1.0 General Project Description

Resource Report 1 – General Project Description
FERC Environmental Checklist

Part 380-Appendix A Minimum Filing Requirements for Environmental Reports	Company Compliance or Inapplicability of Requirement
☐ Provide a detailed description and location map of the Project facilities. (§380.12(c) (1))	Sections 1.2, 1.2.1, 1.2.2 and 1.2.3; Figure 1.2-1a
☐ Describe any non-jurisdictional facilities that would be built in association with the Project. (§380.12(c) (2))	Section 1.10; Figure 1.2-1a
☐ Provide current original U.S. Geological Survey (USGS) 7.5-minute series topographic maps with mileposts showing the Project facilities. (§380.12(c) (3)).	Appendix A
☐ Provide aerial images or photographs or alignment sheets based on these sources with mileposts showing the Project facilities. (§380.12(c) (3)).	Figure 1.2-1a and Appendix C
☐ Provide plot/site plans of compressor stations showing the location of the nearest noise-sensitive areas (NSA) within 1 mile. (§380.12(c) (3,4)).	Appendix B
☐ Describe construction and restoration methods. (§380.12(c) (6)).	Section 1.5, Appendix E and Resource Report 2
☐ Identify the permits required for construction across surface waters. (§380.12(c) (9)).	Section 1.7 and Table 1.7-1
☐ Provide the names and addresses of all affected landowners and certify that all affected landowners would be notified as required in §157.6(d). (§§380.12(a)(4) and (c) (10)).	Section 1.8 and Appendix F
Additional Information Often Missing and Resulting in Data Requests	
☐ Describe all authorizations required to complete the proposed action and the status of applications for such authorizations.	Section 1.7
☐ Provide Plot/site plans of all other aboveground facilities that are not completely within the right-of-way.	Provided
☐ Provide detailed typical construction right-of-way cross-section diagrams showing information such as widths and relative locations of existing rights-of-way, new permanent right-of-way, and temporary construction right-of-way. See Resource Report 8.	Provided
☐ Summarize the total acreage of land affected by construction and operation of the project.	Table 1.3-4
☐ If Resource Report 5, Socioeconomics is not provided, provide the start and end dates of construction, the number of pipeline spreads that would be used, and the workforce per spread.	Provided
☐ Send two (2) additional copies of topographic maps and aerial images/photographs directly to the environmental staff of the Office of Energy Projects (OEP).	

Contents

Tables

Figures

Appendices

Master List of Acronyms and Abbreviations

AC	alternating current
ACHP	Advisory Council on Historic Preservation
amsl	above mean sea level
APE	area of potential effect
API	American Petroleum Institute
AQCR	Air Quality Control Regions
ATWS	additional temporary workspace
BACT	best available control technology
BAT	best available technology
bgs	below ground surface
BMP	best management practice
BREC	Bedford Rural Electric Cooperative
BTGS	Bureau of Topographic and Geologic Survey
CAA	Clean Air Act of 1970
CEII	Critical Energy Infrastructure Information
Census	U.S. Census Bureau
CEQ	Council on Environmental Quality
CERCLIS	Comprehensive Environmental Response Compensation and Liability Information System
Certificate	Certificate of Public Convenience and Necessity
CFR	Code of Federal Regulations
CO	carbon monoxide
Commission	Federal Energy Regulatory Commission
CRP	Capacity Restoration Project
CWA	construction work area
CWF	coldwater fishes
dB	decibel
dBA	A-weighting filter decibel
DIL	dynamic insertion loss
Dth/d	dekatherms per day
E&SCP	Erosion and Sedimentation Control Plan
E/C	equipment/component
ECP	environmental construction plan
EFH	essential fish habitat
EGM	environmental gas monitor
ER	Environmental Report
ERNS	Emergency Response Notification Site
ESCGP	Erosion and Sediment Control General Permit

ESD	emergency shutdown
FAC	facultative
FACU	facultative upland
FACW	facultative wetland
FERC	Federal Energy Regulatory Commission
FMV	fair market value
ft	feet/foot
g/hp-hr	grams per horsepower-hour
GP	General Permit
gpm	gallons per minute
HAP	hazardous air pollutant
HDD	horizontal directional drill
hp	horsepower
HUC	hydrologic unit code
HVAC	heating, venting, and air conditioning
Hz	Hertz
IMP	integrity management program
kW	kilowatts
L10	Sound level exceeded 10 percent of the measurement period
L90	Sound level exceeded 90 percent of the measurement period
LAER	lowest achievable emission rate
Ldn	Day-night average sound level (as calculated from measured Ld and estimated Ln)
Leq	A-weighted sound level at the NSA
LNG	liquefied natural gas
Lp	sound pressure level
Lw	sound power level
Lxx	Sound level where xx is percentile of time sound level exceeded
µg/m3	microgram per cubic meter
M&R	metering and regulating
MACT	maximum achievable control technology
MAOP	maximum allowable operating pressure
MMDth/d	million dekatherms per day
MF	migratory fishes
mg/l	milligrams per liter
MLV	mainline valve
MMBtu/hr	one million British thermal units per hour
MOA	Memorandum of Agreement
MP	milepost
N/A	not applicable

NAAQS	National Ambient Air Quality Standards
NAGPRA	Native American Graves Protection and Repatriation Act
NDE	non-destructive examination
NEMA	National Electrical Manufacturers Association
NEPA	National Environmental Policy Act of 1969
NESHAP	National Emission Standards for Hazardous Air Pollutants
NFPA	National Fire Protection Association
NFRAP	No Further Remedial Action Plan
NGA	Natural Gas Act
NHPA	National Historic Preservation Act of 1966
NIP	Non-Internet Public
NMFS	National Marine Fisheries Service
NNSR	non-attainment new source review
NO2	nitrogen dioxide
NOx	nitrogen oxide compounds
NPDES	National Pollutant Discharge Elimination System
NPL	National Priorities Listed
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NSA	noise sensitive area
NSPS	new source performance standards
NSR	new source review
NTU	nephelometric turbidity units
NWI	National Wetland Inventory
NWSRS	National Wild and Scenic Rivers System
O&M	operation and maintenance
O3	ozone
O.B.	octave-band
OBL	obligate
OD	outside diameter
OEP	Office of Energy Projects
O&M	Operations & Maintenance
OPP	over pressure protection
OSD	Official Soil Series Description
OTR	Northeast Ozone Transport Region
PA	Pennsylvania
PADCNR	Pennsylvania Department of Conservation of Natural Resources
PADEP	Pennsylvania Department of Environmental Protection
PADOT	Pennsylvania Department of Transportation

PANHP	Pennsylvania National Heritage Program
PAR	permanent access road
Pb	lead
pcf	pound-force per cubic foot
PCPI	per capita personal income
PCR	power control room
PEM	palustrine emergent marsh
PennEast	PennEast Pipeline Company, LLC
PFBC	Pennsylvania Fish and Boat Commission
PFO	palustrine forested
PGC	Pennsylvania Game Commission
PHMC BHP	Pennsylvania Historical and Museum Commission Bureau for Historic Preservation
PHMSA	Pipeline and Hazardous Materials Safety Administration
Plan	FERC Upland Erosion Control, Revegetation, and Maintenance Plan
PM	particulate matter
PM2.5	particulate matter sized 2.5 microns and smaller
PM10	particulate matter sized 10 microns and smaller
PPC	Preparedness, Prevention, and Contingency Plan
ppm	parts-per-million
Project	PennEast Pipeline Project
PSD	prevention of significant deterioration
PSE&G	Public Service Electric and Gas
psi	pounds per square inch
psig	pounds per square inch gauge
PSS	palustrine scrub-shrub
PWL	sound power level
RACT	reasonably available control technology
RCRA	Resource Conservation and Recovery Act
RFD	Request for Determination of Requirement for Plan Approval/ Operating Permit
RICE	Reciprocating Internal Combustion Engines
ROW	right-of-way
sf	service factor
SHPO	State Historic Preservation Office
SIP	State Implementation Plan
SO2	sulfur dioxide
SPCC Plan	Spill Prevention, Control, and Countermeasure Plan
SPL	sound pressure level
SR	State Route
SSURGO	Soil Survey Geographic Database

STP	shovel test pit
SWL	solid waste landfill
T&E	threatened and endangered
TAR	temporary access road
Texas Eastern	Texas Eastern Transmission, LP
THPO	Tribal Historic Preservation Officers
TMDL	total maximum daily load
tpy	tons per year
Transco	Transcontinental Gas Pipe Line Company LLC
TSF	trout stocking fishery
UPL	upland
UPS	uninterruptible power supply
USACE	U.S. Army Corps of Engineers
USC	U.S. Code
USDA	U.S. Department of Agriculture
USDOC	U.S. Department of Commerce
USDOT	U.S. Department of Transportation
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VDC	volts direct current
VFD	variable frequency drive
VOC	volatile organic compound
WSS	Web Soil Survey
WWF	warmwater fishes

1.0 RESOURCE REPORT 1 - GENERAL PROJECT DESCRIPTION

PennEast Pipeline Company, LLC (PennEast) is seeking authorization from the Federal Energy Regulatory Commission (FERC) pursuant to Section 7(c) of the Natural Gas Act for the construction and operation of the PennEast Pipeline Project (PennEast Project or Project) located in Pennsylvania and New Jersey. The PennEast Project is designed to provide a direct and flexible path for transporting natural gas produced in the Marcellus Shale play in eastern Pennsylvania to growing natural gas markets in eastern Pennsylvania, southeastern Pennsylvania and New Jersey.

This Environmental Report (ER) has been prepared in accordance with FERC Order Nos. 603, et seq., which govern the filing of the ER portion of applications for Certificates of Public Convenience and Necessity, authorizing the construction and operation of facilities to provide service under Section 7 of the NGA.

The PennEast Project application (Application) and associated ER is organized into four volumes, in compliance with FERC's document control requirements for Public, Critical Energy Infrastructure Information (CEII), and Privileged and Confidential classes of information. The ER and the CEII and confidential Application exhibits are contained in Volumes II-IV and outlined below. The Application text and related public exhibits are included as Volume I.

Public

- Volume I
- Application
- Public Exhibits, Except F-1 (A, B, C, D, F, H, J, K, L, M, N, P, Z-1)
- Volume II-A
- Resource Reports 1-12
- Volume II-B
- Appendices A, C, D, E, G, H, I, K, and L

Privileged and Confidential

- Volume III
- Appendix F – Landowner and Stakeholder Lists
- Appendix J – Cultural Resource Survey Reports

Exhibit I

CEII

- Volume IV
- Appendix B - Plot Plans
- Appendix L (excerpts)
- Exhibits G, G-I, and G-II

Resource Report 1 includes the purpose and need for the Project, the locations and descriptions of proposed facilities, and the expected land requirements associated with construction and operation of the Project. In addition, this Resource Report contains information regarding the proposed construction and right-of-way (ROW) restoration procedures, operation and maintenance (O&M) practices, the permits and approvals required to construct and operate the Project, landowner notification information, any potential plans for future expansion or abandonment of the proposed facilities, proposed non-jurisdictional facilities, and a cumulative impacts analysis.

1.1 Purpose and Need

PennEast proposes to construct, install and operate the Project facilities to provide approximately 1.0 MMDth/day of year-round transportation service from northern Pennsylvania to markets in eastern and southeastern Pennsylvania and New Jersey.

The Project is designed to bring lower cost natural gas produced in the Marcellus Shale region in eastern Pennsylvania to homes and businesses in Pennsylvania and New Jersey. The Project facilities include a 36-inch diameter, 108-mile pipeline, extending from Luzerne County, Pennsylvania, to Mercer County, New Jersey. The Project will extend from various receipt point interconnections in the eastern Marcellus region, including interconnections with Transcontinental Gas Pipe Line Company, LLC (Transco) and gathering systems operated by Williams Partners L.P., Regency Energy Partners LP, and UGI Energy Services, LLC, all in Luzerne County, Pennsylvania, to various delivery point interconnections in the heart of major northeastern natural gas-consuming markets, including interconnections with UGI Utilities, Inc. (UGI) in Carbon County, Pennsylvania and Northampton County, Pennsylvania, respectively, Columbia Gas Transmission, LLC (Columbia Gas) in Northampton County, and Elizabethtown Gas, Texas Eastern Transmission, LP (Texas Eastern) and Algonquin Transmission, LLC, all in Hunterdon, New Jersey. The terminus of the proposed PennEast system will be located at a delivery point with Transco in Mercer County, New Jersey.

