high voltage transmission lines. Transco St. 2, p. 3, Transco R.B. p. 5-7.

According to Transco, these two hazards can be mitigated with mitigation systems. There are standards and recommended practices specified by the Institute of Electrical and Electronics Engineers, Standard IEEE-80 and the National Association of Corrosion Engineers International Recommended Practice SPO 177-2000 for systems to mitigate this impact. Transco St. 2, p. 2. Transco contends that PPL has not addressed these issues in the information PPL provided to Transco. Transco St. 2, p. 3, Transco R.B. p. 5-7.

Transco’s representatives have met with PPL’s representatives and provided a description of the problems with electromagnetic interference between high voltage transmission lines and Transco’s existing natural gas pipelines. Transco St. 2, p. 3-4. Transco indicates that PPL and Transco have been unable to come to an agreement regarding resolution of the problem. Transco St. 2, p. 4. Transco requests that the Commission direct PPL to fund any mitigation required by the applicable engineering standards. Transco R.B. p. 7-8.

In response to Transco’s contentions, PPL explained that there currently are approximately 50 feet between the right-of-way for the proposed transmission line and the Transco easement. PPL states that this separation will provide sufficient room for the construction activities of both companies. PPL St. 1-RJ, p. 6, PPL M.B. 89-90. If both the Northeast-Pocono Reliability Project and Transco’s Leidy Southeast Project are approved and additional work space is needed for construction, PPL will agree to temporary work space for construction of the Leidy Southeast project within its proposed easement and on PPL-owned property. PPL St. 1-R, p. 9, PPL M.B. 89-90.

PPL responded to Transco’s concerns regarding electromagnetic interference between high voltage transmission lines and natural gas pipelines. PPL St. 5-R, p. 8. PPL agreed that electromagnetic interference between high voltage transmission lines and natural gas pipelines is a potential concern but that these impacts can be vetted, modeled and mitigated through engineering to ensure there are no hazards. PPL St. 5-R, p. 8.

PPL states that it and many other electric public utilities have facilities that currently run near, parallel, and/or traverse gas lines. Further, PPL has successfully worked with many different pipeline owners to ensure that there are no conflicts between the two companies’ operations. PPL St. 1-R, p. 6-7, PPL M.B. 87-88.

PPL has agreed to fund an impact study to determine what, if any, impact the proposed transmission lines may have on Transco’s natural gas pipelines. PPL and Transco have not reached an agreement on the terms of the impact study. PPL St. 5-R, p. 7-9; N.T. 342, PPL M.B. 87-88. PPL asserts that, as part of the impact study, Transco requests that PPL agree to fund any and all mitigation measures that may be identified by the impact study. Transco St. 1, p. 2; Transco St. 1-SR, p. 2-3. PPL contends that it would not be reasonable or prudent for it to agree to fund mitigation measures when it is unknown what those measures are or whether such measures are attributable to PPL’s proposed transmission line. PPL argues that the more prudent and appropriate course would be for PPL and Transco to cooperate to complete the impact study, and then address the responsibility for the costs of any needed mitigation measures. PPL St. 5-RJ, p. 5; N.T. 342-43, PPL M.B. 87-88.

4. Discussion and Resolution Regarding Transco’s Pipeline Facilities

After reviewing the evidence presented regarding Transco’s pipeline facilities, I conclude that PPL has met its burden to prove that the proposed transmission lines does not create an unreasonable risk of danger to the health and safety of the public pursuant to 52 Pa.Code § 57.76(a)(2), due to their proximity to Transco’s pipelines. I do so for several reasons.

First, with regard to construction of the Northeast-Pocono Reliability Project and Transco’s Leidy Southeast Project, PPL will agree to temporary work space for construction of the Leidy Southeast project within its proposed easement and on PPL-owned property. This solution appears to satisfy Transco’s concerns regarding construction of the two projects. Transco R.B. p. 7.

Second, with regard to the electromagnetic interference that high voltage transmission lines can cause with natural gas pipelines, Transco has indicated that this hazard can be mitigated with mitigation systems. There are standards and recommended practices for systems that can mitigate this impact. PPL acknowledges that there is a potential concern but the impacts can be mitigated to ensure that there are no hazards.

Since there is an engineering solution to the electromagnetic interference problem that will eliminate the potential hazards, I cannot conclude that the possibility of electromagnetic interference constitutes an unreasonable danger to the public. As PPL observes, electric transmission lines and natural gas pipelines exist in close proximity to each other in numerous locations without creating an unreasonable danger.

Transco’s real concern here is not whether the electromagnetic interference problem can be resolved, but rather which party will pay for the mitigation measures that may be necessary. Transco insists that the Commission order PPL to pay for whatever mitigation measures are necessary since it is the construction of PPL’s transmission lines that is creating the problem. PPL is unwilling to agree to pay for the mitigation measures without knowing whether mitigation measures are necessary, and if they are necessary, what they will cost. Transco has failed to cite any statutes, regulations, Commission decisions or Pennsylvania appellate court decisions to support its position that the Commission should order PPL to pay for the necessary mitigation measures.

Transco has also failed to cite federal regulations that require it to protect its metallic pipeline from corrosion damage due to electric currents. The regulations at 49 CFR §§ 192.467 and 192.473 require that an interstate natural gas pipeline operator, such as Transco, protect its pipelines from corrosion damage due to electric currents. The regulation at 49 CFR § 192.467(f) requires a pipeline operator to protect its facilities against fault currents where the pipeline is located in close proximity to electrical transmission tower footings, ground cables or counterpoise. The regulation at 49 CFR § 192.473 requires a pipeline operator to protect its facilities against stray electric currents. Therefore, it is Transco’s responsibility, not PPL’s, to ensure that its pipelines are able to continue operating in a safe manner by complying with this federal regulation. Texas Gas Transmission, LLC v. Butler County Bd. of Commissioners, 2009 U.S. Dist. LEXIS 41813 (S.D. Ohio, May 18, 2009), aff’d. 625 F.3d 973 (6th Cir. 2010). Transco’s failure to comply with this regulation will subject it to an enforcement action initiated by the U.S. Department of Transportation’s Pipeline and Hazardous Materials Safety Administration.

Since Transco has not cited any authority to support its request that the Commission order PPL to pay for any mitigation measures to address the electromagnetic interference and it is Transco’s responsibility to ensure that its pipelines operate in a safe manner, I will deny its request. If Transco believes that the terms of its easement entitle it to reimbursement from PPL for any mitigation measures that it undertakes, it may pursue that claim in another forum. The Commission has determined that it is not the proper forum for resolving property rights controversies. Rather, such controversies are a matter for a court of general jurisdiction. Anne E. Perrige v. Metropolitan Edison Co., Docket No. C-00004110 (Order entered July 3, 2003); Fiorillo v. PECO Energy Co., Docket No. C-00971088 (Order entered September 15, 1999).

For all the reasons set forth above, I conclude that the proposed Northeast-Pocono Reliability Project does not create an unreasonable risk of danger to the health and safety of the public pursuant to 52 Pa.Code § 57.76(a)(2), due to its proximity to Transco’s pipeline facilities.

5. FR First’s Arguments Regarding Access to Covington Industrial Park and PPL’s Responses

Turning finally to FR First’s contentions, FR First presented evidence that the proposed transmission lines were unsafe because they will create traffic obstructions and interfere with access to Covington Industrial Park. FR First opposed PPL’s proposed alignment for its transmission lines across FR First’s property located in Covington Township, Lackawanna County which is the subject of the eminent domain application at A-2012-2341123. FR First owns the only access road and entrance to the Covington Industrial Park, called First Avenue. FR First St. 1, p. 1. FR First explained that the Covington Industrial Park is an industrial park with five existing industrial buildings, four of which are occupied by industrial, storage and transportation users and an undeveloped lot that is approved for a sixth industrial facility. FR First St. 1, p. 1. The Covington Industrial Park provides employment for approximately 700 people. FR First St. 1, p. 2.

The access road owned by FR First is used by large tractor trailers and other traffic. According to FR First, PPL’s proposed easement for its transmission lines will conflict with the access road by covering the entire width of the entrance road for some distance. FR First St. 1, p. 2. The access road is designed to accommodate large heavy trucks that use Covington Industrial Park but is not designed to accommodate that traffic plus obstructions like the foundations for the large poles that will carry PPL’s transmission lines. FR First St. 1, p. 2.

FR First observed that the proposed easement turns into the center of the Covington Industrial Park rather than following the property lines around the perimeter of the park and rather than going through undeveloped land on the west side of State Route 435. FR First St. 1, p. 2. FR First has met with PPL to discuss alternative alignments for the transmission lines but PPL has declined to consider an alternative route around the perimeter of Covington Industrial Park or avoiding the park to the west of State Route 435. FR First St. 1, p. 2.

PPL responded to FR First’s testimony. PPL explained that the Covington Industrial Park is partially surrounded by the private communities of Big Bass Lake and Eagle Lake. PPL St. 1-R, p. 2, PPL Ex. DLH-1. The segment of the Northeast-Pocono Reliability project that traverses the Covington Industrial Park is approximately 2.1 miles of 230 kV transmission line that is located on the line segment between the North Pocono and West Pocono Substations. PPL St. 1-R, p. 2, PPL M.B. p. 90.

PPL also explained that it has declined to select the alternative route for the transmission line proposed by FR First because following the property line of Covington Industrial Park would place the transmission line in close proximity to residences that abut the park. According to PPL, it initially considered routing the transmission line along the property line of Covington Industrial Park but several home owners whose properties adjoin the park objected to that route. PPL St. 1-R, p. 4. PPL considered these objection and determined that it would create the least overall impact if the route for the transmission line were located further away from residential dwellings and closer to the industrial buildings located in Covington Industrial Park. PPL St. 1-R, p. 4.

The proposed route for the transmission line through Covington Industrial Park crosses State Route 435 near the entrance to Covington Industrial Park, follows Industrial Road, then turns to situate the line behind the buildings located in the park. PPL St. 1-R, p. 2. The proposed route through the Covington Industrial Park crosses State Road 435 near the entrance to the Covington Industrial Park and parallels First Avenue for approximately 1,740 feet along the property line that separates the Art Mortgage and FR First properties. PPL St. 1-R, p. 2; PPL St. 1-RJ, p. 3; PPL Ex. DLH-1, PPL M.B. p. 90.

PPL disagreed with FR First that the proposed route will create a traffic obstruction for heavy trucks using Covington Industrial Park. PPL contends that the proposed route crosses approximately 175 feet north of the entrance to Covington Industrial Park. PPL St. 1-R, p. 3. The only pole proposed near the Covington Industrial Park entrance will be located approximately 50 feet from the edge of State Route 435. PPL St. 1-R, p. 3, PPL Ex. DLH-2, PPL M.B. p. 90. Given this location, PPL concludes that it is highly unlikely that the pole will obstruct or interfere with access to the park. PPL St. 1-R, p. 3. PPL further contends that the location of its poles will not obstruct views of oncoming traffic for motorists stopped at the red light to enter or exit Covington Industrial Park. PPL St. 1-R, p. 3, PPL M.B. p. 91.

PPL states that the poles carrying the proposed transmission lines for the portion of the proposed route that parallels the FR First property will be located entirely on the property of Art Mortgage, for which PPL has secured an easement for the proposed route. PPL M.B. p. 91. None of the poles will be located on property of FR First. Of the three proposed monopoles, PPL argues that the closest pole will be 36 feet from the edge of the existing pavement of the access road to the Covington Industrial Park. PPL St. 1-RJ, p. 2, PPL M.B. p. 91.

PPL points out that, although a portion of the 150-foot wide easement will overlap the FR First property, the right-of-way across the FR First property will be an easement only for the aerial crossing of the proposed transmission lines. PPL concludes that this aerial crossing of FR First property will not impact the access road for the Covington Industrial Park. PPL St. 1-RJ, p. 3-4; PPL Ex. DLH-1, PPL M.B. p. 91.

6. Discussion and Resolution Regarding Access to Covington Industrial Park

After reviewing the evidence presented regarding traffic obstructions and interference with access to Covington Industrial Park, I conclude that PPL has met its burden to prove that the proposed transmission lines do not create an unreasonable risk of danger to the health and safety of the public pursuant to 52 Pa.Code § 57.76(a)(2), due to their proximity to entrance to Covington Industrial Park. I do so for several reasons.

First, the closest pole carrying the proposed transmission lines will be 36 feet from the edge of the existing pavement of the access road to the Covington Industrial Park. There is no evidence that the placement of this pole complies with current highway design criteria for intersections. However, the placement is far enough away from the roadway pavement that the possibility of a motor vehicle striking it is unlikely. It is also far enough away from the intersection that it will not obstruct the view of traffic using the intersection.

Second, the intersection has a traffic light. Even if the pole placement does obstruct the view of traffic using the intersection, the traffic light will control ingress to and egress from Covington Industrial Park. The traffic light will lessen the possibility of vehicle collisions even if the pole placement does obstruct the view of traffic using the intersection.

Third, the right-of-way across the FR First property will be an easement only for the aerial crossing of the proposed transmission lines, not any poles. Given that the transmission lines will be more than 100 feet above the ground, it is difficult to imagine under what circumstances the transmission lines would interfere with vehicle traffic or obstruct the entrance to Covington Industrial Park.

For all the reasons set forth above, I conclude that the proposed Northeast-Pocono Reliability Project does not create an unreasonable risk of danger to the health and safety of the public pursuant to 52 Pa.Code § 57.76(b), due to their proximity to Covington Industrial Park.

In summary, I conclude that PPL has established, by a preponderance of the evidence that the proposed Northeast-Pocono Reliability Project transmission lines do not create an unreasonable risk of danger to the health and safety of the public, pursuant to 52 Pa.Code § 57.76(b).

F. Compliance With Statutes and Regulations Regarding Protection of Natural Resources

Having addressed the need for the Northeast-Pocono Reliability Project, pursuant to 52 Pa.Code § 57.76(a)(1) and whether the Northeast-Pocono Reliability Project will create an unreasonable risk of danger to the health and safety of the public pursuant to 52 Pa.Code § 57.76(a)(2), I will now address whether the Northeast-Pocono Reliability Project complies with applicable statutes and regulations providing for the protection of natural resources of the Commonwealth, pursuant to 52 Pa.Code § 57.76(a)(3). PPL contends that the Northeast-Pocono Reliability Project complies with all applicable statutes and regulations. PPL M.B. p. 91-94.

PPL states that, consistent with the Commission’s interim guidelines at 52 Pa.Code §§ 69.3105 and 69.3106, the attachments to PPL’s filing include information on the regulatory permit requirements and agency coordination regarding cultural and environmental resources. The Commission’s interim guidelines require an applicant for the siting of an electric transmission line to file a matrix or list that shows all expected federal, state, and local government regulatory permits and approvals that may be required for the project, at the time of the application, and the current status of permit applications that may be required by those agencies. PPL contends that this information effectively addresses and, in most cases, exceeds all the requirements of the Commission’s siting regulations. PPL M.B. p. 92.

PPL asserts that it has undertaken a highly detailed and extensive evaluation of the environmental and social impacts of the available alternative routes for the Northeast-Pocono Reliability Project. PPL points out that there is no perfect route and all transmission lines will have some impact to the natural and/or human environment. PPL argues that the selected preferred routes for the Northeast-Pocono Reliability Project will minimize these impacts when compared to all the other feasible alternatives. PPL M.B. p. 92.

PPL states that it has constructed 118 transmission projects over the last 15 years. In each case, PPL alleges that it has obtained and complied with all necessary environmental permits. PPL maintains approximately 5,000 miles of transmission lines operating at 69 kV or higher, approximately 375 substations with a capacity of 10 MVA or more, and approximately 43,000 miles of distribution lines. PPL asserts that there is no evidence to suggest that it cannot and will not construct and maintain the proposed transmission lines in compliance with applicable environmental laws or regulations. PPL St. 4-R-2, p. 22, PPL M.B. p. 92-93.

PPL explains that every major high voltage transmission line project requires many permits and approvals from local, state, and federal agencies. PPL M.B. p. 92. According to PPL, project planning necessitates close coordination with construction schedules to ensure that the appropriate time frames of in-service dates and potential line outage dates are considered as part of the planning process. As a result, permitting must be prioritized to focus on the required environmental studies and engineering to be completed for the sections and substation to be constructed first. PPL St. 4-R-2, p. 5-6, PPL M.B. p. 93. The management of obtaining those approvals while completing the project in sufficient time to avoid reliability issues is a complex and difficult process. PPL St. 4-R-2, p. 7.

PPL has committed to obtain all required permits for construction of the Northeast-Pocono Reliability Project, and will comply with any and all conditions placed on such permits by those agencies that have appropriate jurisdiction over environmental matters. PPL St. 4-R-2, p. 4, 24; N.T. 479, PPL M.B. p. 93. PPL argues that the Commission has found compliance with the applicable environmental statutes and regulations where the applicant agrees to obtain any and all necessary environmental permits and to comply with any conditions on those permits during construction. PPL concludes that there is nothing in the record to suggest that it will be unable to secure the necessary permits or that those permits will be inadequate to prevent compliance with applicable statutes and regulations, or provide for the protection of the natural resources of this Commonwealth. PPL M.B. p. 93.

Apparently, none of the parties contests that the proposed Northeast-Pocono Reliability Project complies with applicable statutes and regulations providing for the protection of natural resources of the Commonwealth, pursuant to 52 Pa.Code § 57.76(c). NP CARE contends that the other Commonwealth agencies having authority to protect natural resources have jurisdictional limits and PPL has an obligation to minimize environmental impact that exceeds those jurisdictional limits. NP CARE M.B. p. 10, 14. According to NP CARE, the other Commonwealth agencies do not sufficiently regulate certain adverse impacts of the Northeast-Pocono Reliability Project. NP CARE M.B. p. 10. However, even if these assertions are true, they do not indicate that PPL has failed to comply with the relevant statutes and regulations.

1. Discussion and Resolution Regarding Compliance with Statutes and Regulations

After reviewing the evidence presented regarding compliance with applicable statutes and regulations providing for the protection of natural resources of the Commonwealth, I conclude that PPL has met its burden to prove that the proposed Northeast-Pocono Reliability Project complies with applicable statutes and regulations providing for the protection of natural resources of the Commonwealth, pursuant to 52 Pa.Code § 57.76(a)(3). PPL has stated that it agrees to obtain any and all necessary environmental permits and to comply with any conditions on those permits during construction. The Commission has previously ruled that this is sufficient to establish compliance with applicable environmental statutes and regulations. Application of Pennsylvania Electric Company For Approval to Locate and Construct the Bedford North-Osterburg East 115 kV HV Transmission Line Project Situated in Bedford and East St. Clair Townships, Bedford County, Pennsylvania, supra.

The facts in this case are similar to the facts in the case cited above. There are no material facts in this case that dictate a result different from the result reached in the case cited above. For the reason set forth above, I conclude that the proposed Northeast-Pocono Reliability Project complies with applicable statutes and regulations providing for the protection of natural resources of the Commonwealth, pursuant to 52 Pa.Code § 57.76(a)(3).

G. Minimum Adverse Environmental Impact

Having addressed the need for the Northeast-Pocono Reliability Project, pursuant to 52 Pa.Code § 57.76(a)(1), whether the Northeast-Pocono Reliability Project will create an unreasonable risk of danger to the health and safety of the public pursuant to 52 Pa.Code § 57.76(a)(2) and whether the Northeast-Pocono Reliability Project complies with applicable statutes and regulations providing for the protection of natural resources of the Commonwealth, pursuant to 52 Pa.Code § 57.76(a)(3), I will now address whether the Northeast-Pocono Reliability Project will have minimum adverse environmental impact, considering the electric power needs of the public, the state of available technology and the available alternatives, pursuant to 52 Pa.Code § 57.76(a)(4).

As a preliminary matter, I will briefly revisit the burden of proof because NP CARE contends that that while PPL’s burden of proof is preponderance of the evidence, it has an “intensified burden” to show that the environment had been considered in its planning and that every reasonable effort has been made to reduce the environmental incursion to a minimum, citing Re Overhead Electric Transmission Lines, 1978 Pa. PUC LEXIS 203, 51 Pa. PUC 682 (March 1, 1978) at \*14. NP CARE argues that this “intensified burden” arises out of Article I, Section 27 of the Pennsylvania Constitution. NP CARE M.B. p. 11-12. NP CARE is incorrect that PPL has an “intensified burden” in this proceeding.

In Susquehanna Roseland, the Commission rejected a similar argument. In Susquehanna Roseland, a group of property owners made the same argument that PPL had an “intensified burden” to show that the environment has been considered in its planning and that every reasonable effort has been made to reduce the environmental incursion to a minimum. The Commission rejected this argument, stating that while the “intensified burden” language was from a Commission Order adopting a regulation, that regulation had been repealed. The Commission concluded that the assertion that every reasonable effort should be made to reduce the environmental impacts to a minimum was without merit. Susquehanna Roseland at 75. I will adopt the Commission’s reasoning and reject NP CARE’s argument that PPL has an “intensified burden” in this case.

Having briefly revisited the burden of proof, I will now address whether the Northeast-Pocono Reliability Project will have minimum adverse environmental impact, considering the electric power needs of the public, the state of available technology and the available alternatives, pursuant to 52 Pa.Code § 57.76(a)(4).

In determining whether the route of the proposed Northeast-Pocono Reliability Project will have minimum adverse environmental impacts, the Commission should consider the impacts that the proposed project will have consistent with the Commission’s regulations at 52 Pa.Code § 57.75 (e)(3) set forth below:

#### § 57.75.  Hearing and notice.

#### \* \* \*

(e) At hearings held under this section, the Commission will accept evidence upon, and in its determination of the application it will consider, *inter alia*, the following matters:

 (1) The present and future necessity of the proposed HV line in furnishing service to the public.