The Project was developed in response to market demands in Pennsylvania and New Jersey, and interest from shippers that require transportation capacity to accommodate increased receipts of natural gas in the region. The Project will include a new pipeline and aboveground facilities that will provide a new source of natural gas supply from the Marcellus Shale producing region to Pennsylvania and New Jersey. The Project is designed to provide a new pipeline alternative to serve markets in the region. An additional supply of natural gas to the region will provide a benefit to consumers, utilities and electric generators by providing enhanced competition among suppliers and pipeline transportation providers. The Project will satisfy the needs of shippers seeking (i) additional supply flexibility, diversity and reliability; (ii) liquid points for trading in locally produced gas, including Marcellus Shale gas; (iii) direct access to premium markets in the northeast and mid-Atlantic regions; (iv) the ability to capture pricing differentials between the various interconnected market pipelines; and (v) firm access to long-lived dry gas reserves. The Project will provide shippers additional opportunities to buy and sell supplies and to transport natural gas to where it is needed and valued most. The Project also offers shippers a short-haul transportation option for direct access to Marcellus Shale natural gas supplies.

PennEast held an Open Season for the Project from August 11, 2014 to August 29, 2014, and has executed long–term, binding precedent agreements with eight shippers for 78% of the firm transportation capacity to be created by the Project. PennEast continues to negotiate with other potential shippers, the combination of which could fully subscribe the capacity of the proposed Project facilities. Notably, many of the Project shippers are electricity generators and local distribution companies in both Pennsylvania and New Jersey.

As is demonstrated by the make-up of the Project shippers, the PennEast Project is primarily driven by the demand markets. Several of the Project shippers have provided PennEast with information regarding their rationale for committing to Project capacity so that PennEast could provide that information in this Resource Report 1. PennEast provides this information below:

<u>New Jersey Natural Gas</u>

Following Superstorm Sandy, New Jersey Natural Gas undertook a comprehensive initiative to increase the reliability of its distribution system. As a result, New Jersey Natural Gas intends to receive natural gas from additional supply points to eliminate single points of failure. PennEast will provide stable, low cost supply that will provide supply and pipeline diversity to New Jersey Natural Gas for Monmouth and Ocean counties. PennEast also provides an opportunity for New Jersey Natural Gas to restructure its gas supply portfolio.

<u>Pivotal Utility Holdings, Inc. (d/b/a Elizabethtown Gas)</u>

Elizabethtown Gas (ETG) has both a current need and a long-term planning need for new capacity in New Jersey. The PennEast Project provides a unique option to economically increase the reliability of firm pipeline transportation in a market area where the availability of new pipeline and peak shaving capacity is constrained. More direct-connected interstate supply options allows for less reliance on the continued addition of supplemental on-system peak shaving facilities or the use of third-party, delivered peaking supplies to meet growing firm customer demand. Additionally, service from

PennEast will increase ETG's system reliability. Existing interstate natural gas pipelines to the northwest portion of Elizabethtown's territory are fully subscribed and recent expansions have been costly. PennEast will deliver to the northwestern portion of ETG's system thereby significantly reducing, if not eliminating, the need to rely on third parties for bundled, city-gate delivered supplies.

ETG has subscribed to service from PennEast to increase supply diversification for ETG's current customers, and to provide capacity from new sources to serve the immediate and long term growth in ETG's service territory. Service from PennEast will provide an important new source of firm gas supply that can also help ETG extend service to more communities as significant opportunities develop. In an effort to extend gas service to more customers, over the next three years, ETG intends to work with local municipal and county officials, local and state economic development authorities, community leaders and the New Jersey Board of Public Utilities to find affordable solutions which will allow ETG to extend additional service within communities near the PennEast Project.

PSEG Power, LLC

The largest utility in New Jersey, PSEG Power, LLC, intends to supply growth on its system from PennEast. The benefits will lower the cost to its gas customers. Additionally, by way of lower the cost of operations for electric generators in New Jersey, the benefits will also provide a cost benefit to electric customers as well.

South Jersey Gas Company

The PennEast Project will provide a new supply from a low cost stable source displacing delivered supplies which have been subject to extreme price volatility. The Project will create a lower, more stable price environment which will benefit all South Jersey customers. Acquisition of the PennEast capacity will allow South Jersey to restructure its capacity portfolio to lower overall costs to its Basic Gas Supply Service customers. PennEast will provide additional operational flexibility for South Jersey by connecting South Jersey's distribution system to an additional upstream pipeline. Additionally the capacity will be available to feed new load on the South Jersey distribution system, including several natural gas-fired power plants, in support of New Jersey's Energy Master Plan.

Texas Eastern Transmission, LP

The PennEast Project provides Texas Eastern with direct access to the eastern Marcellus, which allows Texas Eastern to increase supply diversity and optionality for its shippers and for markets that it serves in the region.

UGI Energy Services, LLC

UGI Energy Services is one of the largest gas marketers in the Mid-Atlantic and serves a significant number of industrial and commercial customers. The PennEast Project will provide UGI Energy Services with greater access to the gas production region of the Marcellus Shale which will be used to support service to retail customers.

As described further in Resource Report 10, PennEast evaluated using existing interstate pipelines in the area as alternatives to the PennEast Project, however such pipelines would not have the ability to satisfy the purpose and need of the PennEast Project and otherwise would not provide suitable alternatives for the Project.

A review of the Annual Energy Outlook 2014 (Energy Information Administration [EIA] 2014) reference case indicates that natural gas consumption will rise from 25.6 trillion cubic feet (Tcf) in 2012 to 31.6 Tcf in 2040.

The winter of 2013-14 demonstrated that there were significant constraints in the natural gas supply system created by a combination of increased demand from residential, commercial and industrial conversions; cold weather affecting traditional demand; and new natural-gas fired power generation. While natural gas prices have steeply declined over the last several years, critical links between supply and demand, particularly on days where demand is highest, have led to unprecedented spikes in the cost of natural gas and electricity as illustrated in Figure 1.1-1. Figure 1.1-2 highlights the high price increases experienced during the 2013-2014 winter. The lack of a new pipeline with access to

supply sources in Pennsylvania will continue to create dramatic seasonal price fluctuations in Pennsylvania and New Jersey with higher gas and electric rates and an increased potential for energy shortages during peak demand, resulting in threats to business continuity, public safety and national security. Continued increases in demand for natural gas will further exacerbate this problem if new infrastructure is not constructed. Higher energy prices reduce disposable income for residents, decrease competitiveness for businesses and increase taxes. Accordingly, the Project is designed to bring lower cost natural gas to homes and businesses in Pennsylvania and New Jersey. Figure 1.1-3 and 1.1-4 illustrate the increase expected on the electric system between 2012 and 2040 that will significantly contribute to this increased demand for natural gas. Figure 1.1-5 shows the PJM capacity fuel mix as of 12/1/2014. Further, the proposed Project will help to spur economic growth in Pennsylvania, New Jersey and surrounding states by providing an abundant supply of low-cost energy, making the region more competitive both nationally and internationally.

Figure 1.1-1
Historic Regional Power and Natural Gas Prices

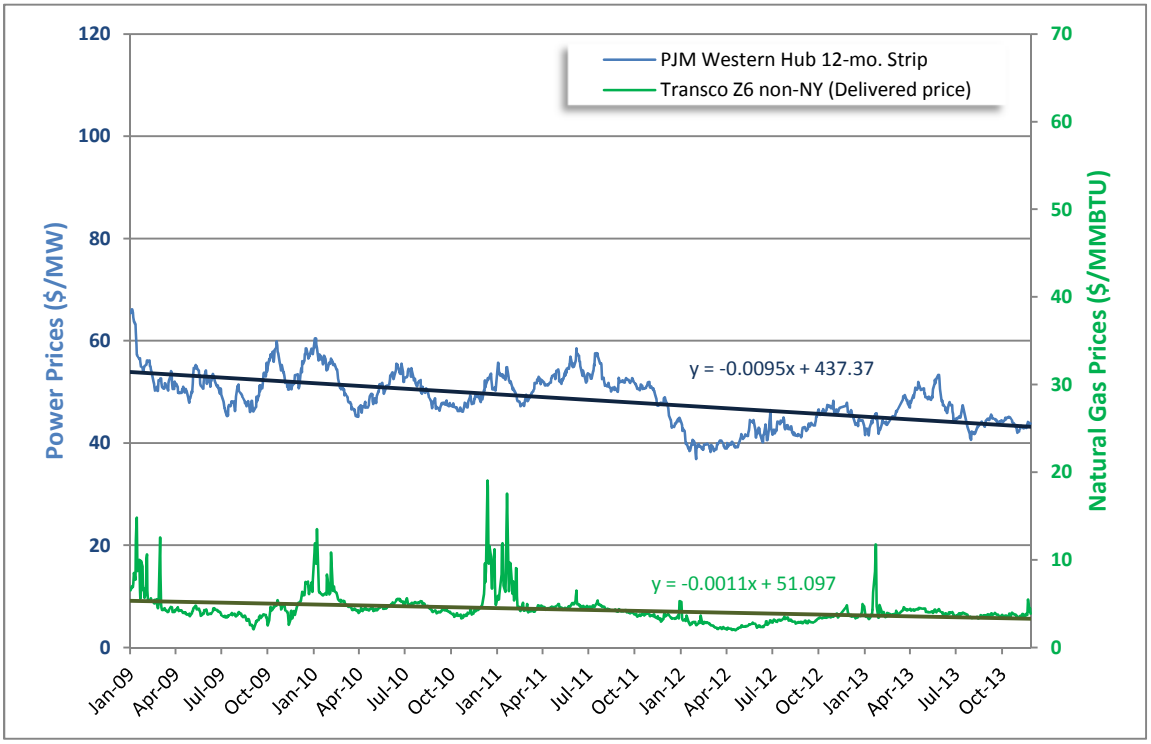


Figure 1.1-2
Regional Power and Natural Gas Prices - November 2013 through October 2014