 (2) The safety of the proposed HV line.

 (3) The impact and the efforts which have been and will be made to minimize the impact, if any, of the proposed HV line upon the following:

(i) Land use.

(ii) Soil and sedimentation.

(iii) Plant and wildlife habitats.

(iv) Terrain.

(v) Hydrology.

(vi) Landscape.

(vii) Archeologic areas.

(viii) Geologic areas.

(ix) Historic areas.

(x) Scenic areas.

(xi) Wilderness areas.

(xii) Scenic rivers.

 (4) The availability of reasonable alternative routes.

The Commission must also consider the availability of reasonable alternative routes in determining whether the proposed route will have minimum adverse environmental impacts. 52 Pa.Code §§ 57.75(d)(4), 57.76(a)(4), PPL M.B. p. 94.

PPL contends that it has undertaken an extensive evaluation of the environmental and social impacts of the available alternative routes using the siting process outlined above. PPL M.B. p. 95. PPL asserts that the routes it has chosen for the separate segments of the Northeast-Pocono Reliability Project will have significantly less overall impacts to the natural and human environment than the other feasible alternative routes. PPL M.B. p. 95.

Some of the witnesses at the May 2, 2013 public input hearing testified that the proposed transmission lines would have major adverse environmental impacts. Some of those witnesses advocated that the Commission order PPL to construct the Northeast-Pocono Reliability Project’s transmission lines between the West Pocono and North Pocono Substation along an alternative route called the Citizens’ Route. At the evidentiary hearings, NP CARE presented evidence that the location and construction of the proposed transmission lines would create negative environmental impacts that justified the Commission rejecting PPL’s application. I will address the public input witnesses’ concerns, then NP CARE’s concerns.

1. Public Input Witnesses’ Concerns Regarding Environmental Impact

a. The Citizens Route and PPL’s Response

Turning first to the public input witnesses contentions, I will first address the so-called Citizens’ Route. At the May 2, 2103, public input hearings, many witnesses specifically opposed the proposed Route D-1 for the West Pocono to North Pocono segment and advocated an alternative route which they called the Citizens’ Route, that would route the transmission line further north, through Lackawanna State Forest and SGL 135 and away from homes and businesses. N.T. 59, 61-62, 64, 71, 100, 118, 129-130, 154, 186, 190, 199, 204, 211, 242, 257.

PPL responded to the alternative route referred to as the Citizens’ Route. PPL identified the location of the Citizens’ Route. PPL St. 4-R, p. 2-3, PPL Ex. BAB-1. Generally, the Citizens Route is located north of PPL’s Route D-1, PPL M.B. p. 114-115.

PPL observed that the Citizens’ Route starts by moving the location for the West Pocono Substation approximately 4.7 miles northwest from PPL’s Route D-1. According to PPL, determination of the substation location is based on locating the substation in close proximity to the actual identified load center. This is essential since the primary purpose of the project is to get needed electrical supply to the specified area where it is required. PPL St. 4-R, p. 4. The Citizens’ Route ignores this requirement and moves the West Pocono Substation farther from the load center. PPL St. 4-R, p. 4, PPL M.B. p. 115.

PPL pointed out that if the West Pocono Substation is moved further northwest, it is still necessary to electrically connect it to the existing 69 kV infrastructure. If the Citizens’ Route were adopted and the West Pocono Substation moved northwest, PPL would have to build approximately 5.2 additional miles of 69 kV transmission line from the substation to connect it to the existing 69 kV lines located near Thomas Road in Monroe County. PPL St. 4-R, p. 4-5. This additional 5.2 miles of additional transmission line would have its own additional impacts on the environment. PPL M.B. p. 115.

PPL also contended that the witnesses advocating for the Citizens’ Route did not take into account the environmental impacts of the Citizens’ Route. PPL St. 4-R, p. 5. These witnesses failed to account for the impacts the Citizens’ Route would cause to surrounding forests, public lands, local conservation efforts, stream networks, sensitive habitats that support rare, threatened or endangered species, the local infrastructure and the local economy. Many of these impacts would be similar and in some cases worse than the impacts from PPL’s Route D-1. PPL St. 4-R, p. 5, PPL M.B. p. 115-116.

For instance, the Citizens’ Route will not lessen the impact on high value streams or mitigate degradation of the tree canopy. PPL points out that because the Citizens’ Route is located at a higher elevation than PPL’s Route D-1, it has a greater potential to intersect unidentified intermittent and low order streams. PPL St. 4-R, p. 6-7. PPL also contends that the Citizens’ Route has been developed with no regard to the actual environmental features present and could have a canopy cover impact similar to PPL’s Route D-1. PPL St. 4-R, p. 2-3, PPL M.B. p. 116.

PPL contended that the Citizens’ Route would have a greater impact on intact forest lands than PPL’s Route D-1. PPL explained that its Route D-1 mirrors the boundary of the Lackawanna State Forest with adjacent privately owned lands. This has the effect of minimizing fragmentation of the Lackawanna State Forest. PPL St. 4-R, p. 8, PPL M.B. p. 116‑117.

In contrast, the Citizens’ Route crosses through the north central section of the Lackawanna State Forest, then turns northeast and crosses two additional sections of the Lackawanna State Forest. PPL St. 4-R, p. 8. This route results in forest fragmentation of sections of the Lackawanna State Forest by cutting through the center of the forest. PPL M.B. p. 116-117.

PPL reasoned that its Route D-1 is less detrimental than the Citizens’ Route from a forest fragmentation perspective since it will be located in close proximity to other human influenced land uses that currently fragment the surrounding forest, such as areas of concentrated development, a network of public and forest roads, and a golf course at the Thornhurst Country Club. By contrast, the Citizens’ Route would traverse through isolated sections of forest that are presently much less fragmented by human influenced land uses. PPL St. 4-R, p. 9, PPL M.B. p. 117.

Finally, PPL pointed out that the Citizens’ Route does not appear to have considered the need to create access roads for constructing the transmission line. PPL St. 4-R, p. 10. The Citizens’ Route is so remote that extensive development of new roads would be required, resulting in even more forest impacts through largely undisturbed areas. PPL St. 4-R, p. 10. PPL would face significant challenges to constructing and building access roads due to the location of the Citizens’ Route’s alignment along steep slopes of the ridge line. PPL St. 4-R, p. 10-11, PPL M.B. p. 118.

b. Discussion and Resolution Regarding the Citizen’s Route

After reviewing the evidence presented regarding the Citizens’ Route, I conclude that PPL has met its burden to prove that its proposed Route D-1 will have minimum adverse environmental impact compared to the Citizen’s Route, pursuant to 52 Pa.Code § 57.76(a)(4). I do so for several reasons.

First, as set forth above in great detail, PPL used a route selection process that evaluated numerous social and environmental impacts of the available alternative routes for the West Pocono to North Pocono segment before selecting Route D-1. By contrast, there is no indication that the Citizen’s Route was subject to any similar evaluation process. Rather, it appears that the main criteria for developing and selecting the Citizen’s Route was to move the West Pocono to North Pocono segment as far from the citizens’ homes and businesses as possible, regardless of the environmental impacts.

Second, as stated above, PPL established alternative Route D-1 following public open houses and agency coordination meetings. PPL developed Route D-1 in response to public comments and concerns about the alternative Routes C and D, in order to address those concerns. In contrast, none of the public input witnesses fully explained how the Citizens’ Route was developed or what entity or persons developed it.

Third, the evidence at the May 2, 2013 public input hearings regarding the superiority of the Citizens’ Route to PPL’s Route D-1 consisted mostly of unsupported assertions that the Citizens’ Route would have minimum adverse environmental impact compared to Route D-1. Assertions cannot form the basis of a finding that the Citizens’ Route would have less environmental impact than Route D-1. Assertions, personal opinions or perceptions do not constitute evidence. Pennsylvania Bureau of Corrections v. City of Pittsburgh, 532 A.2d 12 (Pa. 1987). Since none of the witnesses at the public input hearing was qualified as an expert in designing transmission lines or evaluating the environmental impacts of transmission lines, their opinion testimony has little value as to the environmental impacts of alternative transmission line routes. For all the reasons set forth above, I conclude that the proposed Route D-1 will have minimum adverse environmental impact compared to the Citizens’ Route, pursuant to 52 Pa.Code § 57.76(a)(4).

c. Other Environmental Impact Concerns and PPL’s Responses

Some of the witnesses who testified at the May 2, 2013 public input hearing advocated placing the facilities underground. Many witnesses at the May 2, 2013 public input hearings stated that the transmission lines for the Northeast Pocono Reliability Project should be placed underground in order to minimize damage to the scenic beauty of the area. These witnesses pointed out that many other countries had similar facilities located underground. N.T. 183-184, 206-207, 224, 240, 248.

Certain witnesses at the May 2, 2013, public input hearing raised concerns regarding the impact that the proposed Route D-1 would have on the Big Bass Lake Private Community and Elm Park, a grassy area located within the Big Bass Lake Private Community. N.T. 67, 98-99.)

A few witnesses at the May 2, 1013, public input hearing, as well as NPCARE, raised concerns regarding the impact that the proposed Route D-1 would have on Choke Creek Falls. N.T. 61-62, 108; NPCARE St. 2, p. 8, 13-14.

Witnesses at the May 2, 2013 public input hearings, as well as NP CARE, expressed concern that the preferred route for the Northeast-Pocono Reliability Project would lead to a decline in the number of tourists visiting the area. These witnesses pointed out that tourism was a significant source of revenue and employment in the area. N.T. 121, 206, 237, 257, 269-270, NP CARE St. 2, p. 12-14.

A representative of the Wayne County Agricultural Land Preservation Board (Wayne Ag Board), which administers Wayne County’s Agricultural Easement Purchase Program, in conjunction with the Pennsylvania Department of Agriculture, testified at the May 2, 2013 public input hearing. N.T. 147-150. The Wayne Ag Board is concerned about the siting of PPL’s transmission lines in Wayne County because the proposed transmission lines cross many farms which are subject to Agricultural Conservation Easements. N.T. 147.

 The Wayne County’s Agricultural Land Preservation Program pays farmers to permanently restrict their farms to agricultural use and take away the farmers’ rights to develop the properties for residential, industrial or commercial uses other than agriculture. The Wayne Ag Board is concerned the Northeast-Pocono Reliability Project will affect approximately 20 farms in Wayne County. N.T. 147-148.

 The Wayne Ag Board notes that one of the farms is owned by Donald Janusiewski, whose property is the subject of the eminent domain proceeding at A-2012-2341215. Mr. Janusiewski’s farm is preserved by an Agricultural Conservation Easement purchased by Wayne County and the Commonwealth of Pennsylvania using taxpayer funds. N.T. 148. The Wayne Ag Board contends that the easement being acquired by PPL is contrary to the purpose of the Agricultural Conservation Easement. The Wayne Ag Board points out that at least three other farms in Wayne County that are subject to Agricultural Conservation Easements will be similarly affected. N.T. 148-149.

 The Wayne Ag Board contends that PPLs application is part of a growing trend among electric utilities to look at preserved open space lands as pathways for transmission lines. Using preserved open spaces for transmission lines avoids densely populated areas. However, in some cases, these open spaces have been funded by government agencies through the acquisition of conservation easements. In cases where government agencies have funded the creation of these open spaces, the open spaces should be protected from transmission lines. N.T. 149. The Wayne Ag Board requests that the Commission reject PPL’s application unless the proposed transmission lines can be rerouted to avoid Wayne County farm land. N.T. 149-150.

Witnesses at the May 2, 2013 public input hearings expressed concern that the preferred route for the Northeast-Pocono Reliability Project would cause the value of their homes and businesses to decline. Many indicated that they would either not be able to sell their properties or would only be able to sell their properties at a significantly reduced price if the transmission lines and 150 foot tall poles were visible from their properties. N.T. 59, 82, 92, 121, 124-125, 154, 180-181, 202, 204, 211, 231, 238, 241, 267.

PPL responded to the testimony of witnesses at the public input hearings regarding placing its transmission facilities underground. N.T. 189-190, 206-207, 224, 240, 248, PPL St. 5-R, p. 5. PPL stated that burying high voltage transmission lines is extremely expensive and generally costs six to ten times more than constructing overhead transmission lines. PPL St. 5-R, p. 5. PPL also indicated that the technology for burying transmission lines is uncertain because there is little experience with such facilities. PPL is uncertain how 58 miles of buried double circuit 230 kV transmission line would function. PPL M.B. p. 118.

In addition, repairing and maintaining underground facilities present additional problems. Repair of underground transmission lines can require weeks instead of hours for overhead lines, reducing quality of service to customers. PPL St. 5-R, p. 5, PPL M.B. p. 118.

Furthermore, constructing the transmission lines underground for the Northeast-Pocono Reliability Project would be more difficult due to severe slopes, rocky terrain, wetlands and streams prevalent in the region. PPL St. 5-R, p. 5.

Finally, PPL contended that burying the transmission lines would not eliminate any environmental concerns since the right of way would still need to be cleared and remain cleared of vegetation. There would also be substantial environmental impacts associated with burying transmission lines in wetlands and across streams. The installation of underground facilities would have a greater impact on earth disturbance. PPL St. 5-R, p. 5, PPL M.B. p. 118.

PPL responded to the concerns expressed at the public input hearings regarding the impact the proposed transmission line route would have on Elm Park, located on Cardinal Drive in Big Bass Lake community. N.T. 61, 98-99, PPL St. 1-R, p. 9. PPL contends that its proposed transmission line route will have no impact on Elm Park. PPL St. 1-R, p. 9, PPL M.B. p. 119.

PPL explains that Elm Park is a grassy area largely surrounded by a heavily wooded area. PPL St. 1-R, p. 9. The closest distance between PPL’s proposed transmission line route and Cardinal Drive is approximately 1,300 feet. PPL St. 1-R, p. 9. Over half of that distance is heavily wooded. Given the distance from the proposed transmission line route and the fact that Elm Park is largely surrounded by heavily wooded areas, it is unlikely that the proposed transmission line route will be visible from Elm Park. PPL St. 1-R, p. 9, PPL M.B. p. 119.

PPL responded to the concerns expressed at the public input hearings regarding the impact the proposed transmission line route would have on the Big Bass Lake community. PPL St. 1-R, p. 10. PPL pointed out that the proposed transmission line route does not traverse the Big Bass Lake community. The closest point between the Big Bass Lake community and proposed transmission line route is a quarter of a mile. PPL St. 1-R, p. 10. The only visual impact to the Big Bass Lake community would be approximately ten to fifteen feet of one pole visible from the beach area for the lake. PPL St. 1-R, p. 10, PPL M.B. p. 119.

PPL responded to the concerns expressed at the public input hearings regarding the impact the proposed transmission line route would have on Choke Creek Falls. N.T. 61-62, 108, PPL St. 4-R, p. 11-12. PPL indicated that the Choke Creek Falls is not identified on current Lackawanna State Forest trail maps nor is information provided for any trails that would access the site. According to PPL, Choke Creek Falls was located on private property until DCNR acquired it in 2010. PPL St. 4-R, p. 11, PPL M.B. p. 119.

With the help of Lackawanna State Forest officials, PPL assessed the location of its proposed transmission line route relative to Choke Creek Falls and has moved the route further from the falls in order not to affect the falls’ aesthetic value. PPL St. 4-R, p. 11. PPL’s adjustment moves the proposed transmission line route approximately .3 miles to the east. PPL believes, based on its photographs of the area that its proposed transmission line will not be visible from Choke Creek Falls due to the distance to the line, the topographic barrier of the surrounding hills and dense forest vegetation. PPL St. 4-R, p. 11, PPL Ex. BAB-2, PPL M.B. p. 119-120.

PPL responded to the concerns expressed at the public input hearings regarding the impact the proposed transmission line route would have on tourism and outdoor activities in the area. N.T. 108, 121, 130, 141-142, 206, PPL St. 4-R, p. 12. PPL indicated that Lackawanna State Forest trail maps show that Phelps Road is part of a snowmobile trail network within the forest. PPL’s Route D-1 initially ran parallel to a section of Phelps Road at the southern edge of Lackawanna State Forest, consistent with DCNR guidelines for right of way development in state forest lands. As a result of discussions with DCNR officials, PPL will move its Route D-1 further to the southeast, away from the forest road to maintain the aesthetic setting. PPL St. 4-R, p. 12.

With regard to the general concerns expressed at the public input hearings that its preferred transmission line route would impact tourism within Lackawanna State Forest, PPL observed that most of the recreational sites and trails enjoyed by the public, including the Spruce Swamp Natural Area, the Big Pine Hill observation platform, and significant portions of the 26 mile Pinchot Trail network are located in the central and northern portions of the forest, well north of the proposed transmission line. PPL St. 4-R, p. 12. PPL’s preferred transmission line route would not cross any of the identified hiking trails in the Lackawanna State Forest. PPL St. 4-R, p. 13, PPL M.B. p. 120.

In response to the Wayne Ag Board’s testimony, PPL did not dispute that the proposed transmission lines cross farms in Wayne County which are subject to Agricultural Conservation Easements. PPL St. 4-R, p. 21-22. Rather, PPL points out that its preferred route through southern Lackawanna County does not cross any actively farmed parcels of land. PPL St. 4-R, p. 22. According to the Lackawanna County Conservation District, no farms in this portion of Lackawanna County are protected by an Agricultural Conservation Easement. PPL St. 4-R, p. 22. The closest preserved farms in Lackawanna County are located near Moscow, approximately a mile north of the proposed alignment. PPL St. 4-R, p. 22, PPL M.B. p. 120-121.

PPL responded to the concerns expressed at the public input hearings regarding the impact the proposed transmission line route would have on property values. N.T. 59, 92, 154, 238, 241, PPL St. 6-R, p. 7. PPL cited professional literature indicating that these concerns were unfounded. PPL St. 6-R, p. 7, PPL Ex. CK-1, PPL Ex. CK-2. Based on these articles, PPL did not expect the proposed transmission lines to have an adverse effect on property values. PPL further observed that the public input testimony provided no factual basis to conclude that the Northeast-Pocono Reliability Project would have a negative impact on property values. PPL St. 6-R, p. 9, PPL M.B. p. 120-121. Alternatively, PPL argues that even if the Northeast-Pocono Reliability Project may have an adverse impact on property values, relocating the routes for the project would not resolve the issue, it would merely move the problem to someone else’s property. PPL M.B. p. 121.

d. Discussion and Resolution Regarding Other Environmental Impact Concerns

After reviewing the evidence presented regarding the concerns raised by the public input hearing witnesses, I conclude that PPL has met its burden to prove that the Northeast-Pocono Reliability Project will have minimum adverse environmental impact, considering the electric power needs of the public, the state of available technology and the available alternatives, pursuant to 52 Pa.Code § 57.76(a)(4), with regard to the issues addressed above.

With regard to placing the proposed transmission lines underground, underground facilities would no doubt be aesthetically more pleasing and less intrusive than overhead transmission lines. However, no witness refuted PPL’s contentions that burying high voltage transmission lines would be more expensive and repairing them would be more time consuming. In addition, burying the transmission lines would not eliminate the need to clear vegetation and maintain the right of way. Finally, the installation of underground facilities would create more earth disturbance than installation of facilities above ground.

With regard to the impact on Elm Park and Big Bass Lake community, no witness refuted PPL’s contention that the closest distance between its proposed Route D-1 and these areas is approximately 1,300 feet, with much of the distance heavily wooded. Given the distance from the proposed Route D-1, it is unlikely that the proposed transmission line route will be visible from Elm Park and only approximately ten to fifteen feet of one pole will be visible from the Big Bass Lake community.

With regard to Choke Creek Falls, no witness refuted PPL’s contention that it has moved the proposed Route D-1 further from the falls in order not to affect the falls’ aesthetic value. This adjustment moves the proposed transmission line route approximately .3 miles to the east. No witness refuted PPL’s contention that its proposed transmission line will not be visible from Choke Creek Falls due to the distance to the line, the topographic barrier of the surrounding hills and dense forest vegetation.

With regard to the impact the proposed transmission line route would have on tourism and outdoor activities in the area, no witness refuted PPL’s contention that it will move its Route D-1 further to the southeast of Phelps Road, away from the forest road to maintain the aesthetic setting. No witness refuted PPL’s contentions that most of the recreational sites and trails enjoyed by the public including the Spruce Swamp Natural Area, the Big Pine Hill observation platform, and significant portions of the 26 mile Pinchot Trail network, are located in the central and northern portions of the forest, well north of the proposed transmission line.

With regard to the Wayne Ag Board’s testimony, no witness refuted PPL’s contentions that its preferred route through southern Lackawanna County does not cross any actively farmed parcels of land, that no farms in this portion of Lackawanna County are protected by an Agricultural Conservation Easement or that the closest preserved farms in Lackawanna County are located near Moscow, approximately a mile north of the proposed alignment.

With regard to the impact the proposed transmission line route would have on property values, no witness refuted PPL’s contention that the professional literature indicated that these concerns were unfounded. The evidence presented at the May 2, 2013 public input hearing consisted mostly of unsupported assertions that the proposed transmission line would cause property values to decline. As noted above, assertions cannot form the basis of a finding that the proposed transmission lines will cause property values to decline. For all the reasons set forth above, I conclude that the proposed transmission line route will have minimum adverse environmental impact, considering the issues raised above, pursuant to 52 Pa.Code § 57.76(a)(4).