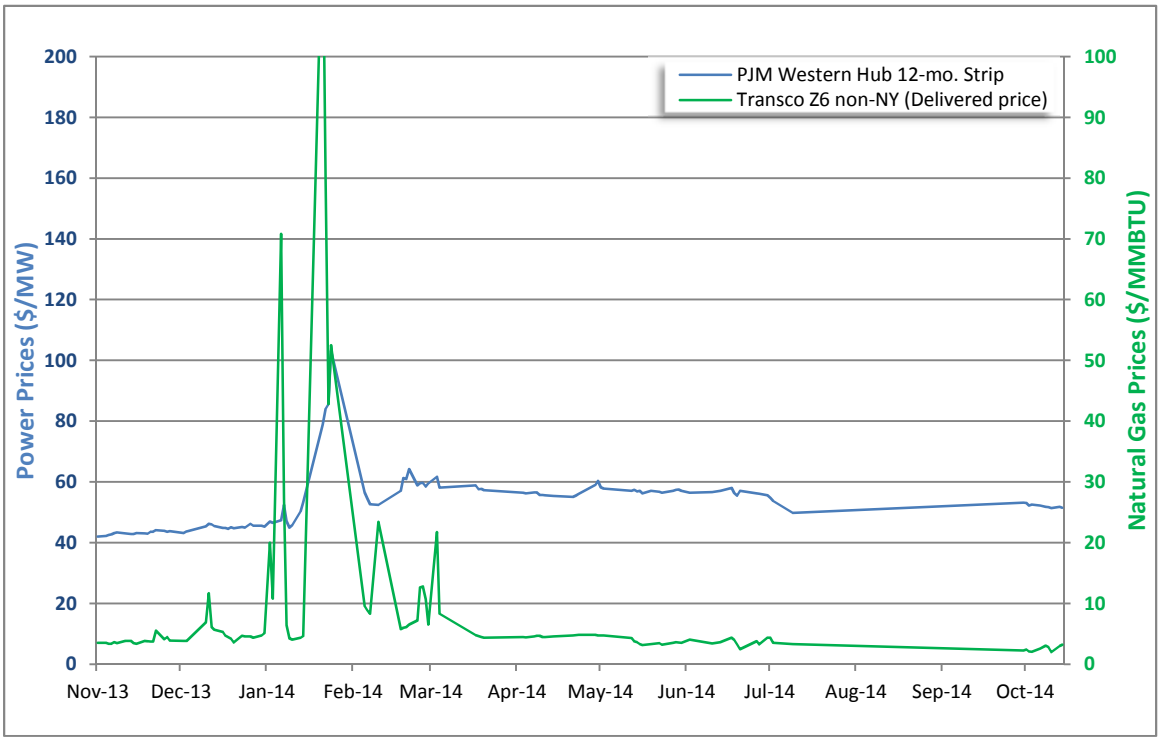


Figure 1.1-3[a]
Capacity Additions by Fuel
2012-2020

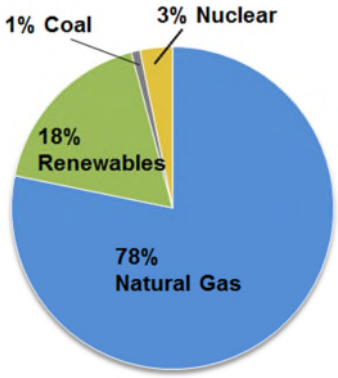


Figure 1.1-4[a]
Projected Capacity Fuel Mix
By 2020

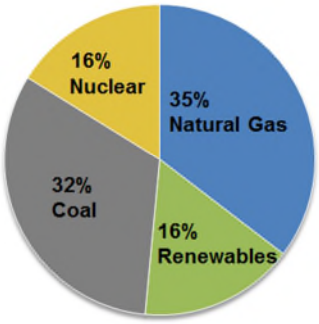
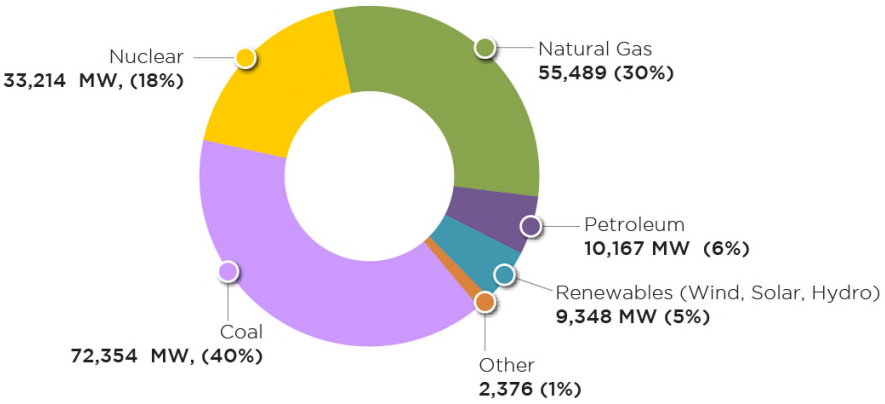


Figure 1.1-5
PJM Capacity Fuel Mix
12/1/2014



[a] EIA, 2014

1.2 PennEast Location and Description of Facilities

The Project will entail the construction of approximately 108.8 miles of 36-inch diameter pipeline from Luzerne County, Pennsylvania to Mercer County, New Jersey. The Hellertown Lateral, an approximately 2.1 mile lateral of 24-inch diameter pipe, will be constructed in Northampton County, Pennsylvania. This lateral will serve as an Interconnect with Columbia and UGI- Lehigh. The associated above ground infrastructure for PennEast will consist of interconnect meter stations, mainline block valves, and a compressor station.

1.2.1 Pipeline Facilities

The Project's pipeline facilities are identified by segment and include the PennEast mainline route pipeline and the 24-inch Hellertown lateral. These pipeline facilities are summarized on Table 1.2-1, which provides the proposed Project's pipeline installations, pipeline diameter, approximate length, mileposts (MP), and type of activity. Figure 1.2-1a shows the regional location of the Project. Appendix A, Sheets 1 to 33, present U.S. Geological Survey (USGS) topographic quadrangle maps depicting the locations of the proposed pipeline facilities. Appendices B and C contain plot plans and aerial alignment sheets, respectively, of the proposed pipeline and associated facilities.

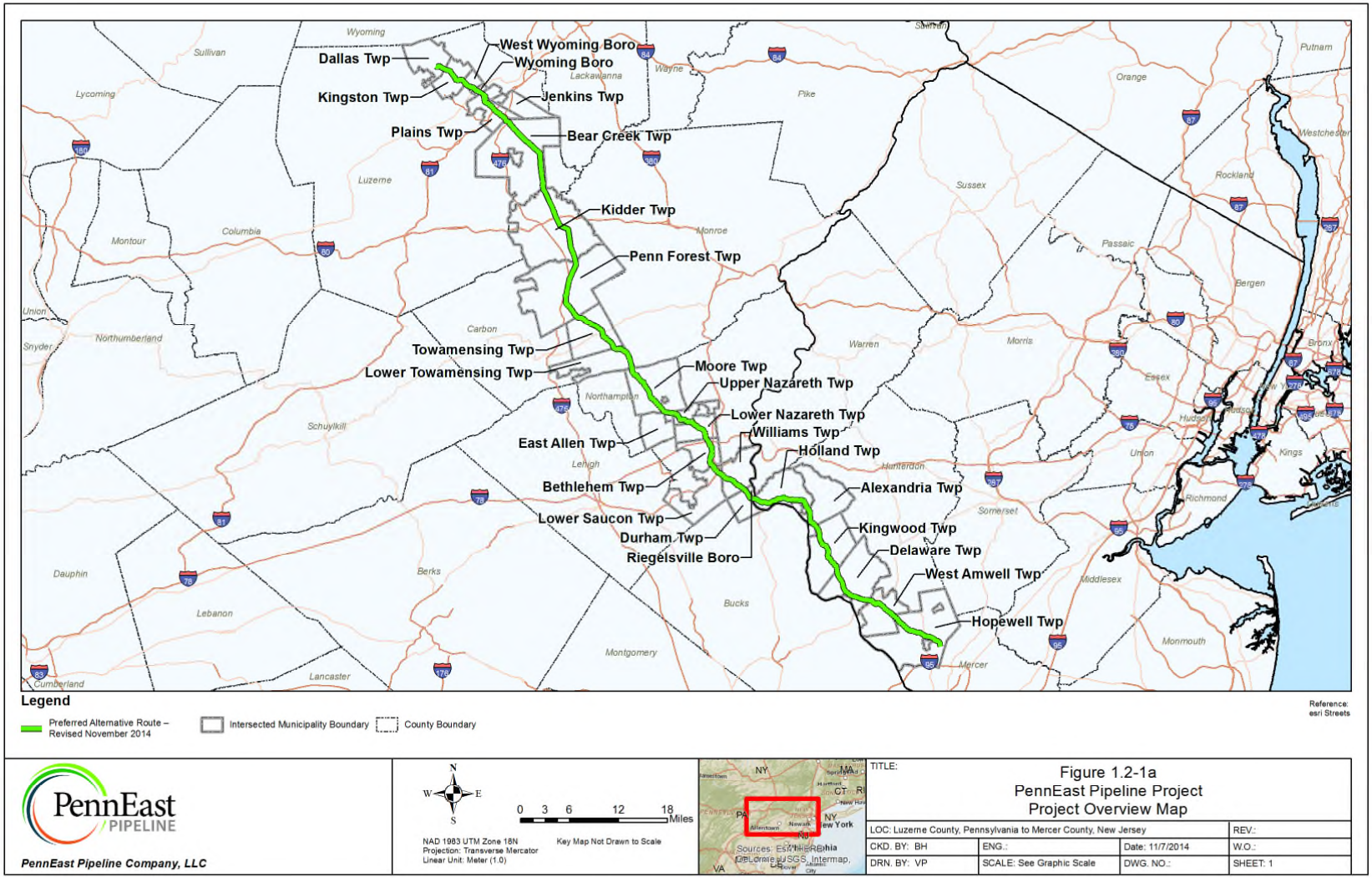
- The PennEast pipeline is an approximately 108.8-mile long new pipeline starting in Luzerne County, Pennsylvania and extending to Mercer County, New Jersey. Pennsylvania counties traversed include Luzerne, Carbon, Northampton, and Bucks. The Project traverses Hunterdon and Mercer Counties in the New Jersey portion.
- The 24-inch Hellertown Lateral is an approximately 2.1-mile new pipeline in Northampton County, Pennsylvania.

Table 1.2-1

Pipeline Facilities

Facility	Pipeline Diameter and Type	Approx. Length (miles)	Begin MP	End MP	State	County
PennEast Pipeline Route	36-inch – new pipeline	108.8	0.0	108.8	PA, NJ	Multiple
Hellertown 24-inch lateral	24-inch – new pipeline	2.1	68.7	--	PA	Northampton

Figure 1.2-1a
Project Overview Map



1.2.2 Aboveground Facilities

The PennEast Project will make use of a single compressor station that will serve the entire line providing sufficient throughput with an aggregate of approximately 32,745 ISO hp of compression. The latitude/longitude location coordinates for the facility is presented in narrative below and is also listed in Table 1.2-2.

UGI HAZ Compressor Station

The UGI HAZ Compressor Station will be a new facility. The proposed location is on an approximately 40-acre site in Carbon County, Pennsylvania (41° 5' 29.8" N, 75° 39' 48.4" W). The proposed compressor station location is undeveloped, forested land. Environmental field surveys indicate that there are no wetlands or cultural resources within the proposed site. The proposed facility components at the Compressor Station include:

- Installation of three gas turbine-driven Taurus 70 units rated at 10,915 hp each under ISO conditions (32,745 total ISO hp).

Table 1.2-2
Aboveground Facilities

Facility/ Location	Type	New/ Modified	State	County
UGI HAZ Compressor Station	Compression Facilities Install three gas turbine-driven Taurus 70 units rated at 10,915 hp each under ISO conditions (32,745 total ISO hp).	New	PA	Carbon

Facilities

Various associated above ground facilities including interconnects, launchers, receivers, and mainline block valves also will be constructed to support the pipeline system. Table 1.2-3 provides a list of the associated facilities.

Table 1.2-3
Associated Facilities

Facility/ Location	Type	New/ Modified	MP[1]	State	County
PennEast Pipeline Route	Wyoming Interconnect	New	0.00	PA	Luzerne
	Springville Interconnect	New	0.25	PA	Luzerne
	Auburn and Leidy Interconnects	New	4.50	PA	Luzerne
	Mainline Block Valve	New	8.23	PA	Luzerne
	UGI HAZ Interconnect	New	25.50	PA	Carbon
	Mainline Block Valve	New	40.20	PA	Carbon
	Mainline Block Valve	New	48.61	PA	Carbon
	Mainline Block Valve	New	59.82	PA	Northampton
	Elizabethtown Interconnect and Mainline Block Valve	New	76.35	NJ	Hunterdon
	Mainline Block Valve	New	85.49	NJ	Hunterdon
	Mainline Block Valve	New	96.93	NJ	Hunterdon
	Algonquin and TETCO Interconnects	New	98.25	NJ	Hunterdon
	Hellertown Lateral and Launcher/ Reciever Site	New	68	PA	Northampton

Facility/ Location	Type	New/ Modified	MP[1]	State	County
PennEast Hellertown Lateral Route	Transco Interconnect	New	108.8	NJ	Mercer
	TCO Interconnect	New	L-2.13	PA	Northampton
	UGI Lehigh Interconnect	New	L-2.13	PA	Northampton

1.2.3 Location Maps, Detailed Site Maps, and Plot and Site Maps

Volumes II-B and IV of this filing provide the referenced appendices. As previously noted, Appendix A includes USGS topographic quadrangles depicting the proposed facilities. Appendix B (Volume IV) contains plot plans for the aboveground facilities associated with the Project. Appendix C provides available ArcGIS aerial photographs, updated on October 2, 2014, of the facility locations. During the first quarter of 2015, aerial photography for the entire PennEast Project will be acquired. Appendix D provides figures depicting USGS topographic quadrangles with U.S. Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI) data layers for the Project area.