2. NP CARE’s Concerns Regarding Environmental Impacts

NP CARE’s testimony and arguments regarding PPL’s preferred transmission line route focus on Route D-1, located between the West Pocono and North Pocono Substations and the West and North Pocono Substation 138 kV connecting lines. NP CARE M.B. p. 9. Preliminarily, NP CARE notes that PPL has agreed to changes proposed by NP CARE to the route of the proposed Northeast-Pocono Reliability Project. In addition, NP CARE is withdrawing its specific objection to the proposed location on one parcel. NP CARE M.B. 7-8. Those changes are set forth below.

The first change involves relocating the route away from Phelps Road on Parcel 38. PPL agreed to move the proposed route across Parcel 38, 300 feet southeast from the property line. The proposed realignment on Parcel 38 creates a 300 foot visual buffer between the proposed route and Phelps Road. PPL St. 1-R-2, p. 4-5; PPL Ex. DLH-5, PPL M.B. p. 127, NP CARE M.B. p. 7. This modification is acceptable to NP CARE and resolves its concerns with respect to Parcel 38. N.T. 481, PPL M.B. p. 127, NP CARE M.B. p. 7.

The second change involves relocating the route on Parcel 35. PPL agreed to extend the route approximately 75 feet west at the northern portion of the route on Parcel 35 and then continue south to tie into the location for the proposed route at the southern part of Parcel 35. NP CARE St. 1-R, p. 2; PPL Ex. DLH-8, PPL M.B. p. 127, NP CARE M.B. p. 7. This change would allow for a more perpendicular stream crossing, while avoiding the wetland on Parcel 35. PPL has contacted the underlying landowners, who have indicated that they do not object to the proposed modification. This modification is acceptable to PPL, provided that it is acceptable to the underlying landowners. PPL St. 1-RJ-2, p. 2-3. This modification is acceptable to NP CARE and resolves its concerns with respect to Parcel 35. N.T. 481, PPL M.B. p. 127, NP CARE M.B. p. 7.

NP CARE has withdrawn its objection to the proposed location of the transmission line on Parcel 43. NP CARE M.B. p. 7. PPL explained that the alignment on Parcel 43 is the result of a specific request by the landowner that the route follow the property line. Relocating the route on Parcel 43 farther southeast away from the stream would cause additional impacts to the property owner, and would cause the route to have a greater impact to Parcel 44, which crosses a non-condemnable property owned by a church. The only other alternative would be to move the route northwest. PPL stated that this alternative was not feasible because relocating to the northwest would move the route off Parcel 43 and place the transmission line in a residential area, Thornhurst Country Club Estates, which would likely oppose this relocation. PPL St. 1-R-2, p. 6-8, PPL M.B. p. 128. Having addressed the changes to the proposed route of the Northeast-Pocono Reliability Project that NP CARE and PPL have agreed upon, I will now address NP CARE’s specific concerns with the environmental impacts of the project.

Initially, NP CARE proposes that the Commission deny PPL’s application to construct the proposed transmission lines between the West Pocono and North Pocono Substations because the environmental costs are too great. NP CARE St. 2, p. 14, NP CARE M.B. p. 16-18. Alternatively, if the Commission approves PPL’s application, NP CARE recommends that the Commission impose conditions on that approval. NP CARE M.B. p. 16-18. These conditions would assure that the adverse environmental impact of the Northeast-Pocono Reliability Project would be minimal, according to NP CARE.

In response to NP CARE’s contention that the Commission should deny PPL’s application because the environmental costs would be too great, PPL points out that it has constructed 118 transmission projects over the last 15 years. PPL St. 4-R-2, p. 21. In each case, PPL obtained and complied with all necessary environmental permits. In addition, PPL maintains approximately 5,000 miles of transmission lines operating at 69 kV or higher, approximately 375 substations with a capacity of 10 MVA or more and approximately 43,000 miles of distribution lines operating at less than 69 kV. PPL St. 4-R-2, p. 22. There is no significant history of citations or violations that suggest PPL cannot construct and maintain the Northeast-Pocono Reliability Project in compliance with applicable laws and regulations. PPL St. 4-R-2, p. 22.

PPL also points out that, as part of the regulatory permitting process, it is required to show that it can comply with environmental guidelines. PPL St. 4-R-2, p. 22-23. PPL has taken specific steps to minimize the environmental impact of Route D-1. PPL St. 4-R-2, p. 23. PPL identified alternative routes that avoided streams, floodplains, wetlands and natural areas to the extent practicable. PPL modified these alternatives to take advantage of open fields and agricultural lands to reduce forest removal. PPL St. 4-R-2, p. 23-24. PPL will obtain all required permits prior to construction of the Northeast-Pocono Reliability Project and will comply with any and all conditions placed on those permits by the various agencies. PPL St. 4‑R-2, p. 24.

In support of its allegations that the Northeast-Pocono Reliability Project will have unreasonable environmental costs, NP CARE lists several concerns regarding the project that it contends are particularly egregious. I will address each of those concerns in turn and PPL’s response. I will then provide my analysis and conclusion.

a. NP CARE’s Concerns Regarding the Environmental Impact on Species and Communities of Special Concern and PPL’s response

NP CARE contends that, within the proposed Northeast-Pocono Reliability Project area, significant natural resources, including Species of Special Concern in Pennsylvania such as endangered, threatened, rare or uncommon plants and animals, as well as Communities of Special Concern, occur and will be impacted by the proposed project. NP CARE St. 3, p. 2-3, NP CARE M.B. p. 18. According to NP CARE, these species and communities have been ranked by the Pennsylvania Natural Heritage Program and identified for protection by the Pennsylvania Wildlife Action Plan, which was compiled by the PGC and the PFBC to provide “a statewide overview of the integrated efforts needed to sustain wildlife and habitat.” NP CARE St.3-R, p. 4, NP CARE M.B. 18.

These Species and Communities of Special Concern have been identified in the project area through available materials, but also largely through the field work of NP CARE. NP CARE St. 3, p. 2-3, NP CARE M.B. p. 18. NP CARE’s field work was limited to public lands and a few private lands to which it had access in the proposed Northeast-Pocono Reliability Project area. NP CARE M.B. p. 18. As of June 2, 2013, NP CARE identified and documented 17 species considered Pennsylvania Species of Special Concern, with the possibility of three additional species. NP CARE St. 3, p. 3.

These species were either found within the proposed Route D-1 right-of-way or could exist within the proposed right-of-way based on having been found in close proximity to the right-of-way. NP CARE St. 3, p. 3, NP CARE M.B. p. 18. NP CARE also identified several plant communities of special concern within or in close proximity to the proposed Route D-1 right-of-way. NP CARE St. 3, p. 9, NP CARE M.B. p. 18. Finally, NP CARE determined that four additional Species of Special Concern also might exist, but that their presence could be confirmed until later in the year, due to their life cycle. These include the globally rare Fly-Poison Lily Borer Moth. NP CARE St. 3, p. 11.

NP CARE contends that the Commission should require PPL to conduct an assessment of the extent to which each of these species and communities exist, prepare a management plan, document implementation of that plan and assess the results. NP CARE M.B. p. 34. The Commission should require PPL to prepare and submit to the Commission studies of these species and communities and prepare, submit and implement plans to mitigate the impact of the Northeast-Pocono Reliability Project on them. NP CARE M.B. p. 35.

Before setting forth PPL’s response, I will briefly identify these various species below.

With regard to animals, NP CARE documented numerous reptile, amphibian, butterfly, moth, dragonfly and damselfly species considered Pennsylvania Species of Special Concern. NP CARE documented two reptiles considered Pennsylvania Species of Special Concern, the Wood Turtle and the Smooth Green Snake, in close proximity to the preferred route for PPL’s proposed transmission lines and access roads. NP CARE found the Wood Turtle, along Sand Springs Creek and found the Smooth Green Snake along Phelps Road. NP CARE St. 3, p. 3.

NP CARE also documented one amphibian considered a Pennsylvania Species of Special Concern, the Four-toed Salamander, in close proximity to the preferred route for PPL’s proposed transmission lines and access roads. NP CARE found the four-toed Salamander in a Palustrine hemlock wetland near Phelps Road. NP CARE St. 3, p. 4.

In addition, NP CARE documented one butterfly considered a Pennsylvania Species of Special Concern, the Artic Skipper, in close proximity to the preferred route for PPL’s proposed transmission lines and access roads. NP CARE found the Artic Skipper along Phelps Road. NP CARE St. 3, p. 6.

NP CARE documented one moth considered a Pennsylvania Species of Special Concern, the Slender Clearwing, in close proximity to the preferred route for PPL’s proposed transmission lines and access roads. NP CARE observed the Slender Clearwing feeding in a blueberry/heath opening between Choke Creek and Phelps Road. NP CARE St. 3, p. 6.

NP CARE documented six dragonflies and damselflies considered Pennsylvania Species of Special Concern, the Uhler’s Sundragon, Azure Bluet, Turquoise Bluet, Harlequin Darner, American Emerald and Superb Jewelwing, in close proximity to the preferred route for PPL’s proposed transmission lines and access roads. NP CARE found the Uhler’s Sundragon at several locations along Ash Creek, Choke Creek, Lehigh River headwaters and Sand Springs Creek, the Azure Bluet along a vernal pool near Choke Creek, the Turquoise Bluet along Choke Creek, the harlequin Darner along the headwaters of the Lehigh River, the American Emerald along the headwaters of the Lehigh River and the Superb Jewelwing along Choke Creek. NP CARE St. 3, p. 7-8.

With regard to plants, NP CARE documented six plant species considered Pennsylvania Species of Special Concern in close proximity to the preferred route for PPL’s proposed transmission lines and access roads. NP CARE found the Creeping Snowberry in a coniferous wetland forest on the Bednarz property located near Bear Lake Road, the Early Coralroot Orchid in a coniferous wetland forest on the Bednarz property located near Bear Lake Road, the Golden Club growing in the Lehigh River near Lehigh Pond, the Bladderworth in a semi-permanent pool along Choke Creek, the Balsam Fir in a coniferous wetland forest on the Bednarz property located near Bear Lake Road and the Fly-Poison Ivy in the forest adjacent to Phelps Road. NP CARE St. 3, p. 8-9.

NP CARE also documented Plant Communities of Special Concern in close proximity to the preferred route for PPL’s proposed transmission lines and access roads. NP CARE found a Hemlock Palustrine Forest located adjacent to Phelps Road, a Coniferous-Broadleaf Palustrine Forest on the Bednarz property adjacent to Bear Lake Road, Golden Saxifrage/Pennsylvania Bittercress Spring Runs on the Bednarz property along Choke Creek and Vernal Pools in the floodplain area along Choke Creek and Sand Springs Creek as well as near the intersection of Bear Lake Road and Phelps Road. NP CARE St. 3, p. 9-10.

NP CARE contends that there are four other Pennsylvania Species of Special Concern that likely exist in close proximity to the preferred route for PPL’s proposed transmission lines and access roads. The first species is the Fly-poison Borer Moth, considered to be globally rare. NP CARE documented a large population of Fly-poison Lily occurring adjacent to and near Phelps Road. NP CARE St. 3, p. 11. This lily often hosts the Fly-poison Borer Moth but according to NP CARE, PPL failed to investigate whether the moth is present. NP CARE contends that this determination can only be made by nocturnal moth collecting techniques during August and September. NP CARE requests that the Commission direct PPL to conduct additional surveys for this species at the appropriate times. NP CARE St. 3, p. 11.

The second species is the Branching Bur-reed. NP CARE located a Bur-reed species in the headwaters of the Lehigh River near Lehigh Pond. NP CARE St. 3, p. 11. NP CARE contends that surveys are necessary later in the season when the plant produces mature fruit to determine if it is the Branching Bur-reed. NP CARE requests that the Commission direct PPL to conduct additional surveys for this species at the appropriate times. NP CARE St. 3, p. 11.

The third species is the Mountain Starwort. NP CARE located what appears to be the Mountain Starwort in spring runs along Sand Springs Creek and on the Bednarz property. NP CARE St. 3, p. 11. NP CARE contends that surveys are necessary later in the season when the plant produces fruit to rule out similar species. NP CARE requests that the Commission direct PPL to conduct additional surveys for this species at the appropriate times. NP CARE St. 3, p. 11.

The fourth species is the Emerald Dragonfly in the Somatochlora genus. NP CARE contends that the Lehigh River headwaters near Lehigh Pond provide suitable habitat for this rare species. NP CARE requests that the Commission direct PPL to conduct additional surveys for this species at the appropriate times. NP CARE St. 3, p. 12.

In addition, to the above Species of Special Concern, NP CARE discovered other notable plant life. NP CARE located and measured Red Spruce and Eastern Hemlock trees exceeding 70 feet in height. PPL does not identify these trees or propose to protect them during construction and maintenance of the transmission lines. NP CARE requests that the Commission require PPL to prepare a management plan, advise NP CARE and consider the input of NP CARE when doing so. NP CARE St. 3, p. 13.

NP CARE also discovered old-growth mature Red Spruce and Eastern Hemlock along the Lehigh River near Lehigh Pond, along Choke Creek, near Phelps Road and in the Bednarz property. PPL does not identify these trees or propose to protect them during construction and maintenance of the transmission lines. NP CARE requests that the Commission require PPL to prepare a management plan, advise NP CARE and consider the input of NP CARE when doing so. NP CARE St. 3, p. 13.

NP CARE recorded a possible Pennsylvania State Champion Gray Birch in Lackawanna State Forest within the proposed transmission line corridor near the intersection of Tannery Road and Bear Lake Road. NP CARE reported the measurements of this tree to the Pennsylvania Big Tree Committee. PPL does not identify this tree or propose to protect it during construction and maintenance of the transmission lines. NP CARE requests that the Commission require PPL to prepare a management plan, advise NP CARE and consider the input of NP CARE when doing so. NP CARE St. 3, p. 13.

NP CARE points out that the second largest Red Spruce in Pennsylvania is located along Choke Creek in proximity to the proposed transmission line corridor near Lackawanna State Forest boundary. NP CARE reported the measurements of this tree to the Pennsylvania Big Tree Committee. PPL does not identify this tree or propose to protect it during construction and maintenance of the transmission lines. NP CARE requests that the Commission require PPL to prepare a management plan, advise NP CARE and consider the input of NP CARE when doing so. NP CARE St. 3, p. 13-14.

In response to NP CARE’s concern regarding the Pennsylvania Species of Special Concern that it has documented, PPL explained that Pennsylvania has created lists of physical and biological entities found in Pennsylvania. These are displayed on the Pennsylvania Natural Heritage Program web site as Species of Special Concern. PPL St. 9-R, p. 4.

Not all of the species are afforded the same protection under Pennsylvania law. Only threatened and endangered amphibians, birds, fish, mammals, mussels, snails, reptiles and vascular plants are protected by the Commonwealth of Pennsylvania and Pennsylvania may request actions to mitigate negative impacts to other species but such requests are voluntary, not mandatory. PPL St. 9-R, p. 4, PPL M.B. p. 152-155.

Many species on the list of Pennsylvania Species of Special Concern are common and secure and have no need for protection. For example, Red Oak mixed hardwood forest, Hemlock northern hardwood forest and Red maple forest are common habitats that are included on the Pennsylvania Species of Special Concern-Communities and have a rank of S5-Secure-Common, widespread and abundant in the nation or state. PPL St. 9-R, p. 4. These habitats are not afforded any legal protection in spite of the fact that they are on the Species of Special Concern list. PPL St. 9-R, p. 4-5.

Wetlands are regulated by DEP under 25 Pa.Code, Chapter 105, governing Dam Safety and Waterway Management. Within these regulations, the presence of threatened or endangered species elevates an “other” wetland to “Exceptional Value” wetland with more stringent regulations. Common wetlands like Cattail marsh and Highbush blueberry-meadow-sweet wetlands are not classified as exceptional value based on Species of Special Concern, unless there are threatened or endangered species in the wetland. PPL St. 9-R, p. 5.

PPL is required to identify all Species of Special Concern. However, it is only required to obtain clearances from DCNR, PFBC, PGC and USFWS for threatened or endangered species prior to receiving any DEP permits. Species of Special Concern that are not threatened or endangered are not protected by the Commonwealth of Pennsylvania. PPL St. 9-R, p. 5, PPL M.B. p. 152-153.

PPL will obtain all environmental permits necessary for construction of the Northeast-Pocono Reliability Project and will comply with all the terms and conditions placed on those permits. PPL St. 9-R, p. 6. PPL will complete field surveys of Route D-1, documenting all threatened and endangered species, while recording all plant Species of Special Concern and major habitats in the study area. Reports will be prepared, documenting the findings and submitted to DCNR, which will review the report and respond to PPL and DEP. If DEP has any concerns, PPL will contact DEP and develop an appropriate solution. PPL St. 9-R, p. 6.

PPL agrees only with NP CARE’s use of the term “globally rare” species only for the Fly-poison Borer Moth. PPL points out that the term “globally rare” is not defined on the Pennsylvania Natural Heritage website and therefore the use of the term is arbitrary. PPL St. 9-R, p. 6. PPL states that it is reasonable to classify the Fly-poison Borer Moth as globally rare if it is a distinct species and it has a very restricted range and population size. While characterizing the Fly-poison Borer Moth as “globally rare” is reasonable, it is not known to inhabit the proposed route of the Northeast-Pocono Reliability Project. PPL St. 9-R, p. 6. The term “globally rare” is not applicable for the Wood Turtle where its global population is estimated to be between 10,000 and 100,000 animals. PPL St. 9-R, p. 6-7. It is also inconsistent with NatureServe, which gives the Wood Turtle global status of G3-G4-Vulnerable to Apparently secure. PPL St. 9-R, p. 7.

Of the remaining Pennsylvania Species of Special Concern identified by NP CARE, PPL indicated that only three, the Branching Bur-reed, Northern Flying Squirrel and Blackpoll Warbler are threatened or endangered. PPL St. 9-R, p. 7-9. These are the only species protected by the Commonwealth of Pennsylvania’s laws. Only the Northern Flying Squirrel was defined as a target species or one that agencies determine has a reasonable chance of being in the study area and usually requiring a survey. PPL St. 9-R, p. 9. In addition, the Bladderworth and Balsam Fir have a listing of N-No current legal status exists, but are under review for future listing and are not regulated by the Commonwealth of Pennsylvania. PPL St. 9-R, p. 9.

With respect to the Slender Clearwing, PPL contends that the majority of habitat in the area where the Slender Clearwing was found is mature forest, which is not its usual habitat, suggesting that it was not a resident but a vagrant. PPL St. 9-R, p. 9-10. PPL argues that Route D-1 may improve the habitat for the Slender Clearwing by creating more open habitat. PPL St. 9-R, p. 10.

In addition, the Slender Clearwing is listed as possibly extinct or historical, meaning that it has occurred historically in the state but that its presence has not been recently verified. The most recent finding in Pennsylvania was in 2002. PPL St. 9-R, p. 10.

In response to NP CARE’s identification of a Hemlock Paulstrine Forest adjacent to Phelps Road, a Coniferous-Broadleaf Palustrine Forest near Bear Lake Road and a Golden Saxifrage/Pennsylvania Bittercress Spring Run along Choke Creek and in the upland forest near Phelps Road as Plant Communities of Special Concern, PPL stated that plant communities as defined by the Pennsylvania Natural Heritage Program are not regulated by the Commonwealth of Pennsylvania and only the Hemlock Palustrine Forest is within the vicinity of the proposed right of way for the Northeast-Pocono Reliability Project . PPL St. 9-R, p. 11.

PPL responded to NP CARE’s concern that the Fly-poison Borer Moth, the Branching Bur-reed, the Mountain Starwort and the Emerald dragonfly are likely to be present along the proposed right of way for the Northeast-Pocono Reliability Project. PPL asserted that if an organism is truly rare enough in Pennsylvania to be considered for protection under the Endangered Species Act, it is impossible to predict whether it is likely to exist in a given habitat of transmission line right of way. PPL St. 9-R, p. 11-12. PPL points out that the Fly-poison Borer Moth is not threatened or endangered under Pennsylvania law and therefore not regulated by the Commonwealth of Pennsylvania. PPL St. 9-R, p. 12.

Branching Bur-reed is listed as endangered in Pennsylvania. However, there is only one recent record of the species in northeastern Pennsylvania. With only one local record it is difficult to presume that the plant is likely to exist within the proposed transmission line right of way. PPL St. 9-R, p. 12. PPL reaches the same conclusion with regard to the Mountain Starwort and Emerald Dragonfly. PPL St. 9-R, p. 12. PPL states that it searched for the Branching Bur-reed, Mountain Starwort, Fly-poison Borer Moth and Emerald Dragonfly but did not find these species within the proposed right of way for the Northeast-Pocono Reliability Project. PPL St. 9-R, p. 12‑13.

In response to NP CARE’s concern that there are old growth mature Red Spruce and Eastern Hemlock along the Lehigh River near Lehigh Pond and along Choke Creek near Phelps Road that should be protected due to the potential presence of the Northern Flying Squirrel, PPL indicated that the Northern Flying Squirrel was identified as a target species by the PGC for portions of the North Pocono-Paupack segment that included the North Pocono 138 kV Connector Lines. PPL St. 9-R, p. 13. The PGC required PPL to conduct a Northern Flying Squirrel habitat assessment which was completed in September 2012 and submitted to the PGC. The PGC concurred with the findings that Northern Flying Squirrel habitat does exist within the proposed right of way and that approximately one acre of habitat that would be suitable for the Northern Flying Squirrel would be impacted by the Northeast-Pocono Reliability Project. PPL St. 9-R, p. 13. Discussions regarding potential mitigation in the form of habitat enhancement are in progress. PPL St. 9-R, p. 13.

In response to NP CARE’s concern that old growth mature Red Spruce and Eastern Hemlock trees and a possible champion Gray Birch and second champion Red Spruce should all be protected, PPL replies that it researched the issue and did not find any law or regulation that addresses these trees. PPL St. 9-R, p. 14.

b. Discussion and Resolution Regarding the Impact on Species and Communities of Special Concern

After reviewing the evidence presented regarding the Species of Special Concern, I conclude that PPL has met its burden to prove that its proposed Northeast-Pocono Reliability Project will have minimum adverse environmental impact, considering the electric power needs of the public, the state of available technology and the available alternatives, pursuant to 52 Pa.Code § 57.76(a)(4), with regard to its impact on plant and animal species. I do so for several reasons.

First, PPL is only required to survey and identify “target species,” which includes threatened or endangered species and Species of Special Concern identified by the applicable regulatory agencies as potentially occurring for a particular project area. However, PPL is not required to survey for all Species of Special Concern. PPL M.B. p. 152-155. Here, DCNR requested surveys for eleven species of plants for the West Pocono-North Pocono Segment, two communities of special concern if found, and two invertebrates of special concern if their habitat or host plants are found. These requests will be fulfilled in the near future, and no permits will be procured until PPL completes its obligations to the agencies. PPL St. 9-RJ, p. 8, PPL M.B. p. 153-154.

Not all entities are afforded the same protection under Pennsylvania law. Only threatened and endangered amphibians, birds, fish, mammals, mussels, snails, reptiles and vascular plants are protected by the Commonwealth. PPL is only required to obtain clearances from DCNR, PFBC, PGC, and USFWS for threatened or endangered species prior to receiving any DEP permits. Species of Special Concern that are not threatened or endangered are not protected by the Commonwealth. PPL M.B. p. 152-153. PPL has identified one endangered species, the Northern Flying Squirrel and is in the process of mitigating the impact of the Northeast-Pocono Reliability Project on the Northern Flying Squirrel.

Second, NP CARE’s request that the Commission order PPL to prepare and submit to the Commission studies of these species and communities and prepare submit and implement plans to mitigate the impact of the Northeast-Pocono Reliability Project on them is beyond the Commission’s authority. Although it has general jurisdiction over public utilities operating in Pennsylvania, the Commission, as a creation of the General Assembly, has only the powers and authority granted to it by the General Assembly contained in the Public Utility Code. The Public Utility Code simply does not grant the Commission the authority to order PPL to perform additional studies on these species and communities.

NP CARE argues that in the TrAILCo Appeal, the Commonwealth Court of Pennsylvania affirmed the Commission’s requirement that the applicant for Commission approval of its transmission line prepare and submit environmental studies as a condition of approval of its application. My reading of the TrAILCo Appeal indicates that the conditions imposed by the Commission required the applicant to provide copies of permits and certifications it was already required to obtain under other administrative schemes. There is no indication that the conditions imposed by the Commission in TrAILCo Appeal exceeded the requirements imposed by other administrative agencies or required additional review and approval by the Commission.

NP CARE argues that the existing protections for Species of Special Concern are inadequate and the Commission must impose conditions on PPL to make up for these inadequacies. NP CARE M.B. p. 34. NP CARE observes that there are many reasons a Species or Community of Concern may not be listed as endangered or threatened, including legislative roadblocks, apathy, ignorance, unfamiliarity, and simply timing. NP CARE St. 3-R, p. 5, NP CARE M.B. p. 34. NP CARE contends that none of these reasons overcome the sound science behind listing these species and communities as being of concern. I agree with PPL that to the extent that NP CARE believes additional species should be added to a specific target list, or that the existing environmental regulations are inadequate to protect certain species, such concerns should be directed to the state and federal agencies having the authority to address them, not this Commission.

PPL is not required to identify and evaluate every possible “alternative effort” or “alternative method” that could potentially minimize the impact of the Northeast-Pocono Reliability Project, nor is it required to identify and implement the construction and maintenance methods that would have the “least” adverse environmental impact. Rather, the Commission’s siting regulations require PPL to demonstrate a reasonable effort to reduce the environmental incursion to a minimum. PPL has met its burden, pursuant to 52 Pa.Code § 57.76(a)(4), to demonstrate reasonable efforts to minimize the impacts that the proposed route for the West Pocono-North Pocono segment will have on threatened and endangered species, as well as Species of Special Concern that have been identified within the project area by the applicable regulatory agencies.

c. NP CARE’s Concerns Regarding the Impact of the Initial Clearing of the Right of Way and PPL’s Response

NP CARE next expresses concern about how PPL will initially clear the right of way for the Northeast-Pocono Reliability Project. According to NP CARE, PPL proposed establishing two zones within the right of way: an inner zone called the Wire Zone, and an outer zone called the Border Zone. NP CARE M.B. p. 19. Within the Wire Zone, PPL generally proposed preserving all small shrubs and all native grasses, ferns and herbaceous plants. Within the Border Zone, PPL generally proposed that both “compatible” and “non-compatible” vegetation would be preserved except as necessary to prevent growth into the Wire Zone by the time of the next three-year maintenance event. The vegetation management area may additionally extend beyond the specified 150’ right-of-way for management of “danger trees”. NP CARE M.B. p. 19.

In its application, PPL explained that “where the wire zone/border zone is not appropriate” due to limitations such as “environmental concerns”, PPL would employ greater efforts to minimize impacts by employing either “selective clearing” or “restrictive clearing.” NP CARE St. 1-R, p. 4. In such cases, rather than only preserve small shrubs and native grasses, ferns and herbaceous plants in the Wire Zone, all vegetation in the Wire Zone would generally be treated like vegetation in the Border Zone. In other words, the vegetation would be managed only if it would interfere with the Wire Zone by the time of the next three-year maintenance event.

NP CARE takes issue with the proposal to use the “Wire Zone/Border Zone” method, and with the ambiguities in the “selective clearing” and “restrictive clearing” methods. NP CARE St. 1, NP CARE M.B. p. 20. NP CARE’s concerns apply to both the areas along the streams, wetlands and vernal ponds and along the whole right-of-way. NP CARE is concerned that clearing the vegetation from a stream can alter water quality (total suspended solids, temperature, and flow), physical habitat (substrate particle size, channel morphology), benthic invertebrate community structure and drift (abundance, species composition, diversity, standing crop), and fish behavior and physiology (hierarchy, feeding, respiration rate, loss of equilibrium, blood hematocrit and leukocrit levels, heart rate and stroke volume). NP CARE St. 4, p. 7-8, NP CARE M.B. p. 20. Changing the vegetation within the right of way adjacent to a stream may result in long-term warming of stream temperatures due to removal of the forest canopy, increased erosion and sedimentation from loss of bank stabilizing vegetation and upslope vegetation, and increased overland flow during storm events, which can increase stream temperature and carry sediments and dissolved chemicals. NP CARE M.B. p. 20.

Additionally, many aquatic organisms found in healthy streams in largely unmodified watersheds in Pennsylvania, such as would be likely be found in the EV and High Quality (HQ) streams of the Pocono Plateau, are sensitive to sediment loading, warming, and changes to the flow regime. NP CARE St. 4, p. 8-9, NP CARE M.B. p. 21. Brook trout are particularly sensitive to changes in land cover and temperature. An increase in temperature may stress brook trout and result in their being replaced by brown trout or rainbow trout, neither of which is native to Pennsylvania, or the complete loss of all trout species. Aquatic species that build a nest in gravel substrate, such as brook trout, may experience reduced survival through early development due to increased levels of fine sediments. NP CARE St. 4, p. 8-9, NP CARE M.B. p. 21. Increased turbidity may also reduce the distance at which brook trout detect prey. Brook trout are also sensitive to changes in flood frequency and intensity, particularly over the winter when embryos are in the gravel.

NP CARE argues that even away from streams, wetlands and vernal pools, PPL’s plan to conduct full-scale clearing of all vegetation within the right of way on its face constitutes a profound environmental impact. According to NP CARE, Pennsylvania’s Bureau of Forestry recognizes that most of the forested land in Pennsylvania is second growth. Scattered throughout the forests, however, are large, old trees that were left from the earlier cuttings. These trees usually have many limbs and branches that allow the trees to dominate the forest canopy and are therefore excellent producers of mast. Their numerous limbs provide a variety of roosting sites, and the large trunks may have cavities that animals can use for dens. Many animal species, including barred owls, porcupines, and raccoons, find haven in these trees. All forest systems are important components of managing state forestlands under an ecosystem management approach. Old growth forests provide ecological niches for a myriad of fauna species. There is generally a substantial level of structural diversity, including vertical diversity and dead and down wood, in old growth forests. NP CARE St. 3-R, p. 15. (citing State Forest Resource Management Plan, <http://www.apps.dcnr.state.pa.us/forestry/sfrmp/flora.htm>). NP CARE M.B. p. 21-22.

NP CARE contends that PPL’s initial clearing of the right of way for the Northeast-Pocono Reliability Project constitutes the complete elimination of existing forest, leaving only grasses, ferns and other herbaceous plants. This full-scale clearing will eradicate the forest land use, eliminate existing habitat, and destroy the visual landscape. It will also allow the introduction of invasive species. NP CARE St. 3-R, p. 18, NP CARE M.B. p. 22. In addition to its overall impacts, the practice of full-scale clearing has direct impacts on plant Species of Special Concern such as the Balsam Fir, and Communities of Special Concern such as the Hemlock Palustrine Forest and the Coniferous-Broadleaf Palustrine Forest. NP CARE St.3-R, p. 8-10, NP CARE M.B. p. 22.

NP CARE acknowledges that PPL has agreed that, only within 150 feet of streams, PPL will 1) use the Selective Clearing protocol for initial clearing in the Border Zone, and 2) conduct full-scale initial clearing in the Wire Zone but will leave stumps in place. PPL St. 7-RJ, p. 5-6, PPL St. 8-RJ, p. 5, NP CARE M.B. p. 24. NP CARE contends that a similar alternative approach is available to further minimize impacts in the Wire Zone and Border Zone in the remainder of the right of way.

NP CARE argues that, similar to EV streams, vernal pools and EV wetlands are important, sensitive ecological areas and should be subject to Selective Clearing or Restrictive Clearing. Vernal pools are critical breeding habitat for a variety of amphibian species, as well as other animals including dragonflies and damselflies. NP CARE St. 3, p. 10, NP CARE M.B. p. 29. Reptiles such as turtles and snakes frequent vernal pools for refuge and foraging.

According to the Pennsylvania Natural Heritage Program and Pennsylvania Wildlife Action Plan, vernal pools should remain undisturbed, and a forested buffer of at least 300 feet and up to 1,000 feet should be kept undisturbed surrounding the pool. NP CARE St. 3, p. 10, NP CARE M.B. p. 30. Otherwise, excessive timber harvesting, clear cutting and drainage displacement adjacent to vernal pools leads to premature wetland drying and warming of the forest floor, which impacts plants and animals utilizing the pools. NP CARE concludes that, given their sensitivity and importance, Selective Clearing and Restrictive Clearing of these areas are especially appropriate.

NP CARE argues that PPL’s current vegetation clearance proposal fails to satisfy 52 Pa.Code § 57.76 (a)(4), because it fails to employ an available alternative to minimize environmental impacts. PPL’s proposal is that it should implement best management practices applicable to the Northeast-Pocono Reliability Project under DEP regulations. PPL St. 4-R-2, p. 14-15. NP CARE disagrees with this approach for two reasons. NP CARE M.B. p. 30-31

First, PPL’s proposal ignores the limitations of best management practices and the fact that they do not completely alleviate impacts. NP CARE St. 1, p. 14-18. NP CARE argues that preserving riparian buffer vegetation is a superior best management practice to constructing an engineered substitute. NP CARE M.B. p. 31.

Second, NP CARE asserts that PPL’s proposal ignores the fact that engineered best management practices often fail, and often are not enforced, and their efficacy is not verified by testing. NP CARE St. 1, p. 14-18, NP CARE M.B. p. 31. NP CARE is concerned that there is a chance for failure of engineered best management practices due to lack of proper installation and maintenance, the occurrence of a storm water event that exceeds the design of the best management practices or other unforeseen circumstances. NP CARE St. 1, p. 14-15, NP CARE M.B. p. 31.

NP CARE concludes PPL’s current vegetation clearance proposal fails to satisfy 52 Pa.Code § 57.76 (a)(4), because it fails to employ an available alternative to minimize environmental impacts. That alternative is simply to preserve existing vegetation. Accordingly, the Commission should require that PPL use the Selective Clearing and Restrictive Clearing methods in both the Border Zone and the Wire Zone within 150 feet of all streams, wetlands and vernal pools in the Northeast-Pocono Reliability Project area, and not allow PPL to conduct full-scale initial clearing and resort to engineered best management practices. NP CARE M.B. p. 32.

NP CARE recommends that herbicide application not be allowed within 150 feet of all EV streams, EV wetlands, and vernal pools. NP CARE St. 1, p. 16-17. NPCARE also is concerned about the placement of poles and use of heavy machinery within 150 feet of EV streams, EV wetlands, and vernal pools. NPCARE St. 4, p. 13.

NP CARE also requests that the Commission prohibit PPL from clearing the right of way using herbicides, using heavy equipment, using concrete washouts, placing staging areas or placing transmission line poles within 150 feet of all streams, wetlands and vernal pools. NP CARE St. 1, p. 19; NP CARE St. 3, p. 5, 10, NP CARE M.B. p. 32-33. NP CARE asserts that PPL’s current proposal to undertake these activities within 150 feet of streams, wetlands and vernal pools fails to satisfy 52 Pa.Code § 57.76 (a)(4), because it fails to employ available alternatives to minimize environmental impacts.

For the same reasons identified above, PPL should be required to employ available alternatives in order to minimize impacts to vernal pools, streams and wetlands. To protect these waters, the Commission should prohibit PPL from engaging in these activities within 150 feet of streams, wetlands, and vernal pools unless PPL demonstrates that it is impracticable and that PPL will implement reasonable protections. NP CARE M.B. p. 33.

Where avoidance is not possible, NP CARE states that the following management practices should be employed: provide a site specific management plan for each of the riparian buffer, wetland and vernal pool areas encroached upon by the right-of-way; include a landscape plan for re-vegetation of disturbed areas including the planting of native shrubs and a plan for maintenance and replacement, when needed of planted vegetation; and post notices in the field in the areas of concern in conspicuous places to alert work crews that there is a special management plan for the area that must be adhered to. NP CARE St. 1, p. 14; NP CARE St. 4, p. 10, NP CARE M.B. p. 33.

With regard to areas of the right of way other than those within 150 feet of streams, wetlands and vernal pools, NP CARE asserts that PPL’s current proposed initial clearing proposal fails to satisfy 52 Pa.Code § 57.76 (a)(4), because it fails to employ an available alternative to minimize environmental impacts. NP CARE alleges that PPL has another approach – employing Selective Clearing or Restrictive Clearing throughout the right of way, not just within 150 feet of streams. These clearing protocols, as defined in Attachment 12 of PPL’s application, allow vegetation to remain in place if it will not interfere with the Wire Zone. Importantly, these clearing protocols also allow PPL to fully clear defined areas needed for access roads, work areas, and structures. NP CARE M.B. p. 24. NP CARE has testified PPL should use this approach. NP CARE St. 1, p. 12, NP CARE St. 1-R, p. 2. NP CARE concludes that this approach achieves PPL’s ultimate goals of ensuring sufficient distance between vegetation and conductors and allowing for necessary construction activities. NP CARE M.B. p. 24.

NP CARE states that PPL has failed to demonstrate that full-scale clearing of all vegetation is necessary or that Selective or Restrictive initial clearing is not a reasonably available alternative to initially clearing all vegetation in all areas of the right of way. The Commission should not allow PPL to conduct what NP CARE characterizes as scorched-earth initial clearing of all vegetation within the right of way. NP CARE concludes that in order to minimize environmental impacts, the Commission should prohibit the practice of full-scale removal of all the vegetation within the right of way. Instead, the Commission should require that PPL use the “Selective Clearing” and “Restrictive Clearing” methods set forth in Attachment 12 of its application throughout the right of way, not just within 150 feet of streams.

In response to NP CARE’s concerns regarding initial clearing of the Northeast-Pocono Reliability Project right of way, PPL explained that it must comply with the NERC Standard FAC-003-1 - Transmission Vegetation Management Program approved by FERC on March 15, 2007. PPL M.B. p. 137. NERC Standard FAC-003-1 requires that transmission facility owners, such as PPL, adopt and keep current a formal transmission vegetation management program that has been reviewed and approved by NERC. The plan is required to specify clearances between vegetation and transmission conductors that must be maintained during all operating conditions. NERC Standard FAC-003-1 is mandatory and binding on owners and operators of transmission systems, such as PPL, and failure to comply can result in penalties of up to $1 million per day per violation. PPL St. 7-R, p. 2, PPL M.B. p. 137.

Pursuant to the NERC Standard FAC-003-1, PPL self-reported certain vegetation encroachments around transmission lines that were not permitted under PPL’s initially approved transmission line vegetation management plan. As part of a settlement with ReliabilityFirst Corporation, PPL agreed to pay a fine and agreed to revise its vegetation management plan to implement the Wire Zone/Border Zone method of managing vegetation. PPL St. 7-R, p. 3, PPL M.B. p. 137.

According to PPL, the Wire Zone/Border zone method is an industry best practice that was developed from the Bramble & Byrnes study. N.T. 430. PPL explained that the Wire Zone/Border Zone vegetation management practices, as well as the underlying Bramble and Byrnes study, are applied to existing rights-of-way that have initially been cleared. N.T. 430.

For new rights-of-way, such as those required for the Northeast-Pocono Reliability Project, PPL stated that it initially removes all vegetation except for grasses and herbaceous or non-woody plants in both the Wire and Border Zones. This is necessary to both establish the extent of the new right-of-way and to accommodate the many construction activities that will occur within the right-of-way to install new foundations, tower structures, and conductors. PPL St. 7-R, p. 4, PPL M.B. p. 138. After the initial clearing of a new right-of-way, compatible species are allowed to grow back and PPL then maintains the right-of-way by (i) selectively removing vegetation except grasses and herbaceous or non-woody plants in the Wire Zone and (ii) removing only non-compatible species in the Border Zone. PPL St. 7-R, p. 4, PPL M.B. p. 138.

PPL addressed NPCARE’s contention that the Commission should prohibit PPL from initially clearing the entire width of the new right-of-way because it is not consistent with the clearing procedures identified in Attachment 12 of its application. PPL M.B. p. 139. PPL points out that Attachment 12 does not describe, nor was it ever intended to describe, the methods or extent of clearing that should be applied to a new right-of-way for the construction of a new high voltage transmission line. Rather, the clearing procedures outlined in Attachment 12 apply to the re-clearing of existing rights of way.

PPL explained that prior to 2010, much of its existing transmission line rights of way were not cleared to the extent required by the NERC Standard FAC-003-1 or the settlement with ReliabilityFirst Corporation described above. Therefore, as part of its revised vegetation management policies, PPL adopted and implemented the specifications set forth in Attachment 12. According to PPL, the purpose of Attachment 12 is to provide specifications to PPL and its foresters and contractors on the re-clearing of the existing rights-of-way to obtain compliance with NERC Standard FAC-003-1 and the settlement with ReliabilityFirst Corporation, as well as explain how the existing rights-of-way should be maintained after the re-clearing. PPL St. 7-RJ, p. 2-3; N.T. 422, 425, PPL M.B. p. 139.

PPL contends that NPCARE overlooks the fact that the entire width of an existing right-of-way previously has been cleared of vegetation. Thereafter, the Wire Zone/Border Zone method of vegetation management is applied to the entire width of the right-of-way. By contrast, the vegetation on a new right-of-way has not been cleared for the entire width of the right-of-way, nor has it been maintained under the Wire Zone/Border Zone method. Removal of all vegetation, except grass and herbaceous or non-woody plants, for the entire width of a new right-of-way establishes the right-of-way. PPL St. 7-RJ, p. 4, PPL M.B. p. 139-140. In addition, the removal of all vegetation, except grass and herbaceous or non-woody plants, will facilitate a safer environment for construction activities. PPL argues that if selective or restricted clearing was applied to a new right-of-way, it could significantly increase the cost of the project and, more importantly, could create safety hazards during construction, delay the construction activities, and jeopardize the in-service date of a project. PPL St. 7-RJ, p. 5.

Clearing the entire width of a new right-of-way for the construction of a new high voltage transmission line is an industry best practice, and is PPL standard practice for the construction of a new high voltage transmission line. PPL practice of initially clearing the entire width of a new right of way for the construction of a new high voltage transmission line and then allowing compatible species to re-grow and remain within the right of way is much less aggressive than the approach taken by some other utilities. PPL St. 7-RJ, p. 5.

PPL also argues that NP CARE also overlooked the benefits of initially clearing a new right-of-way. The removal of the vegetation on a new right-of-way may promote the establishment of compatible species within the right of way, which would not otherwise grow without the removal of the overstory. Most compatible species are not shade tolerant and, therefore, removal of the overstory allows light to reach the right of way and promote the growth and re-growth of compatible species. PPL St. 7-RJ, p. 4, N.T. 425. In addition, the removal of the vegetation on a new right of way will facilitate vegetation management with respect to invasive, aggressive, and other undesirable species. It also will help reduce the total amount of herbicide that must be applied over time within a right of way. Further, the removal of the vegetation on a new right of way will help sustain compliance during the time in between vegetation clearing activities by maintaining PPL’s three-year cycle vegetation management plan. PPL St. 7-RJ, p. 4-5, PPL M.B. p. 140-141.