1.3 Land Requirements

1.3.1 Pipeline Facilities

The PennEast Project requires a 50-foot permanent ROW and an approximately 50-foot temporary construction workspace for a nominal 100-feet-wide construction corridor. This corridor width is based on construction conditions of similar projects within Pennsylvania. From the center of the ditch, the spoil side of the construction ROW is proposed to be 35 feet. This footprint will serve as the primary spoil storage area. Thus, the working side of the construction ROW will typically be 65 feet wide from the center of the ditch and will serve to accommodate trench excavation, bank sloping, topsoil segregation and safe equipment mobilization. Agricultural areas where full topsoil segregation of 12 inches deep will require an additional 25 feet totaling a 125-feet-wide construction corridor. During project review, conditions evaluated include topography, soils, bedrock, boulders, wetlands, and waterbodies, as well as proximity to existing roads, railroads, residences. PennEast has considered these noted conditions along with machinery requirements needed for safe pipeline and support facility installation. Under certain conditions that are still being evaluated, additional workspace may be necessary to maintain safe practices in specific locations and would extend beyond the nominal 100-feet corridor. Table 1.3-1 identifies the estimated land requirements for pipeline construction and operation and maintenance (O&M) needs.

Table 1.3-1

Land Requirements for Pipeline Facilities

Facility[1]	Approximate Length/No. of Sites	Temporary Workspace for Construction (acres)	Permanent Easement for Construction and Operation (acres)		Total Workspace for Construction (acres)
			Existing[2]	New	
PennEast Pipeline Route	108.8 miles				
Hellertown 24-inch lateral	2.1 miles				
Totals					
Other Facilities					
Access Roads[3]	22.1 miles/51 access rds				
Pipeyards	Information forthcoming				

1 This table does not specify valves and launcher/receivers that will be constructed on the pipeline segments since the land requirements for these facilities are within the land requirements for the pipeline segments.

2 Only includes existing permanent 50 foot ROW within limits of construction.

3 Estimated Temporary Workspace for Construction includes access roads including existing roads.

New Pipeline ROW

Typical construction and operation ROW widths for new pipeline along the PennEast Pipeline and the 24-inch Hellertown Lateral are shown in Figure 1 in the E&SCP (Appendix E). As noted, the typical construction ROW will be 100 feet wide consisting of new 50-feet permanent easement plus a temporary workspace of 50-feet. Where possible, the construction ROW has been co-located and sited in adjacent to or in proximity to existing ROWs (pipeline or electric power). Where necessary, the new ROW has been sited away from existing ROWs when there is an unacceptable risk, such as due to a combination of steep vertical and horizontal slope areas. Land requirements for constructed temporary workspace is included as part of the pipeline assessment.

Access Roads

To the extent practicable, existing public and private road crossings will be used as the primary means to access the ROW. Additional access points are necessary beyond those available by use of existing public roads. Preliminarily, PennEast has identified 51 access roads for use during construction of the Project. These access roads include a total length of approximately 22.1 miles. These access roads include use of 34 existing roads and construction or enhancement of 17 new/existing access roads. Table 1.3-2 lists all proposed roads by pipeline segment. The following access roads are identified by County:

- 19 Access Roads - Luzerne County, Pennsylvania
- 9 Access Roads – Carbon County, Pennsylvania
- 11 Access Roads – Northampton County, Pennsylvania
- 9 Access Roads – Hunterdon County, New Jersey
- 3 Access Roads – Mercer County, New Jersey

Improved access roads will likely require maintenance activities that may include tree branch clearing, gravel placement, and/or access path widening. Moreover, there will be the need to establish temporary staging areas along several access roads. Such areas will serve as places for temporary vehicle parking and/or staging of minor supplies (e.g., hay bales for erosion control activities). During the design phase of the project, these staging areas will be identified and added to the USGS topographic figures in Appendix A. Table 1.3-2 includes the total land use impacts resulting from the proposed access roads including the staging areas. Temporary access roads (TARs) for construction will be restored in accordance with landowner agreements. Landowner permission will be obtained for all proposed permanent access roads (PARs).

Table 1.3.2
Acess Roads for Project

Road No.	MP	County	Length	New/ Existing	Width	State*	Improvement Needed	Improvement Distance	Temporary/ Permanent	Justification	Note
AR-001	-	Luzerne	1,367	Existing	20	Matted	Yes	1,367	Permanent	Wyoming Interconnect access	
AR-002	0.51	Luzerne	3,111	Existing	20	Paved	No	-	Temporary	Springville Interconnect access	
AR-003	4.45	Luzerne	1,802	Partially existing	20	Paved, field, and forest	Yes	533	Permanent	Leidy, Auburn Interconnect access	
AR-004	5.33	Luzerne	482	Existing	15	Paved	No	-	Temporary	Clearing crew access for light traffic	
AR-005	6.35	Luzerne	484	Existing	15	Paved	No	-	Temporary	light vehicle access prior to clearing and construction	
AR-006	7.91	Luzerne	248	New	15	Grass and trees	Yes	248	Temporary	Access around guard rails on N Main street	
AR-007	8.20	Luzerne	68	New	20	Forest	Yes	68	Permanent	Mainline valve access	
AR-008	9.18	Luzerne	1,384	Existing	15	Dirt road and forest path	Yes	1,161	Temporary	Access to north side of railroad, creek, and Union St	
AR-009	9.18	Luzerne	3,282	Existing	15	Gravel	No	-	Temporary	Access to ROW for materials and major equipment	
AR-010	10.03	Luzerne	765	Paritally existing	15	Gravel and forest	Yes	253	Temporary	Access to north side of Hwy 315 and Interstate 81 HDD	
AR-011	10.18	Luzerne	5,015	Paritally existing	15	Gravel and forest	Yes	196	Temporary	Access to south side of Hwy 315 and Interstate 81 HDD	
AR-012	10.95	Luzerne	1,268	Existing	15	Gravel and forest	Yes	464	Temporary	Access to ROW that minimizes impact to Deep Creek in clearing and construction	
AR-013	11.35	Luzerne	2,288	Paritally existing	15	Paved and forest	Yes	742	Temporary	Access to south side of railroad crossing	
AR-014	12.16	Luzerne	1,884	Existing	15	Gravel	No	-	Temporary	Clearing crew access for light traffic	

Road No.	MP	County	Length	New/ Existing	Width	State*	Improvement Needed	Improvement Distance	Temporary/ Permanent	Justification	Note
AR-015	12.71	Luzerne	2,563	Existing	15	Gravel and jeep trail	Yes	2,563	Temporary	Access to south side of Interstate 476 crossing	
AR-016	13.80	Luzerne	11,065	Existing	15	Gravel	No	-	Temporary	Access to ROW in remote area. Will minimize clearing.	
AR-017	16.05	Luzerne	14,038	Paritally existing	15	Forest and jeep trail	Yes	14,038	Temporary	Access to ROW in remote area. Will minimize impact to and crossing of parallel creek.	
AR-018	19.86	Luzerne	3,869	Existing	15	Gravel	No	-	Temporary	Access to ROW and clearing in remote area.	
AR-019	21.22	Luzerne	11,872	Existing	15	Gravel	No	-	Temporary	Access north side of Lehigh River crossing	
AR-020	24.53	Carbon	9,113	Paritally existing	15	Paved, gravel, and forest	Yes	2,343	Temporary	Access to south side of Lehigh River crossing	
AR-021	26.44	Carbon	6,227	Existing	15	Gravel	No	-	Temporary	Access to south side of Interstate 80 crossing	
AR-022	28.31	Carbon	3,313	Paritally existing	15	Paved and gravel	No	-	Temporary	Access to ROW south of large wetland complex	
AR-023	32.20	Carbon	3,280	Existing	15	Paved and gravel	No	-	Temporary	Access to ROW north of Mud Run during pre-clearing activities, i.e. survey	
AR-024	34.06	Carbon	91	Existing	15	Gravel	No	-	Temporary	Construction access across adjacent line from Balsam Drive	
AR-025	42.01	Carbon	194	Existing	15	Gravel	No	-	Temporary	Construction access	
AR-026	44.61	Carbon	280	Existing	15	Gravel/trail	No	-	Temporary	Access to ROW that minimizes impact to Hunter Creek	
AR-027	46.12	Carbon	1,435	Existing	15	Gravel	No	-	Temporary	Access to ROW in remote area	
AR-028	49.05	Carbon	3,360	Existing	15	Gravel and forest	Yes	1,019	Temporary	Access to ROW in a steep area	

Road No.	MP	County	Length	New/ Existing	Width	State*	Improvement Needed	Improvement Distance	Temporary/ Permanent	Justification	Note
AR-029	54.25	Northampton	791	Existing	15	Gravel and dirt road	No	-	Temporary	Access to ROW south of tributary to Hokendauqua Creek	
AR-030	57.30	Northampton	844	Existing	15	Paved	No	-	Temporary	Access to ROW that minimizes impact to Monocacy Creek	
AR-031	65.51	Northampton	119	new	15	Farmer's field	Yes	119	Temporary	Access to ROW in congested area	
AR-032	65.92	Northampton	58	New	15	Farmer's field	Yes	58	Temporary	Access to ROW in congested area	
AR-033	67.79	Northampton	1,995	Existing	15	Gravel	No	-	Temporary	Access to north side of Lehigh River HDD	
AR-034	68.30	Northampton	2,216	Paritally existing	15	Forest and jeep trail	Yes	1,345	Temporary	Access to south side of Lehigh River crossing	
AR-035	68.33	Northampton	463	Existing	15	Paved	No	-	Temporary	Access to south side of railroad crossing	
AR-036	68.56	Northampton	96	Existing	20	Paved and gravel	No	-	Permanent	UGI-Leh Interconnect access	
AR-037	69.25	Northampton	634	Existing	15	Gravel	No	-	Temporary	Access to south side of Interstate 78 HDD	
AR-038	71.35	Northampton	1,487	Paritally existing	20	Paved and forest	Yes	533	Permanent	TCO Interconnect access	
AR-039	75.13	Hunterdon	412	Existing	15	Paved	No	-	Temporary	Access to south side of Delaware River HDD	
AR-040	76.38	Hunterdon	1,604	New	20	Dirt path	Yes	1,604	Permanent	Mainline valve and Etown Interconnect access	
AR-041	80.18	Hunterdon	1,412	Existing	15	Paved and gravel	No	-	Temporary	Acces ROW that minimizes impact to tributary to Hakihokake Creek	
AR-042	82.42	Hunterdon	1,752	Existing	15	Dirt path	No	-	Temporary	Access to ROW in remote area	
AR-043	83.36	Hunterdon	967	Existing	15	Dirt path	No	-	Temporary	Access to ROW that minimizes impact to tirbutary to Harihokake Creek	

Road No.	MP	County	Length	New/ Existing	Width	State*	Improvement Needed	Improvement Distance	Temporary/ Permanent	Justification	Note
AR-044	84.15	Hunterdon	1,291	Existing	15	Gravel	No	-	Temporary	Access to ROW that minimizes impact to Harihokake	
AR-045	86.83	Hunterdon	1,578	Paritally existing	15	Gravel and dirt road	Yes	532	Temporary	Access to ROW in remote area	
AR-046	98.21	Hunterdon	2,218	Existing	20	Dirt road	Yes	1,991	Permanent	Algonquin and Tetco Interconnect access	
AR-047	99.90	Hunterdon	690	Existing	15	Gravel	No	-	Temporary	Access to ROW for preliminary activities	
AR-048	106.65	Mercer	968	Existing	15	Paved	No	-	Temporary	Access to south side of railroad HDD	
AR-049	108.27	Mercer	518	Existing	15	Paved	No	-	Temporary	Access to south side of Stony Brook HDD	
AR-050	108.80	Mercer	315	New	20	Grass	Yes	315	Permanent	Transco Interconnect access	
24” Hellertown Lateral											
AR-051		Northampton	291	New	20	Grass	Yes	291	Permanent	Access to lateral	

Pipeyards and Wareyards

The number and location of five pipeyards is currently under consideration for the Project. Table 1.3-3 lists the pipeyards, location, current land use and modification, if any, and size. Total land requirements for these temporary and other associated facilities are presented on Table 1.3-1.