PPL argues that NP CARE’s proposal to selectively clear the entire right of way is overly broad and should be rejected. PPL R.B. p. 65. PPL has agreed to adopt limited clearing for Border Zone around EV streams, which addresses NP CARE’s primary concern. Although the Wire Zones located near stream crossings will continue to be cleared of all the vegetation, except grass and herbaceous or non-woody plants, selectively clearing the Border Zones within 150 feet of an EV stream crossing will significantly minimize the impacts to stream crossing. PPL argues that this is a reasonable comprise of competing interests. PPL R.B. p. 65.

With regard to NP CARE’s concerns regarding the impact that the initial clearing of the right of way will have on streams, wetlands and vernal pools, PPL states that it is required, through the federal and state permitting process, to account for any impacts to streams and wetlands. As part of the required environmental studies, full wetland and waterway delineations are conducted that will define these features as well as any additional low-order perennial or intermittent streams that are not identified in the GIS stream data. PPL St. 4-R, p. 12-13, PPL M.B. p. 140-143. Through this process, PPL indicates that it has identified a total of 24 stream crossings for the West Pocono-North Pocono segment of the Northeast-Pocono Reliability Project. PPL St. 4-R, p. 6, PPL M.B. p. 140-143.

PPL asserts that it is aware that many of the intermittent and perennial streams that will be spanned by the West Pocono-North Pocono segment are classified as EV by DEP or are considered Wild Trout Waters (Naturally Reproducing or Class A) by PFBC, and that the wetlands located in the floodplains of these streams are considered EV wetlands due to their association with these special waters. PPL St. 4-R, p. 25, PPL M.B. p. 144. PPL has defined an alignment for the West Pocono-North Pocono segment that will result in no permanent encroachment upon any of the streams and only three poles located within two separate EV wetlands. PPL St. 4-R, p. 9-10. Stream impacts will be limited to the removal of the riparian zone trees at all of the crossings and approximately six temporary stream crossings, which will be removed upon completion of the project. PPL St. 4-R-2, p. 26.

PPL observes that NP CARE makes general statements regarding the impacts of clearing vegetation from a stream and other water bodies on long-term warming of stream temperatures and the potential impact to certain aquatic organisms in healthy streams that are sensitive to increases in temperature. NP CARE St. 4, p. 16-19, PPL M.B. p. 144. According to PPL, NP CARE states in very general terms that “Evidence from other stream crossings indicates that clearing the vegetation from a stream can alter water quality (total suspended solids, temperature, and flow)….” NP CARE St. 4, p. 7. PPL asserts that NP CARE’s approach has little value in assessing the potential effects on specific streams and should be rejected for several reasons.

First, PPL contends that NP CARE’s expert, Dr. Eldridge, visited only 3 of the 24 streams at issue on April 11, 2013, which is before or at the very beginning of the growing season, so any observations he made on vegetation would be of limited value. N.T. 469, PPL St. 8-RJ, p. 9, PPL M.B. p. 145. PPL points out that NP CARE has not conducted any independent analysis of the actual streams and other water bodies that will be traversed by the West Pocono-North Pocono segment. Based on field observations of 16 of the stream crossings and review of photos of 7 other stream crossings (23 of the total 24 stream crossings for the West Pocono-North Pocono Segment), PPL estimated that approximately 60% of the shade canopy of the majority of the streams between the proposed West Pocono and North Pocono Substations would not be substantially affected by the proposed right of way because there already is a lack of shade canopy in those areas. PPL St. 8-R, p. 4-5, 10-11, PPL St. 8-RJ, p. 7-9, PPL M.B. p. 146.

Second, PPL criticizes NP CARE for relying on studies that are not appropriate for characterizing effects of overhead transmission lines. According to PPL, NP CARE cites to articles by Levesque and Dube in 2007; McGurk in 1989; and Brown in 1971 for the proposition that changing the vegetation within the right of way adjacent to a stream may result in long-term warming of stream temperatures. NP CARE St. 4, p. 7, NP CARE St. 4-R, p. 5-6, 12, PPL M.B. p. 146. However, the Levesque and Dube 2007 paper does not describe effects of overhead transmission lines and instead deals with instream pipeline crossings, which involves clearing all streambank vegetation, as well as construction through the stream as the pipeline is buried in the streambed. PPL St. 8-R, p. 6. The examples provided in Brown et al., 1971 are from vegetation clearing over very small streams in the heavily-logged Cascades in the mountains of western Oregon. PPL St. 8-RJ, p. 2-3. The McGurk, B.J. 1989 study examined two streams in California where timber removal operations and a slash disposal burn that got out of control produced a 380-meter section of the stream that had almost no shading. N.T. 471-472, PPL M.B. p. 145‑146.

PPL alleges that it relied upon two studies that were directly related to the effects of right of way clearing on stream temperatures. One U.S. Forest Service study on the effect of transmission line corridor clearance on stream habitat found that any impact on stream temperature quickly dissipated upon reentering the forest after exposure, and temperatures stabilized within 200 to 300 feet downstream. PPL St. 8-R, p. 8. Another study by Peterson (1993) investigated the impacts of transmission line rights of way on trout in forested headwater streams in south-central New York State, which would have applicability to streams in the Northeast-Pocono Reliability Project area. This study compared headwater streams in both forested areas and existing rights of way (these had been in place from 10 to 50 years and averaged 95 feet wide, ranging up to 148 feet wide) and found that streams within the rights of way actually had denser stream bank vegetation (because of the exposure to more sunlight), water temperatures not significantly higher than the forested streams, and higher trout production than the forested streams. This study concluded that stream habitat in the rights of way actually improved after right of way clearing by allowing the right of way streams to become deeper with more stable stream banks due to the dense stream bank vegetation. PPL St. 8-R, p. 8-9. PPL M.B. p. 146.

Third, PPL argues that NP CARE largely ignores the fact that PPL has identified measures to minimize the impacts of temperature increases in stream and other water body crossings. PPL St. 8-R, p. 11. With the exception of one stream crossing, all stream crossings are generally perpendicular to the alignment of the stream corridor. The transmission line will briefly parallel within 150 feet of one EV stream as a result of a specific landowner request that the route mirror the northern boundary line of the parcel. Further, to the extent practicable, PPL has made every effort to stay outside the 150-foot buffers. The very few areas where this is not possible are related to transmission line engineering constraints and property constraints. In these areas, however, PPL will employ appropriate erosion and sedimentation best management practices to minimize impacts to these areas. PPL St. 4-R-2, p. 14-15, PPL M.B. p. 146-147.

PPL restates that its standard practice is to clear the entire width of a new right of way for the construction of a new high voltage transmission line. After initial clearing, however, compatible species are permitted to regrow and remain in both the Wire Zone and Border Zone. Grasses, herbaceous plants, and other non-woody plants are permitted to grow back over time and remain in the Wire Zone. In the Border Zone, vegetative species identified as compatible are permitted to grow back over time and remain in the Border Zone. These compatible species in the Wire Zone and Border Zone will help create a riparian buffer which will help to reduce the impacts of temperature increases and sedimentation runoff into waterways. PPL St. 7-R, p. 12, PPL M.B. p. 147.

PPL restates that it will obtain all federal and state permits necessary prior to construction and will comply with all of the terms and conditions placed on those permits. PPL St. 7-R, p. 12. As part of the permitting process, these agencies can, if necessary, put certain conditions on vegetation management, including mitigation measures for vegetation clearing. N.T. 402.

PPL states that NP CARE’s analysis of the riparian buffers and thermal impacts of the initial vegetation clearing is fundamentally flawed because it fails to provide a meaningful comparison as required by the Commission’s siting regulations. PPL argues that Section 57.76(a)(4) of the siting regulations clearly requires a balancing of the environmental impacts of a proposed route with, among other things, the available alternative routes. According to PPL, NP CARE ignores this balancing requirement and, instead, has focused exclusively on the riparian buffers and thermal impacts of the initial vegetation clearing within the proposed Route D-1 for the West Pocono-North Pocono Segment. NP CARE has not evaluated or undertaken any study of the riparian buffers and thermal impacts of initial vegetation clearing within any of the other available alternatives. N.T. 469.

PPL observes that NP CARE raises concerns regarding erosion and sedimentation due to initial right of way clearing and construction related activities. NP CARE St. 1, p. 4-5, 18-20; NP CARE St. 4, p. 5. PPL alleges that the proposed Route D-1 for the West Pocono-North Pocono segment will result in no permanent encroachment upon any streams and only three poles located within two separate EV wetlands. PPL St. 4-R, p. 9-10, PPL M.B. p. 148-149. Most of the wetlands will be spanned by the proposed alignment, but the few areas that could not be avoided will result in minimal permanent loss of wetlands based on the fill associated with the pole footer. PPL St. 4-R-2, p. 26. Prior to and during construction, PPL indicates that it will design the project to minimize earth disturbance associated with the project construction to the extent practicable, and temporary access roads and work areas will be restored following construction. PPL St. 4-R-2, p. 16.

With respect to soil erosion and sedimentation and crossings of jurisdictional waters, PPL contends that it is required through the federal and state permitting process to account for any impacts to intermittent and perennial streams. As part of the required environmental studies and permitting process, full wetland and waterway delineations are conducted that will define these features as well as any additional low-order perennial or intermittent streams that were not initially identified. PPL St. 4-R-2, p. 12-13. PPL alleges that it will prepare erosion and sedimentation control plans in accordance with DEP regulations found at Title 25, Chapter 102 of the Pennsylvania Administrative Code and consistent with DEP’s standards and guidance. The erosion and sedimentation control plans will present best management practice measures that will limit the potential for erosion and sediment migration for the specific work activities, including construction of monopoles, temporary workspace requirements/dimensions, and access roads. PPL St. 4-R-2, p. 13-14. Following construction, PPL will continue to inspect and maintain erosion and sedimentation best management practice measures until disturbed areas are restored through vegetal stabilization in accordance with permit conditions. PPL St. 4-R-2, p. 17, 25-27, PPL M.B. p. 149.

PPL explains that the Northeast-Pocono Reliability Project will be designed and constructed to minimize the duration of disturbance resulting from stream and wetland crossings and to satisfy any DEP timing restrictions for working in the respective streams. In this regard, stream crossings will be designed in accordance with DEP guidance to allow for natural stream flow to continue through the crossing and to limit impact to the stream bed and banks. Crossings will be installed and maintained in accordance with the design requirements and all permit conditions. PPL St. 4-R-2, p. 27.

With regard to use of herbicides, PPL explained that the use of herbicides is a key component of PPL’s vegetation management program to effectively manage undesirable vegetation conditions within rights of way. PPL St. 7-R, p. 10. PPL’s vegetation management contractors are licensed by the Pennsylvania Department of Agriculture as Certified Commercial Pesticide Applicators and only apply herbicide products which have been approved for use on utility rights of way by the U.S. Environmental Protection Agency (EPA). PPL does not use any aerial herbicide application techniques. Herbicides are applied manually by trained professionals. PPL St. 7-R, p. 11, PPL M.B. p. 150.

PPL clarified that only those species that require control are treated, such as non-compatible and invasive species. PPL argues that the diligent and prudent use of herbicides on utility rights of way promotes compatible and desirable plant communities. Over time, as desirable species populate the right of way, increased competition for space and sunlight naturally reduces the number of non-compatible and invasive plant seedlings. Additionally, the scientific research suggests that the meadow like environment of a well-managed right of way increases the habitat for wildlife, which feed on the seeds and seedlings of non-compatible woody plants thus naturally reducing woody plant density as well as reducing the volume of herbicides applied during future treatment cycles. PPL St. 5-R, p. 10-11.

PPL asserts that it does not apply herbicides in the following areas or situations: pastures within 50 feet of any body of water, except that PPL will use herbicides approved for watershed/aquatic use for stump treatments; within any actively maintained orchard or cultivated planting; near susceptible crops or other non-target vegetation where drift, runoff, or vapors can cause injury; where weather conditions create excessive drift; on rights-of-way under jurisdiction of the DCNR, PGC, PFBC, and the U. S. Park Service unless prior approval is granted by these agencies; on watershed properties, or in the vicinity of springs, irrigation ditches, or other potable water sources, unless prior approval is granted by the property owner for use of a watershed/aquatic approved herbicide; in gullies or ravines where tree clearing is minimal. Finally, PPL will only use watershed/aquatic approved herbicide near watershed areas, and will comply with all federal and state requirements regarding the use of herbicides, including in areas near EV streams, EV wetlands, and vernal pools. PPL St. 7-R, p. 11, PPL M.B. p. 151.

With respect to the location of poles, PPL contends that it has gone to great efforts to minimize the impacts of the pole locations on wetlands and around streams. Of the 477 total monopoles for the entire Northeast-Pocono Reliability Project, only 16 (3%) would be in a wetland and only 14 (3%) would infringe upon a riparian zone around a stream. For the West Pocono-North Pocono segment, including the North Pocono 138 kV Connector lines, of the 183 total poles for this segment, only 3 poles are located in a wetland (less than 2%) and only 4 within a stream riparian area (approximately 2%). Given the extremely complex diversity of the landscape in this region, PPL argues that these numbers provide direct evidence of the effort PPL has made to minimize environmental impacts. PPL St. 4-R-2, p. 9-10, PPL St. 4-RJ, p. 7, PPL M.B. p. 151-152.

With respect to the use of heavy machinery or equipment near EV streams and wetlands, prior to and during construction, PPL explained that it will design the project to minimize earth disturbance associated with the project construction, including equipment operation, and its encroachment into riparian buffers to the extent practicable. In addition, as explained above, appropriate erosion and sedimentation best management practice measures will be implemented and temporary access roads and work areas will be restored following construction. PPL St. 4-R-2, p. 16, PPL M.B. p. 152.

d. Discussion and Resolution Regarding the Impact of the Initial Clearing of the Right of Way

After reviewing the evidence presented regarding initial clearing of the right of way, I conclude that PPL has met its burden to prove that its proposed Northeast-Pocono Reliability Project will have minimum adverse environmental impact, considering the electric power needs of the public, the state of available technology and the available alternatives, pursuant to 52 Pa.Code § 57.76(a)(4), with regard to its impact of the initial clearing for the right of way. I do so for several reasons.

First, as stated above, PPL explained that removal of all vegetation, except grass and herbaceous or non-woody plants, for the entire width of a new right-of-way is reasonable and necessary to establish the extent of the right-of-way. In addition, the removal of all vegetation, except grass and herbaceous or non-woody plants, will facilitate a safer environment for the construction activities. If selective or restricted clearing was applied to a new right-of-way, this could significantly increase the cost of the project and, more importantly, could create safety hazards during construction, delay the construction activities, and jeopardize the in-service date of a project. No party introduced any evidence of record to refute PPL’s contentions that the removal of all the vegetation within a new right-of-way is necessary to both establish the extent of the new right of way and to safely accommodate the many construction activities that will occur within the right of way to install new foundations, tower structures, and conductors. PPL R.B. p. 62.

The evidence presented by PPL demonstrates that the initial removal of all vegetation, except grass and herbaceous or non-woody plants, for the entire width of a new right of way is necessary to both establish the extent of the new right of way and to safely accommodate the many construction activities that will occur within the right of way to install new foundations, tower structures, and conductors. Clearing the entire width of a new right of way for the construction of the Northeast-Pocono Reliability Project is an industry best practice and is PPL’s standard practice for the construction of a new high voltage transmission line.

Second, if the Commission ordered PPL to apply selectively or restrictive clearing methods in the Wire Zone, it would prevent PPL from complying with the NERC Standard FAC-003-1 and the settlement with ReliabilityFirst Corporation, and could subject PPL to civil penalties from FERC. In order to comply with NERC Standard FAC-003-1 and avoid significant penalties, PPL must apply its Wire Zone/Border Zone vegetation management method to the entire width of the right-of-way. Areas within the Wire Zone are to be cleared of all woody vegetation leaving only grasses and herbaceous or non-woody plants. The Commission has previously deferred to FERC and NERC with regard to vegetation management.

In developing its inspection and maintenance standards for electric utilities at 52 Pa.Code § 57.198, the Commission addressed vegetation management. In the order promulgating these inspection and maintenance standards, the Commission declined to adopt mandatory vegetation management standards but determined to monitor development of vegetation management standards for transmission standards by NERC and FERC. Inspection and Maintenance Standards for Electric Distribution Companies, 38 Pa.B. 5273. (September 27, 2008). The Commission has not revised these regulations since 2008. Deferring to the FERC and NERC vegetation management standards in this case is consistent with past Commission practice.

Deferring to NERC and FERC with regard to vegetation management is also consistent with the federal statute at 16 U.S.C. § 824o(i)(3) governing electric reliability. That statue provides that states may take action to ensure the safety, adequacy and reliability of electric service within that state as long as such action is not inconsistent with federal reliability standards.

Third, as set forth above, PPL has made reasonable attempts to address NP CARE’s concerns. PPL has agreed to adopt limited clearing for the Border Zone around EV streams, which addresses one of NPCARE’s primary concerns. PPL has also agreed not to remove any stumps that are within 150 feet of any EV streams except where pole structure or foundations are located.

Fourth, PPL has agreed to comply with any conditions placed on its vegetation management by the agencies that will issue permits for the construction of the Northeast-Pocono Reliability Project.

Fifth, PPL has identified measures to minimize the impacts of its initial vegetation clearance and construction and will implement those measures. Stream crossings will be perpendicular to minimize temperature increases in stream and other water body crossings. PPL has attempted to stay outside 150 foot stream buffers. PPL will prepare erosion and sedimentation plans to limit the potential for damage due to erosion during construction. PPL will not apply herbicides in certain areas and will use only approved herbicides near watershed areas. PPL will minimize earth disturbance associated with heavy equipment operation.

PPL is not required to identify and evaluate every possible “alternative effort” or “alternative method” that could possibly minimize the impact of the proposed Northeast-Pocono Reliability Project. PPL is not required to identify and implement the construction and maintenance methods that would have the “least” adverse environmental impact. PPL must demonstrate a reasonable effort to reduce the environmental incursion to a minimum. I conclude that PPL has demonstrated that it has made reasonable efforts to reduce environmental incursion to a minimum. For the reasons stated above, PPL has met its burden to establish that its proposed Northeast-Pocono Reliability Project will have minimum adverse environmental impact, considering the electric power needs of the public, the state of available technology and the available alternatives, pursuant to 52 Pa.Code § 57.76(a)(4), with regard to the impact of the initial clearing for the right of way.

e. NP CARE’s Concerns Regarding the Impact on Water Quality and PPL’s Response

NP CARE states that the Northeast-Pocono Reliability Project will result in numerous direct and indirect stream impacts. According to NP CARE, many of these impacts will not be regulated by any agency other than the Commission, such as vegetation management, herbicide application, and vehicle and equipment staging outside of state lands and areas of DEP jurisdiction. NP CARE M.B. p. 35-36. Other impacts are regulated by other state agencies, but only to a point. Therefore, NP CARE argues that if the Commission approves the Northeast-Pocono Reliability Project, no other agency is going to require PPL to evaluate the overall impact of the project to ascertain the extent to which it causes aquatic degradation, or require PPL to identify and remediate specific areas causing significant degradation.

NP CARE contends that this is especially important at Ash Creek and Mash Creek, which contain breeding populations of native brook trout, and Sand Spring Creek, which contains breeding populations of brook trout and is parallel and downstream from the proposed transmission line. NP CARE argues that PPL’s current proposal ignores these impacts and therefore fails to satisfy 52 Pa.Code § 57.76 (a)(4), because PPL fails to employ an available alternative to minimize environmental impacts – studies and mitigation of those impacts. NP CARE M.B. p. 37.

For the above reasons, NP CARE advocates that the Commission require PPL to document baseline (pre-construction) conditions for comparison to post-construction conditions. NP CARE recommends the Before-After-Control-Impact (BACI) approach, which is often applied in Environmental Effects Monitoring, as a basis for impact assessment, as is consideration of site-specific sensitivities, assessment of significance, and cumulative effects. NP CARE M.B. p. 37. A BACI design requires both pre-and post-disturbance monitoring of the section of stream immediately downstream from the impact (the Impact site) and upstream from the impact (the Control site). Assessing recovery would then include both the pre versus post- comparison for the affected area and the comparison between the affected area versus the surrounding areas to determine if the physical, chemical and biological communities are similar in density and cover to both pre-disturbed and adjacent undisturbed streams. NP CARE states that the Commission should require PPL to provide monitoring results to the Commission, and make it available to NP CARE and DEP as soon as possible after monitoring events. NP CARE St. 4, p.14-15, NP CARE M.B. p. 37-38.

According to NP CARE, the Commission-ordered monitoring should address erosion and sedimentation (suspended solids), temperature, flow rate and volume, channel morphology, fish population diversity and density, and benthic invertebrate community structure and drift. The Commission should direct PPL to evaluate what is and isn’t working, and develop a response plan to evaluate additional and/or alternate controls and/or maintenance where necessary. NP CARE M.B. p. 38. NP CARE asserts that the Commission imposed similar conditions in its decision in TrAILCo.

In response, PPL argues that NP CARE’s reliance on TrAILCo and TrAILCo Appeal is misplaced for several reasons. First, NPCARE overlooks that the conditions referenced by the Commonwealth Court were not developed by the Commission. These conditions were attached to the applicant’s exceptions to the recommended decision. Importantly, these conditions were voluntarily offered by the applicant to address concerns regarding the certification of the applicant as a public utility and affiliate transactions. PPL R.B. p. 58.

Second, PPL contends that there is nothing in the Commission’s order or the Commonwealth Court’s opinion in TrAILCo and TrAILCo Appeal that concludes that the Commission has jurisdiction to regulate environmental impacts or develop and impose environmental conditions. The Commonwealth Court found that the environmental conditions agreed to by the applicant were not based on Commission regulations and would not require further approval or action by the Commission. According to PPL, the Commonwealth Court expressly recognized that the approval and acceptance of the environmental conditions agreed to by the applicant did not lie with the Commission, but rather with other administrative agencies. PPL R.B. p. 58.

Finally, PPL concludes that there is nothing in Commission’s order or the Commonwealth Court’s opinion in TrAILCo and TrAILCo Appeal that supports NP CARE’s position that the Commission has the authority to impose conditions above and beyond those required by the applicable environmental agencies to reduce the environmental impacts of the project. Rather, the Commonwealth Court noted that the environmental conditions merely require the applicant to do what it is already required to do under separate administrate schemes. PPL R.B. 58-59.

f. Discussion and Resolution Regarding the Impact on Water Quality

After reviewing the evidence presented regarding water quality, I conclude that NP CARE’s request that the Commission direct PPL to monitor the impacts of the proposed Northeast-Pocono Reliability Project on water quality and provide monitoring results to the Commission should be rejected. I do so for several reasons.

NP CARE’s request that the Commission order that PPL prepare and submit to the Commission reports regarding the impact of the Northeast-Pocono Reliability Project on water quality is beyond the Commission’s authority. Although it has general jurisdiction over public utilities operating in Pennsylvania, the Commission, as a creation of the General Assembly, has only the powers and authority granted to it by the General Assembly contained in the Public Utility Code. The Public Utility Code simply does not grant the Commission the authority to order PPL to perform additional studies on water quality.

NP CARE argues that in the TrAILCo Appeal, the Commonwealth Court of Pennsylvania affirmed the Commission’s requirement that the applicant for Commission approval of its transmission line prepare and submit environmental studies as a condition of approval of its application. My reading of the TrAILCo Appeal indicates that the conditions imposed by the Commission required the applicant to provide copies of permits and certifications it was already required to obtain under other administrative schemes. There is no indication that the conditions imposed by the Commission in TrAILCo Appeal exceeded the requirements imposed by other administrative agencies or required additional review and approval by the Commission.

NP CARE argues that the existing regulations regarding the impact of the Northeast-Pocono Reliability Project on water quality are inadequate and the Commission must impose conditions on PPL to make up for these inadequacies. To the extent that NP CARE believes that the existing environmental regulations are inadequate to protect water quality, such concerns should be directed to state and federal agencies having the authority to address them, not this Commission.

PPL is not required to identify and evaluate every possible “alternative effort” or “alternative method” that could potentially minimize the impact of the Northeast-Pocono Reliability Project, nor is it required to identify and implement the construction and maintenance methods that would have the “least” adverse environmental impact. Rather, the Commission’s siting regulations require PPL to demonstrate a reasonable effort to reduce the environmental incursion to a minimum. PPL has met its burden to demonstrate reasonable efforts to minimize the impacts that the proposed route for the Northeast-Pocono Reliability Project will have on water quality.

g. NP CARE’s Request that Construction be Delayed Until All Permits are Obtained and PPL’s Response

Finally, NP CARE states that PPL has indicated that all required studies, plans, and permits will be completed, submitted and authorized prior to any construction, and that they need to be completed on an appropriate in-service and construction schedule. PPL St. 4-R-2, p. 5. The last segment of the Northeast-Pocono Reliability Project to be constructed will be the West Pocono to North Pocono segment, and therefore, according to NP CARE, this segment has the lowest priority in PPL’s planning and permitting schedule. NP CARE concludes that this indicates that PPL’s intent is for construction on portions of the route to take place prior to completing the studies and plans for other portions of the route and obtaining permits on other portions of the route. NP CARE M.B. p. 38.

NP CARE argues that by initiating construction prior to having completed all studies and obtaining all permits, there is a risk of locking in an adjacent route that would have otherwise been modified based on the studies and detailed planning. NP CARE advocates that the Commission, in order to avoid this situation, require that all the studies and permitting should be completed and submitted to the Commission prior to initiating any construction. NP CARE St. 2-R, p. 7, NP CARE M.B. p. 38-39.

In response, PPL contends that Commonwealth Court has rejected a similar argument. In Susquehanna Roseland Appeal, the petitioners argued that the Commission abused its discretion in determining that PPL could begin construction on any portion of the Susquehanna-Roseland Line prior to receiving the required permits from the National Park Service (NPS) to cross the Delaware Water Gap. In support, the petitioners argued that, if the NPS denied the permit or rerouted the Susquehanna-Roseland Line through the Delaware Water Gap, then any constructed portion of the line would be a “line to nowhere” and a waste of resources. The petitioners also argued that allowing PPL to begin construction on other portions of the Susquehanna-Roseland Line would influence the decision-making of the NPS through the permitting process. The Commonwealth Court accepted the Commission’s reasoning and rejected the petitioners’ arguments stating that there was nothing in the Commission’s siting regulations that required receipt of all necessary permits before construction begins. The Commonwealth Court also noted that the Commission concluded that prior Commission proceedings failed to support a condition that construction may not commence until all permits for the line were obtained.

PPL states that the arguments made here by NP CARE are the very same arguments fully considered and rejected by the Commonwealth Court in Susquehanna Roseland Appeal. According to PPL, NP CARE’s request that the Commission prohibit construction on any portion of the Northeast-Pocono Reliability Project until all permits are obtained must be rejected.

PPL further argues that NP CARE’s request that all permits be filed with the Commission should be rejected. NP CARE’s request would serve no useful purpose because PPL will apply for and obtain all required permits for construction of the Northeast-Pocono Reliability Project and will comply with any and all conditions placed on such permits by those agencies that have appropriate jurisdiction over environmental matters.

h. Discussion and Resolution Regarding Delay of Construction Until All Permits are Obtained

After reviewing the evidence presented regarding delay of construction pending acquisition of all permits and filing of those permits with the Commission, I conclude that NP CARE’s request should be rejected. I do so for several reasons.

First, NP CARE’s request that the Commission order that PPL prepare and submit to the Commission all permits regarding the construction of the Northeast-Pocono Reliability Project is beyond the Commission’s authority. Although it has general jurisdiction over public utilities operating in Pennsylvania, the Commission, as a creation of the General Assembly, has only the powers and authority granted to it by the General Assembly contained in the Public Utility Code. Those powers do not allow the Commission to act as a board of directors overseeing the construction of transmission lines. In Susquehanna Roseland the Commission expressed the concern that requiring a utility to acquire and file all permits prior to initiating construction improperly injected the Commission into managing utility planning and construction of transmission projects. The Commonwealth Court affirmed the Commission’s position in Susquehanna Roseland Appeal.

Second, I agree with PPL that requiring that all permits be filed with the Commission serves no useful purpose. PPL must apply for and obtain all required permits for construction of the Northeast-Pocono Reliability Project. PPL must comply with any and all conditions placed on such permits by those agencies that have appropriate jurisdiction over environmental matters. Filing the permits with the Commission does not satisfy any Commission regulation.

In summary, I conclude that PPL has established, by a preponderance of the evidence that the proposed Northeast-Pocono Reliability Project will have minimum adverse environmental impact, considering the electric needs of the public, the state of available technology and the available alternatives, pursuant to 52 Pa.Code § 57.76(a)(4).

H. Exemption from Local Zoning

Having addressed the application for authority to construct the transmission lines of the Northeast-Pocono Reliability Project, I will now address PPL’s two petitions for exemption from local zoning. On December 28, 2012, in conjunction with its application for authority to construct the transmission lines associated with the Northeast-Pocono Reliability Project, PPL filed two petitions, pursuant to 52 Pa.Code § 5.41 and 53 P.S. § 10619. These petitions request that the Commission find that the buildings to shelter control equipment at the proposed West Pocono and North Pocono Substations are reasonably necessary for the convenience or welfare of the public and therefore exempt from any local zoning ordinance. The West Pocono Substation is to be located in Buck Township, Luzerne County and the North Pocono Substation is located in Covington Township, Lackawanna County. I will address each of these substations in turn.

1. West Pocono Substation

I will address the West Pocono Substation first. PPL states that without the Northeast-Pocono Reliability Project, including the West Pocono Substation, it will not be able to meet the goals of reinforcing its transmission system and improving reliability. PPL St.WP-1, p. 6. The fenced area for the West Pocono Substation will occupy approximately 7.55 acres. PPL St. WP-1, p. 6. Provided as Appendix A to the West Pocono Substation zoning petition is an exhibit showing the location of the tract of land on which the proposed West Pocono Substation, together with the control equipment building, will be constructed.

The new West Pocono Substation will include a building. Substations must include certain control equipment, primarily switches, relays and other control equipment to control the flow of electricity into, within and from the substation as well as Supervisory Control and Data Acquisition (SCADA) equipment to monitor the operation of the substation. In order to function properly, this equipment must be protected from the elements. PPL St. WP-1, p. 6. The purpose of the proposed building in the substation is to protect the control and SCADA equipment from the elements so that the equipment, and the entire substation, can function properly. PPL St. WP-1, p. 6.

The control equipment building will be approximately 40 feet by 70 feet. It will be constructed on a concrete slab. The exterior walls will be constructed of corrugated aluminum. PPL St. WP-1, p. 9. There will be minimal space heating and cooling equipment for the building. Such equipment will be installed for the purpose of keeping the temperature inside the building within limits tolerated by the control and SCADA equipment. The control equipment building will not be intended for occupancy. There will be no supply of water and no sanitary facilities. PPL St. WP-1, p. 9.

The substation will be surrounded by a high fence to prevent entry by unauthorized persons. The fenced area for the West Pocono Substation will be approximately 900 feet by 450 feet. PPL St. WP-1, p. 9. Access to the substation, including the control equipment building, must be limited because the high voltages at which the substation will operate present dangers to untrained persons. The control equipment building will be contained within the fenced perimeter of the substation. PPL St. WP-1, p. 9.

Under 52 Pa.Code § 69.1101, the Commission considers the impact of certain decisions upon local comprehensive plans and zoning ordinances. PPL’s proposed control equipment building will be located in a portion of Buck Township designated as C-1, Conservation. A copy of the Buck Township zoning ordinance is attached to PPL’s petition as Appendix B. Pursuant to pages 3-2, 5-2 and 11-7 of Buck Township’s zoning ordinance, any electric substation or associated facilities are a “essential services-closed” that are only permitted by special exception in every zoning district in Buck Township. The Buck Township Zoning Hearing Board hears all applications for special exceptions under the zoning ordinance. PPL St. WP-2, p. 6.

In order to be eligible for a special exemption under the Buck Township zoning ordinance, an applicant, such as PPL, would have to demonstrate compliance with the criteria set forth on pages 8-6 and 8-7 of the Buck Township zoning ordinance. PPL St. WP-2, p. 7. In addition, a special exception for “essential services-closed” such as facilities associated with electric substations, must meet additional requirements set forth on pages 5-2 and 5-3 of the Buck Township zoning ordinance. PPL St. WP-2, p. 8. Finally, it appears that the Buck Township Zoning Hearing Board may impose additional conditions for special exceptions. The Buck Township Zoning Hearing Board may also attach such conditions as it deems necessary. Page 9-2 of the Buck Township zoning ordinance requires a zoning permit prior to construction of any structure. PPL St. WP-2, p. 8.

Although there is not a complete ban on the construction of electric substations in C-1 Conservation Districts, PPL believes the zoning ordinance appears to provide numerous conditions to be met before it could commence work on the West Pocono Substation and control equipment building. PPL St. WP-2, p. 9. In addition, PPL would be required to obtain a building and/or zoning permit for the West Pocono Substation and control equipment building. PPL St. WP-2, p. 8.

Based on the foregoing, I find that the control equipment building at the proposed West Pocono Substation site in Buck Township, Luzerne County, Pennsylvania is reasonably necessary for the convenience or welfare of the public and, therefore, exempt from local zoning regulations.

2. North Pocono Substation

I will now address the North Pocono Substation. PPL states that without the Northeast-Pocono Reliability Project, including the North Pocono Substation, it will not be able to meet the goals of reinforcing its transmission system and improving reliability. PPL St. NP-1, p. 6. The fenced area for the North Pocono Substation will occupy approximately 7.55 acres. PPL St. NP-1, p. 8. Provided as Appendix A to the North Pocono Substation zoning petition is an exhibit showing the location of the tract of land on which the proposed North Pocono Substation, together with the control equipment building, will be constructed.

The new North Pocono Substation will include a building. Substations must include certain control equipment, primarily switches, relays and other control equipment to control the flow of electricity into, within and from the substation as well as SCADA equipment to monitor the operation of the substation. In order to function properly, this equipment must be protected from the elements. PPL St. NP-1, p. 9. The purpose of the proposed building in the substation is to protect the control and SCADA equipment from the elements so that the equipment, and the entire substation, can function properly. PPL St. NP-1, p. 9.

The control equipment building will be approximately 40 feet by 70 feet. It will be constructed on a concrete slab. The exterior walls will be constructed of corrugated aluminum. PPL St. NP-1, p. 9. There will be minimal space heating and cooling equipment for the building. Such equipment will be installed for the purpose of keeping the temperature inside the building within limits tolerated by the control and SCADA equipment. The control equipment building will not be intended for occupancy. There will be no supply of water and no sanitary facilities. PPL St. NP-1, p. 9.

The substation will be surrounded by a high fence to prevent entry by unauthorized persons. The fenced area for the North Pocono Substation will be approximately 900 feet by 450 feet. PPL St. NP-1, p. 9-10. Access to the substation, including the control equipment building, must be limited because the high voltages at which the substation will operate present dangers to untrained persons. The control equipment building will be contained within the fenced perimeter of the substation. PPL St. NP-1, p. 10.

Under 52 Pa.Code § 69.1101, the Commission considers the impact of certain decisions upon local comprehensive plans and zoning ordinances. PPL’s proposed control equipment building will be located in a portion of Covington Township designated as SC, Special Conservation. A copy of the Covington Township zoning ordinance is available through Covington Township’s home page. Pursuant to pages III-9, IV-13 and IV-14 of Covington Township’s zoning ordinance, any electric transmission and distribution poles, wire and facilities that do not require a building are “essential services” that are a permitted use in every zoning district in Covington Township. However, page IV-17 of the zoning ordinance provides that “semi-public buildings or uses” are not permitted within any SC, Special Conservation zoning district. PPL St. NP-2, p. 6. Page III-19 of the Covington Township zoning ordinance defines “semi-public buildings or uses” as any essential services or public utility facilities that require enclosure within any structure or building. PPL St. NP-2, 6-7. Therefore, the control equipment is not permitted at the proposed substation site. PPL St. NP-2, p. 7. In addition, page VI-1 of the Covington Township zoning ordinance requires a zoning or building permit prior to construction of any structure. PPL St. NP-2, p. 7.

PPL contends that it is unlawful under the Covington Township zoning ordinance for it to commence work on and begin use of the North Pocono Substation and control equipment building. PPL St. NP-2, p. 7. The control equipment building is not permitted in any SC, Special Conservation district. Even if the control equipment building was a permitted use, PPL would be required to obtain a building and/or zoning permit for the North Pocono Substation and control equipment building. PPL St. NP-2, p. 7.

a. Covington’s Opposition to PPL’s Petition and PPL’s Response

Covington opposed the siting and construction of the North Pocono Substation. Covington contends that PPL’s proposed siting and construction of the North Pocono Substation violates its zoning and subdivision ordinances as well as its comprehensive plan. Covington provided copies its zoning and subdivision ordinances and its comprehensive plan. Covington St. 1, p. 3-8, Covington Ex. A, B & C.

Covington states that it is concerned about its liability if there is a problem with the control equipment building if the Commission authorizes its construction without inspection by Covington. Covington is also concerned that PPL is preparing construction drawings; erosion and sedimentation control plans; and an NPDES permit, without any input from Covington. Covington also expressed concern about the condition of its roads when the construction of the control equipment building is completed. Covington M.B. p. 7.

Based on these concerns, Covington requests that the Commission order that PPL: 1) obtain a building permit for the control equipment building and comply with inspections by the Covington’s Building Inspector; 2) prepare a land development plan under the Covington Township Subdivision Ordinance for the control equipment building and submit that plan to Covington ‘s Planning Commission; and 3) prepare a preconstruction audit of the roads in Covington to be used for construction of all facilities related to the Northeast-Pocono Reliability Project in the Covington and order PPL to return the roads to their preconstruction condition at the completion of construction. Covington M.B. p. 7.

Covington argues that the Northeast-Pocono Reliability Project runs through residential areas and the Special Conservation District of Covington. The Northeast-Pocono Reliability Project is contrary to the existing land use and community character as set forth in Covington’s comprehensive plan. Covington M.B. p. 9-10. Covington argues that the Northeast-Pocono Reliability Project detracts from its rural and residential character. Since the Northeast-Pocono Reliability Project conflicts with its comprehensive plan, Covington argues that the Commission should find that the Northeast-Pocono Reliability Project has a significantly negative impact on the development of Covington’s comprehensive plan and order that PPL construct the Northeast-Pocono Reliability Project over a different route. Covington M.B. p. 10.

Covington also argues that the control equipment building is a nonresidential building on a lot, and it is a land development, subject to Covington’s regulation, pursuant to its subdivision and land development ordinance. Covington advocates that the Commission should order PPL to submit a plan for the erection of the control equipment building to Covington’s planning commission in accordance with its subdivision and land development ordinance. Covington M.B. p. 10.

Covington argues that requiring PPL to submit a plan to Covington this is not an onerous requirement. Covington points out that PPL has already stated that it is preparing construction drawings; erosion and sedimentation control plans; and an NPDES permit. Covington contends that its subdivision and land development ordinance also addresses storm water and drainage control. Covington M.B. p. 10-11. Covington reasons that the policy of the Commonwealth of Pennsylvania under the Storm Water Management Act is to encourage local administration and management of storm water. 32 P.S. § 680.3(3). Covington concludes that the Commission should reinforce this policy by ordering PPL to submit a plan to Covington’s planning commission in accordance with its subdivision and land development ordinance. Covington M.B. p. 11.

Finally, Covington states that it has, by ordinance, adopted the Uniform Construction Code (UCC). Covington alleges that it employs a building inspector to enforce the UCC. Covington argues that the statute at 35 P.S. § 7210.501 specifically states that enforcement of the UCC is done by a municipality that enacts an ordinance adopting the UCC. The UCC applies to the construction of all buildings in the Commonwealth. 35 P.S. § 7210.104(a). Covington contends that it has the responsibility to enforce the requirements of the UCC when the control equipment building is constructed. Covington concludes that the Commission should order PPL to apply for a building permit from the Township and subject the Control Equipment Building to inspection by Covington’s building inspector. Covington M.B. p. 11.

In response to Covington’s arguments, PPL points out that Covington does not challenge the need for the North Pocono Substation, or the reasonableness of PPL’s decision to select the substation site. For this reason alone, PPL concludes that the Commission should reject Covington’s arguments in opposition to the North Pocono Substation. PPL R.B. p. 75.

PPL observes that Covington focuses on the right-of-way and tower structures that will be located in Covington and argues that the Northeast-Pocono Reliability Project conflicts with Covington’s comprehensive plan. PPL asserts that Covington’s argument is misplaced.

PPL contends that public utility facilities, such as the right-of-way and tower structures, are exempt from local regulation. According to PPL, the only exception to this general rule is that a municipality may apply local zoning rules to a public utility “building” unless the Commission finds that the location of the building is reasonably necessary for the convenience or welfare of the public. PPL reasons that the only portion of the Northeast-Pocono Reliability Project that is possibly subject to local regulation is the proposed control equipment building. If its petition is granted, PPL contends that the control equipment building at the North Pocono 230/69 kV Substation would also be exempt from Covington’s comprehensive plan. PPL R.B. p. 75-76.

In addition, PPL states that Covington’s argument that the Commission should require PPL to submit a plan in accordance with Covington’s subdivision and land development ordinance should be rejected. PPL contends that that the exemption under Section 619 of the MPC equally applies to subdivision and land development ordinances. If the Commission grants the relief requested in PPL’s petition, then the control equipment building at the North Pocono 230/69 kV Substation would be exempt from Covington’s subdivision and land development ordinance. PPL R.B. p. 76.

PPL further contends that Covington’s argument that the Commission should require PPL to apply for a building permit and be subject to inspection by Covington’s building inspector also should be rejected. According to PPL, Covington’s argument is flawed and illogical. PPL explains that Covington is asking that PPL be required to file for and obtain the very same permits that PPL is seeking an exemption from. However, Covington does not oppose the merits of PPL’s petition for exemption. PPL argues that Covington simply wants to regulate PPL. If the Commisison grants the relief requested in PPL’s petition, then the control equipment building at the North Pocono 230/69 kV Substation would be exempt from the need to obtain building permits or be subject to inspections under the Covington’s zoning ordinance. PPL R.B. p. 76.

PPL posits that if it were required to obtain such approvals prior to the construction of the control equipment building, the process, including appeals from adverse determinations, could consume substantial time, which could delay the construction of the North Pocono Substation, which is reasonably necessary for the convenience and welfare of the public. PPL points out that it operates in a certificated service territory that encompasses approximately 10,000 square miles in eastern and central Pennsylvania, including all or portions of twenty-nine counties and more than 630 cities, boroughs and townships. If PPL were required to obtain building permits and pass local inspections in each municipality that it operates, PPL contends that it would become untenable to manage the distribution facilities and the growth of these systems. PPL R.B. p. 76-77.

b. Discussion and Resolution Regarding Opposition to the North Pocono Substation

After reviewing the evidence presented regarding the necessity of the Control Equipment Building at the North Pocono Substation, I conclude that PPL has met its burden to prove that the proposed control equipment building at the North Pocono Substation is reasonably necessary for the convenience or welfare of the public and therefore exempt from any local zoning ordinance. I do so for several reasons.