Table 1.3-3
Proposed Pipeyards in Pennsylvania and New Jersey

Facility Name	Municipality / County	Latitude, Longitude	Land use	Proposed Modification	Acreage
	Jenkins/Luzerne	Information forthcoming			
	Kidder/Carbon	Information forthcoming			
	Upper Nazareth/Northampton	Information forthcoming			
	Delaware Township/ Hunterdon	Information forthcoming			
	TBD	To Be Determined			

1.3.2 Aboveground Facilities

Aboveground facilities associated with the Project will include one new compressor station. The proposed compressor station location is presently undeveloped land and will require full site preparation. Table 1.3-4 summarizes the land requirements for construction and operation of the compressor station associated with the Project. Appendix B (Volume IV) provides preliminary site-specific plot plans for aboveground facilities proposed by PennEast.

Table 1.3-4
Land Requirements For Aboveground Facilities

Facility	Property Size (acres)	Land Disturbed Temporarily During Construction (acres)	Land Required Permanently for Operation (acres)
UGI HAZ Compressor Station	47.7		

1.4 Cumulative Impacts

A cumulative impact analysis has been conducted to identify and describe the potential effects that may result from the proposed Project. The cumulative impact analysis addresses the Council on Environmental Quality (CEQ) guidelines (CEQ, 1979) based on recent court rulings. To be included in the cumulative impacts analysis, an action must meet the following three criteria:

- Impact a resource area identified as a potentially affected area by the proposed Project;
- Cause this impact to occur within all, or part of, the Project geography; and
- Cause this impact to occur within all, or part of, the time span for the proposed Project.

The cumulative impact analysis makes use of the Project counties within Pennsylvania and New Jersey as the Project geography to be considered; to restate, these include Luzerne, Carbon, Northampton, and Bucks Counties in Pennsylvania, and Hunterdon and Mercer Counties in New Jersey. Moreover, given the proximity of the Project to several adjacent counties, the Project has included in the cumulative impact analysis portions of Monroe County, Pennsylvania and Warren County, New Jersey that are within 0.6 miles from the Project centerline. These areas represent the locations where the greatest potential for impacts may occur.

A desktop study was conducted to identify all existing, planned or inactive natural gas wells within ½ mile of the proposed PennEast Pipeline. Research indicated that there is only one planned well pad within ½ mile, and it is located within Luzerne County. No other natural gas wells are within ½ mile of the PennEast Project. In fact, the closest gas well to the PennEast project is over five miles away.

The PennEast cumulative impacts assessment is also based on information about major projects that has been obtained from resources that include: Planning Commissions and County and Municipal Departments, available Transportation Improvement Plans, meeting minutes and communications with county staff, input provided at Project Open Houses, and industry sources. The discussions and research included requests for information on major projects that are recently completed, presently on-going, and planned and/or approved for implementation. The findings of this research are outlined in Table 1.4-1.

Land uses in the immediate Project area associated with the ROW are, in order of dominance, primarily forested lands, agriculture, developed land, and shrubland. The analysis determined that there are three transportation, two industrial, and eight large-scale commercial or residential development projects associated with the Project area.

Examples of major projects near the PennEast Project include: Earth Conservancy land development, Mercer Crossings, and Blue Ridge development. Commercial development projects represent the majority of larger impact activities and include such efforts as Commercial, residential, and urban renewal improvements. The PennEast Project will cross through the Blue Ridge land development as well as a portion of the Earth Conservancy land development.

Potential cumulative impacts may include increased sediment into nearby wetlands and waterbodies, increased traffic due to lane or road closures, impacts to businesses, noise impacts from heavy machinery and construction, decreased air quality, removal of natural trees and vegetation, spread of invasive species, impacts to wildlife and fisheries, and impact to visual resources.

Cumulative impacts to the above mentioned resources can be minimized through the use of BMPs. Potential cumulative impacts that may be associated with the proposed Project and the associated mitigation actions, as necessary, are discussed in detail within each of the applicable resource reports.

Table 1.4-1
Projects for Cumulative Impacts Analysis

Project Type – Name	Description	Address, Township, State	Closest Milepost	Approx. Distance/Direction	Current Status and Schedule
Luzerne County, PA					
Earth Conservancy (EC) land development (1000+ acres)	Reclaimation and sustainable development of former coal mining land, including open space and recreational areas	101 S Main St , Ashley, Luzerne County, PA	MP 7.9	Pipeline crosses property South of MP 7.9	Ongoing
2013-2016 Transportation Improvement Plan (TIP)	Plan including funding for multiple transportation improvement plans throughout Luzerne County, including road repaving and bridge improvements. Administered by Luzerne County Transportation Authority (LCTA)	315 Northamption Street, Kingston, PA	Potentially MP 1 - 21		Funded and ongoing; will require further research with PennDOT/LCTA
County has implemented Industrial/Business Park Incentive Program (Could not find specific projects)	Authorization for tax breaks for eligible manufacturing, 501 C 3 non-profit organizations, and "exempt" issues such as water and sewer utility facilities. The IDA is empowered to be the issuer or applicant of certain economic development related programs permitted by the Internal Revenue Code and the Economic Development Law and Commonwealth of Pennsylvania.	200 North River Street, Wilkes-Barre, PA	MP 0 -22.4	N/A	Ongoing program
Stauffer Pointe Condominium Project	HUD-funded affordable condominium planned project	34 Grandview Dr, Pittston Township, PA	Pittston Twp near MP 11.5	4.4 miles Northeast	Construction ongoing-occupancy expected 2015
Rehabilitation and Reuse of Market Street Square Property	Redevelopment of Market Street Square complex	33 S. Wilkes-Barre Blvd, Wilkes-Barre, PA	MP 9.5	5.5 miles Southwest	Requesting proposals

Project Type – Name	Description	Address, Township, State	Closest Milepost	Approx. Distance/Direction	Current Status and Schedule
Carbon County, PA					
Combined Heat and Power (CHP) Plant at Blue Mountain	Combined heat and power plant by Tuthill Corporation, funded by Pennsylvania Energy Development Authority (PEDA)	Blue Mountain Dr. Construction is at intersection of PA Turnpike and PA-903, Palmerton, PA	MP 46.7	4.5 miles Southwest	Expected completion in 2016
Turnpike Exit in Penn Forest Township to Route 903	EZ-Pass only exit off Pennsylvania Turnpike	Penn Forest Township, PA	MP 34.3	0.5 miles East	Expected completion Fall 2014
Blue Ridge	Real estate company specializing in resort residential communities in the Poconos Mountains; properties include Jack Frost National Golf Course	Mosey Wood Rd (Corporate office), Blakeslee, Kidder Township, PA	MP 25.7 - 28.2	Pipeline crosses Blue Ridge property	Company continues to develop residential and tourism facilities in area
Northampton County, PA					
Lehigh River Eastern Gateway Redevelopment	Commercial development of Lehigh River waterfront	B10 East Church Street, Bethlehem, PA	MP 67.8	5 miles west	Planning stage
Easton Waterfront Development	Plan for revitalizing Easton Waterfront, focusing on Central Business District, including increased housing development, redevelopment of existing buildings, attracting retail.	Throughout downtown Easton Central Business District. Easton, PA	MP 65.5	5. 8 miles East	No further information found
Hunterdon County, NJ					
NJ Route 31 Expansion	Plan developed by NJDOT to build parkway system and expand street networking to Route 31 throughout Raritan Township and Fleming Borough.	Throughout Raritan Township and Fleming Borough, NJ	MP 93.6	8 miles East	Currently in development stage

Project Type – Name	Description	Address, Township, State	Closest Milepost	Approx. Distance/Direction	Current Status and Schedule
Mercer County, NJ					
Ewing Town Center Redevelopment Project	Plan to redevelop closed General Motors facility with 1000 housing units and 115,000 square feet of retail/commercial space	Parkway Avenue, Ewing Township, NJ	108.8	6 miles Southwest	Plan made public Jan. 2014; no current schedule
Mercer Crossings Redevelopment Project	Plan to revitalize Mercer Crossings area through development of housing options and transit improvement projects	Ewing Township, Lawrence Township, Trenton, NJ	108.8	6 miles South	Plan made public Jan. 2007; current grant with AECOM to engineer new traffic designs for area were presented to public in 2009

1.5 Construction and Restoration

1.5.1 Standard Construction Methods

The proposed PennEast Project will be constructed in compliance with applicable specifications, federal regulations and guidelines, and the Project specific permit conditions (Section 1.7).

Construction and restoration techniques to be used will be those typical for cross-country and residential construction. The E&SCP (Appendix E) provides detail of such techniques and mitigation measures that will be used for the Project. Additional construction techniques and measure that will be employed are provided in the Spill Prevention, Control, and Countermeasure (SPCC) Plan (Appendix H).

The Project E&SCP is consistent with the FERC's Upland Erosion Control, Revegetation, and Maintenance Plan (May 2013 version) and Wetland and Waterbody Construction and Mitigation Procedures (May 2013 version).

Construction of the PennEast Pipeline will follow standard construction practices and will typically involve numerous divisions of the pipeline (spreads) with crews progressing work along the ROW within each spread in an ordered fashion. The PennEast Project anticipates division of the PennEast Pipeline Route into five spreads. Typically survey crew will begin the operations by demarcating the pipeline centerline and construction work area (CWA) along the ROW. Winter tree clearing may be employed in areas with sensitive habitat. Clearing, grading, trenching, and other crews follow capped off by the finish cleanup crew who complete the process. Crews most frequently progress in close sequence to facilitate orderly progress, minimize the active construction spread size, and expedite restoration efforts.

Pipeline construction generally involves the following sequential operations which are discussed in more detail in the E&SCP (Appendix E).

Pipeline Construction - Typical Sequential Operation Steps:

1. Survey/demarcate the route and approved workspace.
2. Centerline survey of existing or proposed pipelines.
3. Clearing – remove vegetation from CWA; installation of erosion and sediment controls.
4. Additional protection of adjacent pipeline, as necessary; grading to establish safe workspace; completion of installation of erosion and sediment controls.
5. Trenching - pipeline trench excavation to design depths.
6. Stringing - placement of pipe joints along the trench line.
7. Bending – bending pipe joints, as needed, for route and terrain.
8. Weld pipe.
9. Pipe integrity - visual inspection, non-destructive examination (NDE) of welds.
10. Weld coating - corrosion protection and waterproofing.
11. Pipe placement - pipe placed in trench, tied to previously laid sections, backfilled.
12. Hydrostatic testing – confirmation of pipeline integrity.
13. In-line tool inspection of new pipeline segments.
14. Tie-in to existing pipeline, purge, pack new section with gas.
15. Grade restore of CWA to previous contours.
16. Final clean-up, restoration, and seeding.

During such operations PennEast will apply dust mitigation measures, as necessary. Such applications will be at the direction of the Contractor Supervisor, Environmental Inspector, and/or the onsite Chief Construction Inspector. Typical measures that may be employed to minimize dust will most commonly be use of water trucks to dampen workspace, if necessary, and particularly roadways to help maintain clear visibility.

Surveying

Prior to construction, survey crews will stake the centerline of the proposed pipeline, foreign line crossings, the limits of the CWA, and the location of approved work access roads. Wetland boundaries and other environmentally sensitive areas will also be re-marked at this time.

Clearing

Clearing includes the removal of trees and brush from the CWA. With the exception of stream buffers and wetlands, tree stumps are removed from the permanent ROW. Stump grinding may be used as an alternative to removal to leave below grade root systems intact to aid in soil stabilization. The stumps are disposed of by approved methods.

Grading

Grading to a relatively level surface allows safe operation of required heavy equipment.

Trenching

Trenches are excavated wide enough to allow safe lowering in of pipe without damage to the coating. Blasting will likely be required in some rocky areas. Excavated material is used as trench backfill.

Stringing

Steel pipe sections or joints in standard 40, 60, or 80-feet lengths are transported (i.e., trucked) to the CWA and strung out along the ROW where they are welded together.

Bending

Pipe joints are bent within tolerances by specialized machinery to maintain the route and ground contours while avoiding damage to the pipe and coating.

Welding Inspections and Non-Destructive Examinations

Fitted pipe is welded together into extended sections (up to ~4,000 feet, terrain dependent). Pipe welding is highly controlled with skilled welders using required, specified techniques. Every weld is inspected visually and subjected to NDE to ensure integrity.

Coating

Specialized coating is applied to every weld joint area following completion of the NDE. Coatings are then electronically checked and repaired, if necessary.

Lowering-In

Pipe lengths are lowered into the trench by specialty “side boom” tractors. Extreme care is taken to protect the coating during the lowering-in process. Lowered pipe is positioned within the trench on sandbag benches (or approved equivalent structures). Connecting ends of the pipe are welded together in the ditch followed by the above inspection and coating process.

Backfill

Following lowering-in, the trench and pipeline are backfilled. A bedding layer of rock-free pad dirt is placed first to protect the pipe and coatings. Final backfill makes use of material excavated from the trench.

Hydrostatic Testing

Completed sections of pipeline are further tested using water pressure. Pipes are filled with water and then pressurized to levels higher than the maximum operating pressure designated for the pipeline. The pressure test is held for a minimum of eight hours to be in compliance with U.S. Department of Transportation (USDOT) regulations.

Waterbody Crossings

Various methods are and will be used to cross streams and rivers and are described in Section 1.5.2 and Appendices C and E.

Cleanup and Restoration

Cleanup and restoration commence as soon as practicable following completion of backfilling and testing. These activities include replacing grade cuts to original contours, seeding fertilizing, and mulching to restore ground cover and minimize erosion. Temporary workspaces are stabilized for their natural reversion toward their previous state.

1.5.2 Specialized Construction Methods

Streams and Rivers

PennEast is evaluating numerous methods for pipeline construction, particularly as it relates to traversing the numerous waterbodies (summarized in Resource Report 2). This evaluation includes consultations with the U.S. Fish and Wildlife Service (USFWS), Pennsylvania Department of Environmental Protection (PADEP), New Jersey Department of Environmental Protection (NJDEP), and the U.S. Army Corps of Engineers (USACE), among others. PennEast proposes to cross waterbodies with flow at the time of construction using a combination of horizontal directional drilling (HDD), bores, and dry-crossing methods, as described below. At this time no open cut crossings are proposed. Major waterbody crossing construction methods are discussed in further detail below.

Generally during crossings, the full width of the construction ROW will be used on either side of the waterbody for construction staging and pipeline fabrication the pipeline. Extra temporary construction workspace may be required in some situation and will be located in upland areas a minimum of 50 feet from the waterbody; whenever possible; certain crossing may require extra workspace in closer proximity to the waterbody.

Equipment

During clearing and grading activities, temporary bridges will be constructed across all waterbodies to permit construction equipment to cross. Construction equipment will be required to use the bridges, except the clearing crew who will be allowed one pass through the waterbodies before the bridges are installed. Bridges and supports will be removed after restoration is complete. If bridges are not installed at state-designated fishery streams, equipment will be required to move around the waterbodies to gain access to the other side.

In general, equipment refueling and lubricating will take place in upland areas that are more than 100 feet from the edges of streams and rivers and their associated wetlands. There may be certain instances where equipment refueling and lubrication may be necessary in or near streams and rivers. For example, stationary equipment, such as water pumps for hydrostatic test water, may need to be operated continuously on the banks of waterbodies and may require refueling in place. PennEast has prepared a SPCC Plan to address the handling of fuel and other materials in or within 100 feet of waterbodies. The SPCC Plan to be utilized during construction is included in Appendix H.

Clearing

Clearing will involve the removal of trees and brush from the construction ROW and temporary construction workspace. Woody vegetation will be cleared to the edge of the waterbodies, but a 10-foot-long herbaceous strip will be left on the approaches until immediately before construction to provide a natural sediment filter and minimize the potential for erosion immediately adjacent to the waterbodies. Initial grading of the herbaceous strip will be limited to the extent needed to install bridges and in areas that are needed to construct the pipeline safely where large grade cuts are necessary.

During clearing where possible and during grading, sediment barriers will be installed and maintained adjacent to waterbodies and within temporary construction workspaces, where needed, to minimize the potential for sediment runoff. Drivable berms may be installed and maintained across the ROW in lieu of silt fence or straw bales.

Construction

PennEast will follow the timing restrictions identified by the Pennsylvania Fish and Boat Commission (PFBC). There is a March 1 to June 15 timing restriction for PFBC approved trout waters, and an

October 1 to December 31 timing restriction for PFBC designated wild trout waters. The Chapter 93 "TSF" designation does not carry any timing restrictions. The approved trout water timing restrictions only apply to the stocked portions of the waterbody and any unnamed tributaries within 0.5 mile of the stocked portions. These timing restrictions do not apply to unnamed tributaries outside of the 0.5 mile of the stocked streams. The timing restriction for PFBC wild trout waters applies to the entire reach of any stream within the designated watershed.

The PFBC considers **"**in-stream construction" to consist of any impacts to the streambed/bank or flowing water below the top of bank, which would include the installation of a utility line dry crossing. The PFBC has confirmed that the installation of a temporary equipment bridge that spans from bank to bank, or any pre-blasting required outside of the top of banks, would not be subject to the timing restrictions.

Pre-Blasting In Streams

PennEast is proposing that during the ditching activities, all streams that contain solid rock be drilled and blasted. An application for a Permit for Use of Explosives in Commonwealth Waters will be filed with the PFBC. Any blasting activities will be completed in accordance with the E&SCP. The ditch crew will drill the stream banks with a rock drill to determine if rock will be encountered. Should the test holes determine the area will need to be shot or blasted, the crew will continue to prepare the ditch line area for blasting. Upon completion of blasting, the crew will ensure that the stream bottom is restored to prevent interference with the flow. Once the mainline tie-in crews move to the area the stream will be excavated and installed in accordance with the E&SCP. The stream pre-blasting activities will reduce the duration of stream disturbance and enable the contractor to meet the timing restrictions for in-stream disturbance.

Flume Crossing Method

PennEast may choose to cross specific waterbodies by using the flume crossing method. The flume crossing method involves diverting the flow of the stream across the construction site through one or more flume pipes placed in the stream (see E&SCP). The first step in the flume crossing method involves placing a sufficient number of adequately sized flume pipes in the stream to accommodate the highest anticipated flow during construction. After placing the pipes in the stream, sand or pea gravel bags will be placed in the stream upstream and downstream of the proposed trench. The bags serve to dam the stream and divert the stream flow through the flume pipes, thereby isolating the stream flow from the construction area.

Backhoes located on both banks of the stream will excavate a trench under the flume pipe in the isolated streambed. Spoil excavated from the stream trench will be placed or stored a minimum of 10 feet from the edge of the waterbody for temporary storage. Once the trench is excavated, a pre-fabricated segment of pipe will be installed beneath the flume pipes. The trench will then be backfilled with native spoil from the streambed. Clean gravel or native cobbles will be used to backfill the top 12 inches of the trench in coldwater fisheries.

If trench dewatering is necessary near waterbodies, the trench water will be discharged into an energy dissipation/sediment filtration device, such as geotextile filter bag or straw bale structure, away from the water's edge to prevent heavily silt-laden water from flowing into the waterbody.

Dam and Pump Crossing Method

PennEast may choose to cross specific waterbodies by using the dam and pump crossing method. The dam and pump crossing method involves constructing temporary sand or pea gravel bag dams upstream and downstream of the proposed crossing site while using a high capacity pump to divert water from the upstream side around the construction area to the downstream side (see E&SCP). Energy dissipation devices, such as steel plates will be placed on the downstream side at the discharge point to prevent streambed scour.

After installing the dams and commencing pumping, a portable pump (separate from that pumping the stream flow around the construction area) may be used to pump standing water from between the dams into a dewatering structure consisting of straw bales/silt fence or into a filter bag located away from the stream banks, thereby creating a dry construction area.

Once the area between the dams is stable, backhoes located on both banks will excavate a trench across the stream. Spoil excavated from the trench may be stored in the dry streambed adjacent to the trench if the stream crossing is major or in a straw bale/silt fence containment area located a minimum of 10 feet from the edge of the stream banks. Leakage from the dam, or subsurface flow from below the streambed, may cause water to accumulate in the trench. As water accumulates in the trench, it may be periodically pumped out and discharged into a dewatering structure located away from the stream banks.

After trenching across the streambed is completed, a prefabricated segment of pipe will be installed in the trench. The streambed portion of the trench is immediately backfilled with streambed spoil. Once restoration of the streambed is complete, the dams are removed and normal flow is re-established in the stream.

Restoration

Completed stream crossings using the flume or dam and pump methods will be stabilized before returning flow to the channel. Original streambed and bank contours will be re-established, and mulch, jute thatching, or bonded fiber blankets will be installed on the stream banks. Where the flume technique is used, stream banks will be stabilized before removing the flume pipes and returning flow to the waterbody channel.

Seeding of disturbed stream approaches will be completed in accordance with FERC's *Plan* and *Procedures* after final grading, weather and soil conditions permitting. Where necessary, slope breakers will be installed adjacent to stream banks to minimize the potential for erosion. Sediment barriers, such as silt fence and/or straw bales will be maintained across the ROW until permanent vegetation is established. Temporary equipment bridges will be removed following construction.

The use of HDD crossings are currently planned for the following locations:

Table 1.5-1
Horizontal Directional Drilling

Location/Feature	Mile Post
US Hwy 81 / St. Hwy 315	10.1
Wild Creek (Beltzville Lake)	43.0
Pohopoco Stream (Beltzville Lake)	43.5
Lehigh River	68.2
US Hwy 78	69.0
Delaware River	74.8

Additional HDDs will be considered as we evaluate mitigation measures related to wetlands and other environmentally sensitive areas of concern.

Major Waterbody Crossings

There are 4 major waterbody crossings associated with the Project: the Susquehanna River, the Lehigh River, Beltsville Lake and the Delaware River. PennEast is conducting ongoing evaluations of the different construction methods for each of the crossings. A team of engineers, environmental scientists, construction personnel and land agents conducted joint field investigations and reviewed each of the crossing areas. The Susquehanna River crossing is bordered by an Airport and flood-control berm to the south and a newly constructed highway bridge to the north. The crossing area is in proximity to the historic 1959 Knox Mine disaster where the river bed collapsed into the mine. The crossing area is being carefully evaluated for historic mine shafts and debris. Until further studies are completed the final crossing technique cannot be determined. Two other pipeline crossings in the area used open cut methodology with a diversion of the river channel on the other side of an island during construction so that the crossing was essentially done in the dry. An HDD is also being evaluated.

Preliminary studies indicate that the Lehigh River, Beltzville Lake and the Delaware River can each be crossed using a bore or HDD. Geotechnical investigations will confirm these plans. Initial discussions with the USACE indicate that they are supportive of the general location of the Beltzville crossing and additional coordination and studies will be necessary.

PennEast has an unanticipated release plan that will be included with the FERC filing and environmental permit applications for review and implementation as necessary.

Wetlands

Wetland construction will be done in accordance with FERC's Wetland and Waterbody Crossing *Procedures* as well as applicable BMPs required by the PA DEP, NJ DEP and County Conservation Districts. In addition, PennEast will follow the SPCC Plan, E&SCP provided in the Appendices as well as specific PA and NJ permit conditions.

Other Utilities

The preliminary surveys indicate that foreign pipelines and utilities are present in a number of locations. Locations will be identified during surveys and marked on Alignment Sheets. In addition, prior to construction 811 calls will be made so that the locations can be properly marked in the field.

Rugged Topography

PennEast will cross 56 areas of rugged topography totaling 3.35 miles.