First, as noted earlier in this decision, PPL has already established by a preponderance of the evidence that the proposed Northeast-Pocono Reliability Project transmission lines are necessary or proper for the accommodation, convenience and safety of its patrons, employees and the public. As set forth above, the proposed transmission lines will connect the North Pocono Substation to the 230 kV transmission system and the 138/69 kV transmission system. Without the North Pocono Substation, and the control equipment building, PPL will not be able to meet the goals of reinforcing its transmission system and improving reliability.

Second, as PPL notes, Covington has not presented any evidence refuting the need for the Northeast-Pocono Reliability Project in general or the North Pocono Substation and equipment control building in particular. In the absence of any evidence to the contrary, the Commission must conclude that the proposed control equipment building at the North Pocono Substation is reasonably necessary for the convenience or welfare of the public and therefore exempt from any local zoning ordinance.

Third, Covington’s request that the Commission direct PPL to 1) obtain a building permit for the control equipment building and comply with inspections by Covington’s Building Inspector; 2) prepare a land development plan under the Covington Township Subdivision Ordinance for the control equipment building and submit that plan to Covington ‘s Planning Commission; and 3) prepare a preconstruction audit of the roads in Covington to be used for construction of all facilities related to the Northeast-Pocono Reliability Project in Covington and order PPL to return the roads to their preconstruction condition at the completion of construction are without merit.

It is long settled that public utility facilities, such as the right-of-way and tower structures, are exempt from local regulation. Duquesne Light Co. v. Upper St. Clair Twp., 105 A.2d 287 (Pa. 1954). The Commission cannot grant PPL’s petition and at the same time direct PPL to comply with Covington’s zoning, subdivision and land development ordinances. To do so would be to cede the Commission’s exclusive utility regulatory functions to Covington. This in turn would undermine the Commission’s state wide jurisdiction over public utilities. Once the Commission grants PPL’s petition, the control equipment building at the North Pocono 230/69 kV Substation is exempt from Covington’s regulation.

Based on the foregoing, I find that the control equipment building at the proposed North Pocono Substation site in Covington Township, Lackawanna County, Pennsylvania is reasonably necessary for the convenience or welfare of the public and, therefore, exempt from local zoning regulations.

I. Eminent Domain

PPL filed a total of thirty-seven applications requesting that the Commission make a finding and determination, pursuant to 15 Pa.C.S. § 1511(c), that the service to be furnished by PPL through its proposed exercise of eminent domain to acquire portions of the lands of various property owners for the siting and construction of the Northeast-Pocono Reliability Project is necessary or proper for the service, accommodation convenience or safety of the public. On January 29, 2013, I consolidated the thirty-seven eminent domain proceedings with the application and petitions filed on December 28, 2012 for purposes of discovery, litigation and decision.

PPL has withdrawn ten of these applications. PPL and these property owners have executed agreements by which the property owners have conveyed rights of way and easements to PPL or otherwise rendered the applications unnecessary. Twenty-seven applications remain. Three of the remaining twenty-seven property owners have raised objections to the eminent domain applications regarding their properties. Since these objections all raise similar issues, I will address them collectively.

1. FR E2’s, FR First’s and Transco’s Objections to the Exercise of Eminent Domain.

I have already addressed Transco’s and FR First’s concerns regarding the safety of the Northeast-Pocono Reliability Project earlier in this decision. Here I will address the issues that they and FR E2 have raised with regard to the exercise of eminent domain.

I note that these issues were raised in Transco’s, FR First’s and FR E2’s reply briefs and PPL has not had an opportunity to respond to their arguments in its reply brief. The issues raised by Transco, FR First and FR E2 should have been raised by counsel in main briefs. Counsel for Transco, FR First and FR E2 is cautioned that in future Commission proceedings, she should address her client’s issues in main briefs, not reply briefs.

Transco, FR First and FR E2 contend that the scope of the easement that PPL seeks is not supported by the evidence and the Commission should deny PPL’s applications with regard to their properties. FR First and FR E2 R.B. p. 5, Transco R.B. p. 2-3. According to Transco, FR First and FR E2, the resolution attached to their applications, which describes the easements sought to be condemned, includes rights for both overhead or underground construction, operation and maintenance of the new 230 kV transmission lines associated with the Northeast-Pocono Reliability Project, for the transmission and/or distribution of electric light, heat and power, or any of them, including such poles, wires, conduits, cables, manholes and all other facilities, fixtures and apparatus as may be necessary for the proper and efficient construction, operation and maintenance of such line. The easements sought also include the right to remove all improvements and a prohibition against all improvements or structures. FR First and FR E2 R.B. p. 5. FR First states that it cannot risk the removal of the road, or its associated structures, including signs, and storm water management, since this is the only access to the Covington Industrial Park and the scope and the impact of such a taking would necessarily be very different from the taking of an aerial easement only. Transco, FR First and FR E2 request that the Commission deny PPL’s applications with regard to their properties.

FR First and FR E2 also argue that PPL’s decision to ignore alternative alignments for the transmission line suggested by them is arbitrary and capricious and the Commission should deny PPL’s applications with regard to their property. FR First and FR E2 R.B. p. 6-7. According to FR First and FR E2, PPL also has failed to submit evidence to support its decision not to site the Northeast-Pocono Reliability Project transmission line through undeveloped lands on the west side of State Route 435 or, in the alternative, at the property lines at the edge of the Covington Industrial Park.

FR First and FR E2 point out that PPL admits it considered routing the transmission line along the property of the industrial park but received concerns from several residential home owners that adjoin Covington Industrial Park and it therefore rerouted the line through the industrial park. FR First and FR E2 argue that there is no evidence in the record that a route through the undeveloped land to the west of Route 435 or on the edge of the industrial park would violate any siting requirements at 15 Pa.C.S. § 1511. FR First and FR E2 R.B. p. 6-7. FR First and FR E2 complain that PPL has failed to work with them to address their concerns regarding the proposed alignment through their properties. FR First and FR E2 request that the Commission deny PPL’s applications with regard to their properties.

Finally, FR E2 argues that PPL’s failure to name the owner of a conservation easement across its property, North Branch Land Trust, in its application was arbitrary and capricious. According to FR E2, the conservation easement, which is recorded against the title of the FR E2 property, explicitly states that the “Conservation Easement gives rise to a real property right and interest immediately vested in North Branch Land Trust. FR E2 Exhibit 1, p. 15, Article 6.1. FR E2 contends that PPL is required to name all owners in its application. 52 Pa.Code 57.72(c)(4).

FR E2 asserts that PPL was aware of the conservation easement and has been in contact with the conservation easement holder. Under the conservation easement, FR E2 contends that it does not have the right to grant the requested easement that PPL seeks in the conservation area, because that ownership interest is held by North Branch Land Trust. FR E2 concludes that a finding that PPL may condemn an easement across the FR E2 property which is subject to the conservation easement is contrary to the Commission requirement that applicants name all owners in an eminent domain application, and will deprive North Branch Land Trust of their right as an owner of a real property interest in the FR E2 property to participate in the proceeding. PPL has the obligation to name and give notice to all owners known to it whose property may be condemned.

2. Discussion and disposition of FR E2’s, FR First’s and Transco’s Objections

Having set forth FR E2’s, FR First’s and Transco’s objections to the exercise of eminent domain, I will address each objection in turn. With regard to the scope of the easement, the Commission is without authority to determine whether the scope of the easement PPL seeks is appropriate. In SEPTA v. Pa. Pub. Util. Comm’n, 991 A.2d 1021 (Pa. Cmwlth. 2010) the Commonwealth Court concluded that, in an eminent domain application filed in conjunction with transmission line siting application, the utility must only demonstrate that the construction of the transmission line is necessary and proper, not whether the use of eminent domain is necessary and proper. The Commonwealth Court stated that under 15 Pa.C.S. § 1511(c), the Commission’s only role is to consider whether the transmission line project is necessary and proper and is expressly barred from considering the power of the public utility to condemn. Once the Commission determines that the project is necessary, issues of scope, validity and damages must be determined by the Court of Common Pleas. Transco, FR First and FR E2 should address their concerns regarding the scope of PPL’s easement to the Court of Common Pleas, not this Commission.

With regard to PPL’s alleged decision to ignore alternative alignments for the transmission line suggested by FR First and FR E2 constituting arbitrary and capricious conduct, the mere failure to select a route that would reduce the inconvenience to the landowner does not constitute grounds for withholding the exercise of the power to condemn the easement. Dept. of Env. Resources v. Pa. Pub. Util. Comm’n., 335 A2d 869 (Pa. Cmwlth. 1975); Lesher v. American Telegraph and Telephone Co., 276 A2d 325 (Pa. Cmwlth. 1971); Stone v. Pa. Pub. Util. Comm’n., 162 A.2d 18 (Pa. Super. 1960). Therefore, the mere fact that PPL chose a route that crosses FR First’s and FR E2’s properties instead of choosing a route crossing other properties does not constitute arbitrary and capricious conduct.

In determining whether PPL’s selection of the proposed route across FR First’s and FR E2’s properties constituted arbitrary and capricious conduct, the Commission should evaluate whether PPL considered topography, land use, safety, costs, environmental impacts and alternative routes. Dept. of Env. Resources v. Pa. Pub. Util. Comm’n., 335 A.2d 869 (Pa. Cmwlth. 1975); Hillman Coal & Coke Co. v. Pa. Pub. Util. Comm’n., 433 A.2d 634 (Pa. Cmwlth. 1981). The evidence in this case supports a conclusion that PPL took all these factors into consideration in choosing Route D-1.

As set forth above in the discussion regarding site selection, PPL employed a thorough site selection process to develop alternative routes for the West Pocono-North Pocono segment where FR First’s and FR E2’s properties are located. PPL’s analysis of the West Pocono-North Pocono segment resulted in three alternative routes, Alternative Route C, Alternative Route D and Alternative Route D-1. PPL established Alternative Route D-1 following public open house and agency coordination meetings.

PPL evaluated Alternative Routes C, D and D-1. The selection process involved both qualitative and quantitative analysis. The quantitative evaluation scored and ranked the alternative routes according to certain selected evaluation metrics. The quantitative analysis indicated that Alternative Route D-1 had the lowest score for build environment and engineering consideration but the highest for natural environment. PPL concluded that Alternative Route D-1 would result in less social and physical impacts than the two alternative routes.

The results of the qualitative assessment show that Alternative Route D-1 has lower scores for visual concerns, community concerns, construction issues and schedule delay risk. Alternative Route D-1 scored high with regard to special permit issues. Based on the quantitative and qualitative assessments, the siting team selected Alternative Route D-1 for the West Pocono-North Pocono segment of the Northeast-Pocono Reliability Project. During this selection process, PPL considered among other factors, topography, land use, safety, costs, environmental impacts and alternative routes.

In addition to considering these factors in the site selection process, PPL responded to FR First’s and FR E2’s suggestions. PPL explained that it has declined to select the alternative route for the transmission line proposed by FR First because following the property line of Covington Industrial Park would place the transmission line in close proximity to residences that abut the park. According to PPL, it initially considered routing the transmission line along the property line of Covington Industrial Park but several home owners whose properties adjoin the park objected to that route. PPL St. 1-R, p. 4. PPL considered these objection and determined that it would create the least overall impact if the route for the transmission line were located further away from residential dwellings and closer to the industrial buildings located in Covington Industrial Park. PPL St. 1-R, p. 4.

With regard to FR E2’s suggestions, PPL explained that it was necessary to route the proposed transmission line through the conservation easement at the rear of FR E2’s property to avoid locating the route in close proximity to underground ammunition bunkers under contract with the United States Department of Defense. PPL St. 1-R, p. 4. In response to FR E2’s contention that there is ample room to locate PPL’s proposed transmission line along FR E2’s property line, PPL points out that the proposed route does follow FR E2’s property line for a substantial portion of the route that traverses FR E2’s property. PPL St. 1-R, p. 4, PPL Ex. DLH-1. However, PPL points out that it selected the proposed route across FR E2’s property in order to avoid the underground ammunition bunkers and there simply is not enough room to site the proposed transmission line along FR E2’s property line and still accommodate the need to avoid the underground ammunition bunker. PPL St. 1-R, p. 4.

Based on the evidence outlined above, I cannot conclude that PPL acted in an arbitrary or capricious manner in failing to adopt FR First’s and FR E2’s suggestions that Route D-1 be relocated away from their properties. In its site selection process resulting in its selection of Route D-1, PPL considered topography, land use, safety, costs, environmental impacts and alternative routes. PPL also considered and responded to FR First’s and FR E2’s suggestions. The fact that PPL disagreed with those suggestions does not render its conduct arbitrary or capricious. Rather, PPL’s decision was based on its consideration of relevant and germane factors.

Finally, with regard to PPL’s failure to name the owner of a conservation easement across its property, North Branch Land Trust, constituting arbitrary and capricious conduct, it is not clear that the regulation at 52 Pa.Code § 57.72(c)(4) requires PPL to name easement owners in its application. The regulation requires that the application name entities of record owning property within the proposed right of way. The Commission regulations do not define property owner.

In addition, the Commission adopted interim guidelines, set forth at 52 Pa.Code §§ 69.3101-69.3107, regarding information that electric utilities should provide with a transmission line siting application. The interim guidelines at 52 Pa.Code § 69.3102, regarding notice of siting applications, provides that applicants should notify landowners. The interim guidelines do not define landowner.

One would assume that if the Commission required applicants to serve easement holders such as North Branch Land Trust as well as land owners, such as FR E2, with notice of a transmission line siting application, it would specifically state that in either its regulation or policy statement. FR E2 has not cited any Commission order where it has held that applicants must serve easement holders with notice of a transmission line siting application. In the absence of any Commission regulation, policy statement or order requiring an applicant to serve an easement holder with notice of a transmission line siting application, I cannot conclude that PPL acted in an arbitrary or capricious manner by failing to do so in this case.

FR E2’s argument that it does not have the right to grant the requested easement that PPL seeks in the conservation area because that ownership interest is held by North Branch Land Trust, is outside the Commission’s authority to decide. The Commission does not have the jurisdiction to determine the scope and validity of an easement. Fairview Water Co. v. Pa. Pub. Util. Comm’n., 502 A.2d 162 (Pa. 1985). FR E2 should address its concerns regarding the scope of North Branch Land Trust’s easement to the Court of Common Pleas, not this Commission.

In summary, FR E2’s, FR First’s and Transco’s objections to the exercise of eminent domain lack merit. Their objections will be denied.

PPL’s proposed exercise of the power of eminent domain to acquire a right-of-way and easement for the construction, operation, and maintenance of the proposed Northeast-Pocono Reliability Project over the lands of these twenty-seven property owners is necessary for the service, accommodation, convenience, or safety of the public. As explained earlier in this decision, the transmission facilities serving the Northeast-Pocono area are operating near or at their capacity during peak periods. The proposed Northeast-Pocono Reliability Project is required to relieve existing and projected overloaded conditions on transmission lines and transformers serving the Northeast-Pocono area.

PPL seeks to exercise the power of eminent domain to acquire a right-of-way for the construction, operation, and maintenance of the Northeast-Pocono Reliability Project over and across the property of these twenty-seven owners. The proposed right-of-way and easement over these properties will not cross any place of public worship, burying ground, dwelling or its reasonable curtilage. See, 15 Pa.C.S. § 1511(b).

PPL must be able to route the Northeast-Pocono Reliability Project over and across all of the twenty-seven properties in order to site, construct, and operate that line at the selected route. The service to be provided by PPL through the proposed transmission line and related facilities is necessary or proper for the service, accommodation, convenience or safety of the public for the reasons set forth above. Accordingly, I find that PPL’s proposed exercise of the power of eminent domain to acquire a right-of-way and easement for the proposed Northeast-Pocono Reliability Project over the land of the twenty-eight property owners is necessary and, therefore, should be approved.

V. CONCLUSION

For the reasons set forth above, I recommend that the Commission grant PPL’s application for approval of the siting and construction of the transmission lines associated with the Northeast-Pocono Reliability Project. I recommend that the Commisison grant PPL’s petitions for findings that the control equipment buildings at the West Pocono and North Pocono Substations are necessary for the convenience and welfare of the public. Finally, I recommend that the Commission grant the applications for findings that the service to be furnished by PPL through its proposed exercise of the power of eminent domain to acquire portions of the lands of the twenty-seven property owners is necessary or proper for the service, accommodation, convenience or safety of the public.

VI CONCLUSIONS OF LAW

1. The proponent of a Commission rule or order has the burden of proof. 66 Pa.C.S. § 332(a).

2. As the applicant in these proceedings, PPL has the burden of proof to establish that it is entitled to the relief it is seeking by a preponderance of the evidence. Samuel J. Lansberry, Inc. v. Pa. Pub. Util. Comm’n, 578 A.2d 600 (Pa. Cmwlth. 1990), alloc. den., 602 A.2d 863 (Pa. 1992).

3. To meet its burden of proof, PPL must present evidence more convincing, by even the smallest amount, than that presented by any opposing party. Se-Ling Hosiery v. Margulies, 70 A.2d 854 (Pa. 1950).

4. The Public Utility Code at 66 Pa.C.S. § 1501 requires public utilities to furnish reasonable and adequate service and facilities.

5. The Commission’s regulations regarding the siting and construction of high voltage transmission lines at 52 Pa.Code §§ 57.71-57.77 require a public utility to obtain Commission approval to locate and construct a high voltage transmission line.

6. The Commission will grant an application for approval of the siting and construction of a high voltage transmission line if it finds and determines, pursuant to 52 Pa.Code § 57.76(a), the following:

 (1) That there is a need for the high voltage transmission line.

 (2) That the high voltage transmission line will not create an unreasonable risk of danger to the health and safety of the public.

 (3) That the high voltage transmission line is in compliance with applicable statutes and regulations providing for the protection of the natural resources of this Commonwealth.

 (4) That the high voltage transmission line will have minimum adverse environmental impact, considering the electric power needs of the public, the state of available technology and the available alternatives.

7. PPL has met its burden to prove that its application requesting approval of the siting and construction of the proposed Northeast-Pocono Reliability Project 230 kV and 138 kV transmission lines are necessary or proper for the accommodation, convenience and safety of its patrons, employees and the public.

8. PPL has met its burden to prove that the siting and construction of the Northeast-Pocono Reliability Project Jenkins-West Pocono segment in the Alternative Route B would not create an unreasonable risk of danger to the health and safety of the public.

9. PPL has met its burden to prove that the siting and construction of the Northeast-Pocono Reliability Project Jenkins-West Pocono segment in the Alternative Route B is in compliance with applicable statutes and regulations providing for the protection of the natural resources of this Commonwealth.

10. PPL has met its burden to prove that the siting and construction of the Northeast-Pocono Reliability Project Jenkins-West Pocono segment in the Alternative Route B would have a minimum adverse environmental impact, considering the electric power needs of the public and the available alternatives.

11. PPL has met its burden to prove that the selection of the Alternative Route B for the Northeast-Pocono Reliability Project Jenkins-West Pocono segment was reasonable and not selected wantonly, capriciously, or arbitrarily.

12. PPL has demonstrated that the Alternative Route B is superior to the Alternative Route A for the Jenkins-West Pocono segment.

13. PPL has met its burden to prove that the siting and construction of the Northeast-Pocono Reliability Project West Pocono-North Pocono segment in the Alternative Route D-1 would not create an unreasonable risk of danger to the health and safety of the public.

14. PPL has met its burden to prove that the siting and construction of the Northeast-Pocono Reliability Project West Pocono-North Pocono segment in the Alternative Route D-1 is in compliance with applicable statutes and regulations providing for the protection of the natural resources of this Commonwealth.

15. PPL has met its burden to prove that the siting and construction of the Northeast-Pocono Reliability Project West Pocono-North Pocono segment in the Alternative Route D-1 would have a minimum adverse environmental impact, considering the electric power needs of the public and the available alternatives.

16. PPL has met its burden to prove that the selection of the Alternative Route D-1 for the Northeast-Pocono Reliability Project West Pocono-North Pocono segment was reasonable and not selected wantonly, capriciously, or arbitrarily.

17. PPL has demonstrated that the Alternative Route D-1 is superior to the Alternative Routes C and D and the Citizens’ Route for the West Pocono-North Pocono segment.

18. PPL has met its burden to prove that the siting and construction of the Northeast-Pocono Reliability Project North Pocono-Paupack segment in the Alternative Route F-1 would not create an unreasonable risk of danger to the health and safety of the public.

19. PPL has met its burden to prove that the siting and construction of the Northeast-Pocono Reliability Project North Pocono-Paupack segment in the Alternative Route F-1 is in compliance with applicable statutes and regulations providing for the protection of the natural resources of this Commonwealth.

20. PPL has met its burden to prove that the siting and construction of the Northeast-Pocono Reliability Project North Pocono-Paupack segment in the Alternative Route F-1 would have a minimum adverse environmental impact, considering the electric power needs of the public and the available alternatives.

21. PPL has met its burden to prove that the selection of the Alternative Route F-1 for the Northeast-Pocono Reliability Project North Pocono-Paupack segment was reasonable and not selected wantonly, capriciously, or arbitrarily.

22. PPL has demonstrated that the Alternative Route F-1 is superior to the Alternative Routes E and F for the North Pocono-Paupack segment.