Table 1.5-2

Rugged Topography

Row ID	Mile Post Start	Mile Post End	Distance (feet)
1	0.57	0.59	105.6
2	2.3	2.32	105.6
3	3.35	3.37	105.6
4	3.6	3.65	264
5	3.19	3.28	475.2
6	5.06	5.13	369.6
7	5.27	5.28	52.8
8	10.51	10.56	264
9	10.64	10.65	52.8
10	12.35	12.41	316.8
11	13.55	13.56	52.8
12	13.69	13.78	475.2
13	22.15	22.16	52.8
14	22.18	22.25	369.6
15	22.04	22.12	422.4
16	22.51	22.63	633.6
17	23.18	23.24	316.8
18	32.55	32.58	158.4
19	38.61	38.68	369.6
20	38.75	38.77	105.6
21	39.51	39.53	105.6

Row ID	Mile Post Start	Mile Post End	Distance (feet)
22	39.74	39.8	316.8
23	39.59	39.6	52.8
24	43.09	43.12	158.4
25	43.97	44.01	211.2
26	44.68	44.83	792
27	45.01	45.05	211.2
28	47.8	47.84	211.2
29	47.96	47.98	105.6
30	48.87	48.97	528
31	49.12	49.17	264
32	50.65	50.67	105.6
33	52.93	52.95	105.6
34	49.98	50.61	3326.4
35	56.63	56.64	52.8
36	56.72	56.84	633.6
37	57.43	57.47	211.2
38	68.03	68.12	475.2
39	68.37	68.41	211.2
40	71.4	71.47	369.6
41	75.2	75.23	158.4
42	80.05	80.08	158.4
43	80.53	80.56	158.4
44	80.43	80.48	264
45	77.73	77.78	264
46	80.72	80.74	105.6
47	77.26	77.27	52.8
48	76.62	76.79	897.6
49	78.26	78.46	1056
50	84.05	84.07	105.6
51	85.02	85.04	105.6
52	84.9	84.96	316.8
53	85.73	85.74	52.8
54	85.63	85.67	211.2
55	94.46	94.51	264
56	104.03	104.05	105.6
Total Distance (feet)			**17,688**
Total Distance (miles)			**3.35**

Residential or Commercial

During the next phase of the project, the construction workspace will be laid out. With the project footprint defined, field surveys will be made at locations where structures are in close proximity of the foot print. All residential or commercial properties where structures are within 50 feet of the pipeline, site specific drawings will be created.

Active Croplands

Table 8.1-1 provides an accumulated total of active croplands (agricultural lands) crossed by the Project. Active croplands observed during field surveys conducted to date include corn, soybeans, and hay fields.

Road Crossings

The Project will cross a total of 243 roadways. Table 1.5-3 provides the name, type, location by MP, and anticipated crossing method of these roadways.

Table 1.5-3
Roadways Crossed by the Project

Project Components	Mile Post	Roadway Name	Roadway Type A, G, D, C[1]	Jurisdiction F, S, T, C, I N, U[2]	Construction Method B, OC, HDD[3]
PA Crossing	0.5	Wyoming Interconnect Access Rd	G	U	OC
PA Crossing	0.64	Lower Demunds Rd	A	U	B
PA Crossing	1.1	Gypsy Lane	G	N	OC
PA Crossing	1.59	Manor Drive	A	S	B
PA Crossing	2.1	Green Rd	A	T	B
PA Crossing	3.01	Carverton Rd	A	S	B
PA Crossing	3.47	Bunker Hill Rd	A	T	B
PA Crossing	3.69	Tower Access Rd	G	U	OC
PA Crossing	4.17	Reggie Lane	G	U	OC
PA Crossing	4.24	Asphalt Driveway	A	U	B
PA Crossing	4.46	Access Road	G	U	OC
PA Crossing	5.35	Asphalt Driveway	A	N	B
PA Crossing	5.4	Asphalt Driveway	A	S	B
PA Crossing	5.42	Shoemaker Avenue	A	S	B
PA Crossing	5.46	Driveway	G	U	OC
PA Crossing	5.96	Swetland Lane	A	N	B
PA Crossing	6.35	Sunset Drive	A	U	B
PA Crossing	6.44	Wyoming Ave / Hwy 11	A	S	B
PA Crossing	6.58	Farm Road	G	U	OC
PA Crossing	7.32	Main Street	A	S	B
PA Crossing	7.41	Farm Road	G	U	OC
PA Crossing	7.92	N Main Street	A	S	B

Project Components	Mile Post	Roadway Name	Roadway Type A, G, D, C[1]	Jurisdiction F, S, T, C, I N, U[2]	Construction Method B, OC, HDD[3]
PA Crossing	7.98	E Saylor Avenue	A	S	B
PA Crossing	8.7	Gravel Road	G	U	OC
PA Crossing	8.95	Gravel Road	G	U	OC
PA Crossing	9.02	Gravel Road	G	U	OC
PA Crossing	9.14	Gravel Road	G	U	OC
PA Crossing	9.18	Gravel Road	G	U	OC
PA Crossing	9.3	Gravel Road	G	U	OC
PA Crossing	9.45	Gravel Road	G	U	OC
PA Crossing	9.52	Railroad	RR	U	B
PA Crossing	9.56	Union Street	A	S	B
PA Crossing	10.09	Hwy 315	A	S	HDD
PA Crossing	10.15	Interstate 81 N/S	A	I	HDD
PA Crossing	10.17	Gravel Road	G	S	OC
PA Crossing	10.42	Gravel Road	G	U	OC
PA Crossing	10.73	Gravel Road	G	U	OC
PA Crossing	10.94	Gravel Road	G	U	OC
PA Crossing	11.01	Hwy 2020 / Jumper Rd	A	S	B
PA Crossing	11.12	Gravel Road	G	U	OC
PA Crossing	11.34	Railroad	RR	U	B
PA Crossing	11.74	Gravel Road	G	U	OC
PA Crossing	12.16	Gravel Road	G	N	OC
PA Crossing	12.2	Gravel Road	G	U	OC
PA Crossing	12.35	Gravel Road	G	U	OC

Project Components	Mile Post	Roadway Name	Roadway Type A, G, D, C[1]	Jurisdiction F, S, T, C, I N, U[2]	Construction Method B, OC, HDD[3]
PA Crossing	12.44	Hwy 2039 / Pittston Boulevard	A	S	B
PA Crossing	12.67	Interstate 476	A	I	B
PA Crossing	12.72	Gravel Road	G	U	OC
PA Crossing	13.8	Wind Turbine Access Road	G	N	OC
PA Crossing	17.17	Hwy 2038 / Meadow Run Rd	A	S	B
PA Crossing	18.07	Abandoned Railroad	G	U	OC
PA Crossing	19	Hwy 115 / Wilkes Barre and Easton Rd	A	S	B
PA Crossing	20.53	Gravel Road / Trail	D	U	OC
PA Crossing	20.72	Gravel Road / Trail	D	U	OC
PA Crossing	21.22	Gravel Road	G	U	OC
PA Crossing	21.88	Abandoned Railroad	G	U	OC
PA Crossing	21.96	Gravel Road / Trail	D	U	OC
PA Crossing	22.06	Abandoned Railroad	G	U	OC
PA Crossing	23.57	Gravel Road / Trail	D	U	OC
PA Crossing	23.94	Gravel Road / Trail	D	U	OC
PA Crossing	24.41	Gravel Road / Trail	D	U	OC
PA Crossing	25.78	Hwy 940	A	S	OC
PA Crossing	26.35	Interstate 80	A	I	B
PA Crossing	26.42	Gravel Road	G	N	OC
PA Crossing	27.26	Gravel Road / Trail	D	U	OC
PA Crossing	28.32	Gravel Road / Trail	D	U	OC
PA Crossing	28.53	Gravel Road / Trail	D	U	OC
PA Crossing	28.63	Gravel Road / Trail	D	U	OC

Project Components	Mile Post	Roadway Name	Roadway Type A, G, D, C[1]	Jurisdiction F, S, T, C, I N, U[2]	Construction Method B, OC, HDD[3]
PA Crossing	31.15	N Old Stage Rd	A	T	B
PA Crossing	31.42	Gravel Road	G	U	OC
PA Crossing	31.65	Hwy 534	A	S	B
PA Crossing	32.98	Hwy 903	A	S	B
PA Crossing	34.06	Balsam Rd	G	N	OC
PA Crossing	34.55	Red Wood Drive	A	N	B
PA Crossing	35.13	T743	A	T	B
PA Crossing	36.18	Abandoned Railroad	G	U	OC
PA Crossing	36.94	Gravel Road / Trail	D	U	OC
PA Crossing	37.29	Reservoir Road	A	S	B
PA Crossing	39.23	Gravel Road / Trail	D	U	OC
PA Crossing	40.15	Forest Street	G	N	OC
PA Crossing	40.25	Forest Street	A	T	B
PA Crossing	40.3	Gravel Road / Trail	D	U	OC
PA Crossing	40.43	Woods Way	D	U	OC
PA Crossing	40.48	Gravel Road / Trail	G	U	OC
PA Crossing	41.24	Towamensing Rd	A	N	B
PA Crossing	41.55	Lovitt Rd	A	T	B
PA Crossing	42.02	Gravel Road / Trail	G	N	OC
PA Crossing	42.32	T437B	A	T	B
PA Crossing	42.62	Pohopoco Drive	A	T	B
PA Crossing	43.34	Penn Forest Rd	A	N	B
PA Crossing	44.05	Hwy 209 / Interchange Rd	A	S	B

Project Components	Mile Post	Roadway Name	Roadway Type A, G, D, C[1]	Jurisdiction F, S, T, C, I N, U[2]	Construction Method B, OC, HDD[3]
PA Crossing	44.65	Spruce Hollow Rd	A	S	B
PA Crossing	44.87	Log Fence Rd	A	T	B
PA Crossing	45.06	Beers Lane	A	T	B
PA Crossing	45.56	Stagecoach Rd E	A	T	B
PA Crossing	46.12	Gravel Driveway	G	U	OC
PA Crossing	46.23	Gravel Driveway	G	U	OC
PA Crossing	46.62	Spruce Rd	A	T	B
PA Crossing	47.84	57 Rd	A	T	B
PA Crossing	48.6	Hwy 3004 / Little Gap Rd	A	S	B
PA Crossing	48.74	Gravel Road / Trail	G	U	OC
PA Crossing	49.19	Hwy 3002 / Lower Smith Gap Rd	A	S	B
PA Crossing	49.78	Gravel Road / Trail	G	U	OC
PA Crossing	51.2	Gravel Driveway	G	U	OC
PA Crossing	51.35	Line Rd	A	T	B
PA Crossing	51.68	Delps Rd	A	T	B
PA Crossing	52.19	Sr 4014	A	S	B
PA Crossing	52.44	Hoch Rd	A	S	B
PA Crossing	53.05	Glase Rd	A	T	B
PA Crossing	53.07	Asphalt Driveway	A	U	B
PA Crossing	53.44	Hwy 946 / Mountain View Drive	A	S	B
PA Crossing	53.87	S Oaks Rd	A	T	B
PA Crossing	53.95	E Walker Rd	A	T	B
PA Crossing	54.25	Farm Road	D	U	OC

Project Components	Mile Post	Roadway Name	Roadway Type A, G, D, C[1]	Jurisdiction F, S, T, C, I N, U[2]	Construction Method B, OC, HDD[3]
PA Crossing	54.68	Valley View Dr	A	S	B
PA Crossing	54.89	Asphalt Driveway	A	U	B
PA Crossing	54.92	W Beersville Rd	A	T	B
PA Crossing	55.27	E Dannersville Rd	A	T	B
PA Crossing	56	Hwy 4027 / Grouse Drive	A	S	B
PA Crossing	56.14	Sr 4006	A	S	B
PA Crossing	56.28	Asphalt Driveway	A	U	B
PA Crossing	56.3	Hatch Gravel Rd	A	T	B
PA Crossing	57.3	Asphalt Driveway	A	U	B
PA Crossing	57.42	Hwy 987 / Monocacy Dr	A	S	B
PA Crossing	57.46	Farm Road	D	U	OC
PA Crossing	57.7	Hwy 512 / Moorsetown Dr	A	S	B
PA Crossing	58.54	Penn Dixie Rd	A	U	B
PA Crossing	59	Hwy 248 / Bath Pike Rd	A	S	B
PA Crossing	59.48	Railroad	RR	U	B
PA Crossing	59.49	Gravel Road	G	U	OC
PA Crossing	59.81	Gun Club Rd	A	T	B
PA Crossing	60.21	Asphalt Road	A	U	B
PA Crossing	60.41	Blossom Hill Rd	A	T	B
PA Crossing	60.87	Georgetown Rd	A	T	B
PA Crossing	61.57	Hwy 946 / Daniels Rd	A	S	B
PA Crossing	62.15	Hwy 191 / Nazareth Bethlehem Pike	A	S	B
PA Crossing	62.22	Gradwohl Switch Rd	A	T	B