23. PPL has met its burden to prove that the siting and construction of the Northeast-Pocono Reliability Project West Pocono 138/69 Connector in the Connector Line 2 route would not create an unreasonable risk of danger to the health and safety of the public.

24. PPL has met its burden to prove that the siting and construction of the Northeast-Pocono Reliability Project West Pocono 138/69 Connector in the Connector Line 2 route is in compliance with applicable statutes and regulations providing for the protection of the natural resources of this Commonwealth.

25. PPL has met its burden to prove that the siting and construction of the Northeast-Pocono Reliability Project West Pocono 138/69 Connector in the Connector Line 2 route would have a minimum adverse environmental impact, considering the electric power needs of the public and the available alternatives.

26. PPL has met its burden to prove that the selection of the Connector Line 2 route for the Northeast-Pocono Reliability Project West Pocono 138/69 Connector was reasonable and not selected wantonly, capriciously, or arbitrarily.

27. PPL has demonstrated that the Connector Line 2 route is superior to the Connector Line 1 route for the West Pocono 138/69 Connector.

28. PPL has met its burden to prove that the siting and construction of the Northeast-Pocono Reliability Project North Pocono 138/69 Connector in the Connector Line 4 route would not create an unreasonable risk of danger to the health and safety of the public.

29. PPL has met its burden to prove that the siting and construction of the Northeast-Pocono Reliability Project North Pocono 138/69 Connector in the Connector Line 4 route is in compliance with applicable statutes and regulations providing for the protection of the natural resources of this Commonwealth.

30. PPL has met its burden to prove that the siting and construction of the Northeast-Pocono Reliability Project North Pocono 138/69 Connector in the Connector Line 4 route would have a minimum adverse environmental impact, considering the electric power needs of the public and the available alternatives.

31. PPL has met its burden to prove that the selection of the Connector Line 4 route for the Northeast-Pocono Reliability Project North Pocono 138/69 Connector was reasonable and not selected wantonly, capriciously, or arbitrarily.

32. PPL has demonstrated that the Connector Line 4 route is superior to the Connector Line 3 route for the North Pocono 138/69 Connector.

33. PPL has complied with all applicable statutes and regulations relevant to the protection of the Commonwealth’s environment with regard to the Northeast-Pocono Reliability Project.

34. PPL has made reasonable efforts to reduce the environmental impacts of the Northeast-Pocono Reliability Project to a minimum.

35. The benefits to be derived from the Northeast-Pocono Reliability Project outweigh any environmental harm that would result from its construction.

36. The siting of PPL’s aerial transmission and substation facilities, other than the control equipment buildings, are exempt from local zoning ordinances because the Commission possesses exclusive regulatory jurisdiction over public utility facilities. Duquesne Light Co. v. Upper St. Clair Twp., 105 A.2d 287 (Pa. 1954); Duquesne Light Co. v. Monroeville Borough, 298 A.2d 252 (Pa. 1972).

37. PPL has met its burden to prove that the buildings to shelter control equipment at the proposed North Pocono and West Pocono Substations, in Covington Township, Lackawanna County and Buck Township, Luzerne County respectively, are reasonably necessary for the convenience or welfare of the public and, therefore, exempt from any local zoning ordinance pursuant to Section 619 of the Pennsylvania Municipalities Planning Code, 53 P.S. § 10619.

38. PPL has met its burden to prove that the applications for approval to exercise the power of eminent domain, pursuant to 15 Pa.C.S. § 1511, to acquire rights-of-way and easements necessary for the construction, operation, maintenance, and aerial crossing by the Northeast-Pocono Reliability Project over the following properties is necessary and proper for the service, accommodation, convenience or safety of the public:

John C. Justice and Linda S. Justice A-2012-2341107

 Margaret G. Arthur and Barbara A.

Saurman, Trustees of the Residuary

Trust of James C. Arthur A-2012-2341115

 Anthony J. Lupas, Jr. and Lillian Lupas,

John Lupas and Judy Lupas, Grace Lupas,

Eugene A. Bartoli and Robert J. Frankelli A-2012-2341118

 Ronald G. Sidovar and Gloria J. Sidovar A-2012-2341120

 FR First Avenue Property Holding, LP A-2012-2341123

 Transcontinental Gas Pipe Line Company

LLC A-2013-2341208

 William Petrouleas and Joanna Petrouleas A-2013-2341209

 Peter Palermo and Francine Palermo A-2013-2341211

 Donald Januszewski A-2013-2341215

 International Consolidated Investment

Company A-2013-2341216

 Bradley D. Hummel A-2013-2341220

 Michael Palermo and Joanne Palermo A-2013-2341221

 John F. and Veronica Iskra A-2013-2341233

 Michael A. Mitch and Sue K. Mitch A-2013-2341234

 Clifton Acres, Inc. A-2013-2341236

 Dietrich Hunting Club A-2013-2341237

 NLMS, Inc. A-2013-2341239

 Duke Realty 400 First Avenue

Gouldsboro Holding, LLC A-2013-2341241

 Ronald Solt A-2013-2341249

 Edward R. Schultz A-2013-2341253

 Donald W. Henderson and Louis Bellucci A-2013-2341262

 Fr E2 Property Holding LP A-2013-2341263

 Sylvester J. Coccia A-2013-2341267

 Lawrence Duda A-2013-2341271

 Blueberry Mountain Realty, LLC A-2013-2344605

 Grumble Knot, LLC A-2013-2344612

 Pennsylvania Glacial Till, LLC A-2013-2344616

39. Pursuant to 66 Pa.C.S. § 332(a), the burden of proof in Docket No. C-2011-2276731 is upon the complainants, Joe and Vanessa Caparo.

40. By failing to appear at the scheduled hearings, Joe and Vanessa Caparo, the complainants in Docket No. C-2011-2276731, have failed to satisfy their burden of proof.

41. Failure by Joe and Vanessa Caparo, the complainants in Docket No. C-2011-2276731, to appear for a scheduled hearing, where the complainants had notice, warrants dismissal of the complaint with prejudice.

VII ORDER

1. That the complaint of Joe and Vanessa Caparo against PPL Electric Utilities Corporation at Docket Number C-2011-2276731 is dismissed, with prejudice.

2. That the Application of PPL Electric Utilities Corporation, filed pursuant to 52 Pa. Code Chapter 57, Subchapter G, for approval of the siting and construction of the Northeast-Pocono Reliability Project in portions of Luzerne, Lackawanna, Monroe and Wayne Counties, Pennsylvania, at Docket Number A-2012-2340872, is granted.

3. That the petition of PPL Electric Utilities Corporation for a finding that a building to shelter control equipment at the North Pocono 230/69 kV Substation in Covington Township, Lackawanna County, Pennsylvania is reasonably necessary for the convenience or welfare of the public, at Docket Number P-2012-2340871, is granted.

4. That the petition of PPL Electric Utilities Corporation for a finding that a building to shelter control equipment at the West Pocono 230/69 kV Substation in Buck Township, Luzerne County, Pennsylvania is reasonably necessary for the convenience or welfare of the public, at Docket Number P-2012-2341105, is granted.

5. That the application of PPL Electric Utilities Corporation under 15 Pa.C.S. § 1511(c) for a finding and determination that the service to be furnished by the applicant through its proposed exercise of the power of eminent domain to acquire a certain portion of the lands of John C. Justice and Linda S. Justice in Salem Township, Wayne County, Pennsylvania for siting and construction of transmission lines associated with the proposed Northeast-Pocono Reliability Project is necessary or proper for the service, accommodation, convenience or safety of the public, at Docket Number A-2012-2341107, is granted.

6. That the application of PPL Electric Utilities Corporation under 15 Pa.C.S. § 1511(c) for a finding and determination that the service to be furnished by the applicant through its proposed exercise of the power of eminent domain to acquire a certain portion of the lands of Margaret G. Arthur and Barbara A. Saurman, Trustees of the Residuary Trust of James C. Arthur in Sterling Township, Wayne County, Pennsylvania for siting and construction of transmission lines associated with the proposed Northeast-Pocono Reliability Project is necessary or proper for the service, accommodation, convenience or safety of the public, at Docket Number A-2012-2341115, is granted.

7. That the application of PPL Electric Utilities Corporation under 15 Pa.C.S. § 1511(c) for a finding and determination that the service to be furnished by the applicant through its proposed exercise of the power of eminent domain to acquire a certain portion of the lands of Anthony J. Lupas, Jr. and Lillian Lupas, John Lupas and Judy Lupas, Grace Lupas, Eugene A. Bartoli and Robert J. Frankelli in Bear Creek Township, Luzerne County, Pennsylvania for siting and construction of transmission lines associated with the proposed Northeast-Pocono Reliability Project is necessary or proper for the service, accommodation, convenience or safety of the public, at Docket Number A-2012-2341118, is granted.

8. That the application of PPL Electric Utilities Corporation under 15 Pa.C.S. § 1511(c) for a finding and determination that the service to be furnished by the applicant through its proposed exercise of the power of eminent domain to acquire a certain portion of the lands of Ronald G. Sidovar and Gloria J. Sidovar in Salem Township, Luzerne County, Pennsylvania for siting and construction of transmission lines associated with the proposed Northeast-Pocono Reliability Project is necessary or proper for the service, accommodation, convenience or safety of the public, at Docket Number A-2012-2341120, is granted.

9. That the application of PPL Electric Utilities Corporation under 15 Pa.C.S. § 1511(c) for a finding and determination that the service to be furnished by the applicant through its proposed exercise of the power of eminent domain to acquire a certain portion of the lands of FR First Avenue Property Holding, LP in Covington Township, Lackawanna, Pennsylvania for siting and construction of transmission lines associated with the proposed Northeast-Pocono Reliability Project is necessary or proper for the service, accommodation, convenience or safety of the public, at Docket Number A-2012-2341123, is granted.

10. That the application of PPL Electric Utilities Corporation under 15 Pa.C.S. § 1511(c) for a finding and determination that the service to be furnished by the applicant through its proposed exercise of the power of eminent domain to acquire a certain portion of the lands of Transcontinental Gas Pipe Line Company, LLC in Buck Township, Luzerne County, Pennsylvania for siting and construction of transmission lines associated with the proposed Northeast-Pocono Reliability Project is necessary or proper for the service, accommodation, convenience or safety of the public, at Docket Number A-2013-2341208, is granted.

11. That the application of PPL Electric Utilities Corporation under 15 Pa.C.S. § 1511(c) for a finding and determination that the service to be furnished by the applicant through its proposed exercise of the power of eminent domain to acquire a certain portion of the lands of William Petrouleas and Joanna Petrouleas in Clifton Township, Lackawanna County, Pennsylvania for siting and construction of transmission lines associated with the proposed Northeast-Pocono Reliability Project is necessary or proper for the service, accommodation, convenience or safety of the public, at Docket Number A-2013-2341209, is granted.

12. That the application of PPL Electric Utilities Corporation under 15 Pa.C.S. § 1511(c) for a finding and determination that the service to be furnished by the applicant through its proposed exercise of the power of eminent domain to acquire a certain portion of the lands of Peter Palermo and Francine Palermo in Salem Township, Wayne County, Pennsylvania for siting and construction of transmission lines associated with the proposed Northeast-Pocono Reliability Project is necessary or proper for the service, accommodation, convenience or safety of the public, at Docket Number A-2013-2341211, is granted.

13. That the application of PPL Electric Utilities Corporation under 15 Pa.C.S. § 1511(c) for a finding and determination that the service to be furnished by the applicant through its proposed exercise of the power of eminent domain to acquire a certain portion of the lands of Donald Januszewski in Salem Township, Wayne County, Pennsylvania for siting and construction of transmission lines associated with the proposed Northeast-Pocono Reliability Project is necessary or proper for the service, accommodation, convenience or safety of the public, at Docket Number A-2013-2341215, is granted.

14. That the application of PPL Electric Utilities Corporation under 15 Pa.C.S. § 1511(c) for a finding and determination that the service to be furnished by the applicant through its proposed exercise of the power of eminent domain to acquire a certain portion of the lands of International Consolidated Investment Company in Clifton Township, Lackawanna County, Pennsylvania for siting and construction of transmission lines associated with the proposed Northeast-Pocono Reliability Project is necessary or proper for the service, accommodation, convenience or safety of the public, at Docket Number A-2013-2341216, is granted.

15. That the application of PPL Electric Utilities Corporation under 15 Pa.C.S. § 1511(c) for a finding and determination that the service to be furnished by the applicant through its proposed exercise of the power of eminent domain to acquire a certain portion of the lands of Bradley D. Hummel in Salem Township, Wayne County, Pennsylvania for siting and construction of transmission lines associated with the proposed Northeast-Pocono Reliability Project is necessary or proper for the service, accommodation, convenience or safety of the public, at Docket Number A-2013-2341220, is granted.

16. That the application of PPL Electric Utilities Corporation under 15 Pa.C.S. § 1511(c) for a finding and determination that the service to be furnished by the applicant through its proposed exercise of the power of eminent domain to acquire a certain portion of the lands of Michael Palermo and Joanne Palermo in Salem Township, Wayne County, Pennsylvania for siting and construction of transmission lines associated with the proposed Northeast-Pocono Reliability Project is necessary or proper for the service, accommodation, convenience or safety of the public, at Docket Number A-2013-2341221, is granted.

17. That the application of PPL Electric Utilities Corporation under 15 Pa.C.S. § 1511(c) for a finding and determination that the service to be furnished by the applicant through its proposed exercise of the power of eminent domain to acquire a certain portion of the lands of John F. and Veronica Iskra in Bear Creek Township, Luzerne County, Pennsylvania for siting and construction of transmission lines associated with the proposed Northeast-Pocono Reliability Project is necessary or proper for the service, accommodation, convenience or safety of the public, at Docket Number A-2013-2341233, is granted.

18. That the application of PPL Electric Utilities Corporation under 15 Pa.C.S. § 1511(c) for a finding and determination that the service to be furnished by the applicant through its proposed exercise of the power of eminent domain to acquire a certain portion of the lands of Michael A. Mitch and Sue K. Mitch in Paupack Township, Wayne County, Pennsylvania for siting and construction of transmission lines associated with the proposed Northeast-Pocono Reliability Project is necessary or proper for the service, accommodation, convenience or safety of the public, at Docket Number A-2013-2341234, is granted.

19. That the application of PPL Electric Utilities Corporation under 15 Pa.C.S. § 1511(c) for a finding and determination that the service to be furnished by the applicant through its proposed exercise of the power of eminent domain to acquire a certain portion of the lands of Clifton Acres, Inc. in Clifton Township, Lackawanna County, Pennsylvania for siting and construction of transmission lines associated with the proposed Northeast-Pocono Reliability Project is necessary or proper for the service, accommodation, convenience or safety of the public, at Docket Number A-2013-2341236, is granted.

20. That the application of PPL Electric Utilities Corporation under 15 Pa.C.S. § 1511(c) for a finding and determination that the service to be furnished by the applicant through its proposed exercise of the power of eminent domain to acquire a certain portion of the lands of Dietrich Hunting Club in Lehigh Township, Lackawanna County, Pennsylvania for siting and construction of transmission lines associated with the proposed Northeast-Pocono Reliability Project is necessary or proper for the service, accommodation, convenience or safety of the public, at Docket Number A-2013-2341237, is granted.

21. That the application of PPL Electric Utilities Corporation under 15 Pa.C.S. § 1511(c) for a finding and determination that the service to be furnished by the applicant through its proposed exercise of the power of eminent domain to acquire a certain portion of the lands of NLMS, Inc. in Clifton Township, Lackawanna County, Pennsylvania for siting and construction of transmission lines associated with the proposed Northeast-Pocono Reliability Project is necessary or proper for the service, accommodation, convenience or safety of the public, at Docket Number A-2013-2341239, is granted.

22. That the application of PPL Electric Utilities Corporation under 15 Pa.C.S. § 1511(c) for a finding and determination that the service to be furnished by the applicant through its proposed exercise of the power of eminent domain to acquire a certain portion of the lands of Duke Realty 400 First Avenue Gouldsboro Holding, LLC in Covington Township, Lackawanna County, Pennsylvania for siting and construction of transmission lines associated with the proposed Northeast-Pocono Reliability Project is necessary or proper for the service, accommodation, convenience or safety of the public, at Docket Number A-2013-2341241, is granted.

23. That the application of PPL Electric Utilities Corporation under 15 Pa.C.S. § 1511(c) for a finding and determination that the service to be furnished by the applicant through its proposed exercise of the power of eminent domain to acquire a certain portion of the lands of Ronald Solt in Plains Township, Luzerne County, Pennsylvania for siting and construction of transmission lines associated with the proposed Northeast-Pocono Reliability Project is necessary or proper for the service, accommodation, convenience or safety of the public, at Docket Number A-2013-2341249, is granted.

24. That the application of PPL Electric Utilities Corporation under 15 Pa.C.S. § 1511(c) for a finding and determination that the service to be furnished by the applicant through its proposed exercise of the power of eminent domain to acquire a certain portion of the lands of Edward R. Schultz in Covington Township, Lackawanna County, Pennsylvania for siting and construction of transmission lines associated with the proposed Northeast-Pocono Reliability Project is necessary or proper for the service, accommodation, convenience or safety of the public, at Docket Number A-2013-2341253, is granted.

25. That the application of PPL Electric Utilities Corporation under 15 Pa.C.S. § 1511(c) for a finding and determination that the service to be furnished by the applicant through its proposed exercise of the power of eminent domain to acquire a certain portion of the lands of Donald W. Henderson and Louis Bellucci in Paupack Township, Wayne County, Pennsylvania for siting and construction of transmission lines associated with the proposed Northeast-Pocono Reliability Project is necessary or proper for the service, accommodation, convenience or safety of the public, at Docket Number A-2013-2341262, is granted.

26. That the application of PPL Electric Utilities Corporation under 15 Pa.C.S. § 1511(c) for a finding and determination that the service to be furnished by the applicant through its proposed exercise of the power of eminent domain to acquire a certain portion of the lands of FR E2 Property Holding LP in Covington Township, Lackawanna County, Pennsylvania for siting and construction of transmission lines associated with the proposed Northeast-Pocono Reliability Project is necessary or proper for the service, accommodation, convenience or safety of the public, at Docket Number A-2013-2341263, is granted.

27. That the application of PPL Electric Utilities Corporation under 15 Pa.C.S. § 1511(c) for a finding and determination that the service to be furnished by the applicant through its proposed exercise of the power of eminent domain to acquire a certain portion of the lands of Sylvester J. Coccia in Clifton Township, Lackawanna County, Pennsylvania for siting and construction of transmission lines associated with the proposed Northeast-Pocono Reliability Project is necessary or proper for the service, accommodation, convenience or safety of the public, at Docket Number A-2013-2341267, is granted.

28. That the application of PPL Electric Utilities Corporation under 15 Pa.C.S. § 1511(c) for a finding and determination that the service to be furnished by the applicant through its proposed exercise of the power of eminent domain to acquire a certain portion of the lands of Lawrence Duda in Salem Township, Wayne County, Pennsylvania for siting and construction of transmission lines associated with the proposed Northeast-Pocono Reliability Project is necessary or proper for the service, accommodation, convenience or safety of the public, at Docket Number A-2013-2341271, is granted.

29. That the application of PPL Electric Utilities Corporation under 15 Pa.C.S. § 1511(c) for a finding and determination that the service to be furnished by the applicant through its proposed exercise of the power of eminent domain to acquire a certain portion of the lands of Blueberry Mountain Realty, LLC in Tobyhanna Township, Monroe County, Pennsylvania for siting and construction of transmission lines associated with the proposed Northeast-Pocono Reliability Project is necessary or proper for the service, accommodation, convenience or safety of the public, at Docket Number A-2013-2344605, is granted.

30. That the application of PPL Electric Utilities Corporation under 15 Pa.C.S. § 1511(c) for a finding and determination that the service to be furnished by the applicant through its proposed exercise of the power of eminent domain to acquire a certain portion of the lands of Grumble Knot, LLC in Tobyhanna Township, Monroe County, Pennsylvania for siting and construction of transmission lines associated with the proposed Northeast-Pocono Reliability Project is necessary or proper for the service, accommodation, convenience or safety of the public, at Docket Number A-2013-2344612, is granted.

31. That the application of PPL Electric Utilities Corporation under 15 Pa.C.S. § 1511(c) for a finding and determination that the service to be furnished by the applicant through its proposed exercise of the power of eminent domain to acquire a certain portion of the lands of Pennsylvania Glacial Till, LLC in Tobyhanna Township, Monroe County, Pennsylvania for siting and construction of transmission lines associated with the proposed Northeast-Pocono Reliability Project is necessary or proper for the service, accommodation, convenience or safety of the public, at Docket Number A-2013-2344616, is granted.

32. That the dockets at Docket Nos. A-2012-2340872, P-2012-2340871, P-2012-2341105, A-2012-2341107, A-2012-2341115, A-2012-2341118, A-2012-2341120, A-2012-2341123, A-2013-2341208, A-2013-2341209, A-2013-2341211, A-2013-2341215, A-2013-2341216, A-2013-2341220, A-2013-2341221, A-2013-2341233, A-2013-2341234, A-2013-2341236, A-2013-2341237, A-2013-2341239, A-2013-2341241, A-2013-2341249, A-2013-2341253, A-2013-2341262, A-2013-2341263, A-2013-2341267, A-2013-2341271, A-2013-2344605, A-2013-2344612, A-2013-2344616 and C-2011-2276731 be marked closed.

Date: October 8, 2013 \_\_\_\_\_\_\_\_\_/s/\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 David A. Salapa

 Administrative Law Judge