Project Components	Mile Post	Roadway Name	Roadway Type A, G, D, C[1]	Jurisdiction F, S, T, C, I N, U[2]	Construction Method B, OC, HDD[3]
PA Crossing	62.92	Newburg Rd	A	S	B
PA Crossing	63.8	Hechtown Rd	A	U	B
PA Crossing	64.7	Hwy 22 / Lehigh Valley Thruway	A	S	B
PA Crossing	64.9	Green Pond Rd	A	S	B
PA Crossing	65.29	Church Rd	A	T	B
PA Crossing	65.44	Hwy 33	A	S	B
PA Crossing	65.97	Asphalt Driveway	A	N	B
PA Crossing	66.05	Hwy 2020 / William Penn Hwy	A	S	B
PA Crossing	66.5	Hwy 33	A	S	B
PA Crossing	66.76	Emrick Blvd	A	T	B
PA Crossing	67.39	Freemansburg Ave	A	S	B
PA Crossing	67.8	Cramers Lane	G	N	OC
PA Crossing	68.12	D & L Trail	D	U	OC
PA Crossing	68.32	Railroad	RR	U	B
PA Crossing	68.33	Redington Rd E	A	U	B
PA Crossing	68.35	Asphalt Driveway	A	U	B
PA Crossing	68.57	Gravel Road	G	S	OC
PA Crossing	68.93	Redington Rd E	A	S	B
PA Crossing	69.05	Interstate 78	A	I	HDD
PA Crossing	69.25	Gravel Road	G	U	OC
PA Crossing	69.33	Lower Saucon Rd	A	S	B
PA Crossing	70.42	Buttermilk Rd	A	T	B
PA Crossing	70.75	Asphalt Driveway	A	U	B

Project Components	Mile Post	Roadway Name	Roadway Type A, G, D, C[1]	Jurisdiction F, S, T, C, I N, U[2]	Construction Method B, OC, HDD[3]
PA Crossing	71.09	Hexenkopf Rd	A	S	B
PA Crossing	71.54	Gravel Road / Trail	G	U	OC
PA Crossing	71.7	Raubsville Rd	A	S	B
PA Crossing	72.28	Durham Rd	A	S	B
PA Crossing	72.39	Gravel Driveway	G	U	OC
PA Crossing	72.8	Farm Road	D	U	OC
PA Crossing	73.09	County Line Rd E	A	T	B
PA Crossing	73.37	Spring Hill Rd	A	T	B
PA Crossing	73.65	Gravel Driveway	G	U	OC
PA Crossing	73.85	Delaware Rd	A	N	B
PA Crossing	74.75	Hwy 611 / Easton Rd	A	S	HDD
NJ Crossing	74.94	Old River Rd	A	T	HDD
NJ Crossing	75.06	Railroad crossing	G	C	HDD
NJ Crossing	75.08	Hwy 627 / Riegelsville Milford Rd	A	C	HDD
NJ Crossing	75.14	Asphalt Driveway	A	U	B
NJ Crossing	75.51	Church Rd	A	T	B
NJ Crossing	76.6	Phillips Rd	A	T	B
NJ Crossing	77.04	Farm Road	D	U	OC
NJ Crossing	77.25	Farm Road	D	U	OC
NJ Crossing	77.27	Crab Apple Hill Rd	A	T	B
NJ Crossing	78.19	Gravel Driveway	G	U	OC
NJ Crossing	78.44	Gravel Road	G	U	OC
NJ Crossing	78.72	Spring Garden Rd	A	T	B

Project Components	Mile Post	Roadway Name	Roadway Type A, G, D, C[1]	Jurisdiction F, S, T, C, I N, U[2]	Construction Method B, OC, HDD[3]
NJ Crossing	79.38	Asphalt Driveway	A	U	B
NJ Crossing	79.52	Hwy 519 / Milford Warren Glen Rd	A	C	B
NJ Crossing	79.53	Asphalt Driveway	A	C	B
NJ Crossing	80.17	Gravel Road	G	U	OC
NJ Crossing	80.52	Javes Rd	A	T	B
NJ Crossing	81.27	Gravel Driveway	G	U	OC
NJ Crossing	81.63	Hwy 519 / Milford Mt. Pleasant Rd	A	U	B
NJ Crossing	81.75	Gravel Road	G	U	OC
NJ Crossing	82.64	Farm Road	D	U	OC
NJ Crossing	82.94	Stamets Rd	A	T	B
NJ Crossing	83.37	Farm Road	D	U	OC
NJ Crossing	84.71	Hwy 513 / Everittstown Rd	A	C	B
NJ Crossing	85.02	Creek Rd	A	T	B
NJ Crossing	85.5	Ridge Rd	A	T	B
NJ Crossing	86.11	Hwy 12 / Frenchtown Flemington Rd	A	S	B
NJ Crossing	86.82	Gravel Road	G	U	OC
NJ Crossing	87.43	Spring Hill Rd	A	T	B
NJ Crossing	88.16	Hwy 519 / Kingwood Rd	A	C	B
NJ Crossing	89.1	Barbertown Point Breeze Rd	A	T	B
NJ Crossing	90.17	Kingwood Locktown Rd	A	T	B
NJ Crossing	90.89	Featherbed Rd	A	T	B
NJ Crossing	91.96	Hewitt Rd	A	T	B
NJ Crossing	92.42	Gravel Road	G	U	OC

Project Components	Mile Post	Roadway Name	Roadway Type A, G, D, C[1]	Jurisdiction F, S, T, C, I N, U[2]	Construction Method B, OC, HDD[3]
NJ Crossing	92.6	Sanford Rd	A	T	B
NJ Crossing	93.65	Hwy 605 / Rosemont Ringoes Rd	A	C	B
NJ Crossing	94.42	Lower Creek Rd	A	T	B
NJ Crossing	94.56	Worman Rd	G	T	OC
NJ Crossing	95.1	Hwy 523 / Sergeantsville Rd	A	C	B
NJ Crossing	95.8	Grafton Rd	A	T	B
NJ Crossing	95.92	Brookville Hollow Rd	A	T	B
NJ Crossing	96.64	Lambertville Headquarters Rd	A	T	B
NJ Crossing	96.9	Hamp Rd	A	T	B
NJ Crossing	97.74	Railroad	RR	U	B
NJ Crossing	97.85	Alexauken Creek Rd	A	T	B
NJ Crossing	98.03	Gravel Road	G	U	OC
NJ Crossing	98.15	Hwy 202	A	F	B
NJ Crossing	98.6	Hwy 179	A	S	B
NJ Crossing	98.65	Mt. Airy Village Rd	A	C	B
NJ Crossing	98.9	Hwy 601 / Mt. Airy Harbourton Rd	A	C	B
NJ Crossing	99.24	Gravel Road	G	U	OC
NJ Crossing	99.9	Gravel Road	G	U	OC
NJ Crossing	100.17	Rocktown Lambertville Rd	A	T	B
NJ Crossing	101.22	Rock Rd E	A	T	B
NJ Crossing	102.25	Lambertville Hopewell Rd	A	C	B
NJ Crossing	102.9	Hwy 579 / Harbourton Rocktown Rd	A	C	B
NJ Crossing	103.75	Harbourton Woodsville Rd	A	T	B

Project Components	Mile Post	Roadway Name	Roadway Type A, G, D, C[1]	Jurisdiction F, S, T, C, I N, U[2]	Construction Method B, OC, HDD[3]
NJ Crossing	103.85	Farm Road	D	U	OC
NJ Crossing	104.42	Gravel Road	G	U	OC
NJ Crossing	104.47	Gravel Road	G	U	OC
NJ Crossing	105.42	Farm Road	D	U	OC
NJ Crossing	105.5	Woosamonsa Rd	A	T	B
NJ Crossing	105.59	Poor Farm Rd	A	U	B
NJ Crossing	106.15	Hwy 31	A	S	B
NJ Crossing	106.34	Railroad	RR	U	B
NJ Crossing	106.65	Moorhead Dr	A	U	B
NJ Crossing	106.8	Farm Road	D	U	OC
NJ Crossing	107.44	Hwy 624 / Peen Rocky Hill Rd	A	S	B
NJ Crossing	107.7	Old Mill Rd	A	U	B
NJ Crossing	108.24	Gravel Driveway	G	U	OC
NJ Crossing	108.25	Gravel Driveway	G	U	OC
NJ Crossing	108.68	Blackwell Rd	A	U	B

[1] A = Asphalt, G = Gravel, D = Dirt, and C = Concrete

[2] F= Federal, S = State, T = Township, C = County, I = Interstate, N = No Jurisdiction, and U = Unknown

[3] B = Bore, OC = Open Cut, and HDD = Horizontal Directional Drilling

Rock Removal and Blasting

Rock encountered during trenching will be removed using one of the following techniques. The technique selected is dependent on relative hardness, fracture susceptibility, expected volume, and location.

Available rock removal techniques include:

- Conventional excavation with a backhoe;
- Ripping with a bulldozer followed by backhoe excavation;
- Pneumatic hammering followed by backhoe excavation;
- Blasting followed by backhoe excavation; and
- Blasting surface rock prior to excavation.

All blasting activity will be performed according to federal and state safety standards.

1.5.3 Aboveground Facilities

The proposed aboveground facilities will be constructed in accordance with industry standards. Appendix B (Volume IV) provides preliminary plans. The duration of construction for the aboveground facilities is approximately seven and a half months. Approximately 75 to 85 workers including subcontractors will be required for construction of the aboveground facilities. The only permanent employees will be located at the proposed Compressor Station.

1.5.4 Environmental Training for Construction

Once the Certificate of Public Convenience and Necessity has been received and the Implementation Plan submitted approved by FERC, Environmental Training will be conducted for all Land Agents, Construction personnel, Environmental Inspectors and Agency personnel that are interested in participating. This training will include an overview of the FERC *Plan and Procedures*, and detailed sessions using the Environmental Permit Notebooks that describe the timing, notification and environmental permit conditions required to be implemented and adhered to at each phase of construction, restoration and mitigation.

1.5.5 Construction Workforce

It is anticipated that five construction spreads will be employed for the PennEast Project. There will be approximately 500 to 575 personnel involved in each spread. In addition, it is planned that there will be a Chief Environmental Inspector as well as 2 Environmental Inspectors (EIs) for each spread. Third-party EIs will also review construction throughout the construction time period.

1.5.6 Abandonment of Facilities

There is no abandonment of facilities required for construction of the proposed facilities.

1.6 Operation and Maintenance Procedures

PennEast will own, operate, and maintain the pipeline, and compressor station and other facilities associated with the Project.

The proposed facilities will be operated and maintained in a manner to ensure that a safe, continuous supply of natural gas reaches each of the delivery points. Maintenance activities will include regularly scheduled ground and overflight surveys. Signs, marker posts, aerial markers, and decals will be painted or replaced to ensure that the pipeline locations will be visible from the air and ground.

The facilities will be patrolled from the air periodically. This will provide information on possible leaks, construction activities, erosion, population density, possible encroachment, and any other potential problems that may affect the safety and operation of the facility. In addition, contractors will adhere to the Dig Safe system. Under the Dig Safe system, anyone planning excavation activities may call a single number to alert all utility companies. Representatives of the utility companies that might be affected then visit the site and mark their facilities so that the excavation can proceed with relative certainty as to the location of all underground lines.

Other maintenance functions will include:

- Mowing of the ROW in accordance with the timing restrictions outlined in FERC's Plan and Procedures;
- Periodic inspection of water crossings and erosion control devices;
- Maintenance of a supply of emergency pipe, leak repair clamps, sleeves, and other equipment needed for repair activities.

No herbicides or pesticides will be sprayed within 100 feet of a wetland or waterbody unless approved by appropriate state and local agencies.

A cathodic protection system for the pipeline and station will be constructed and maintained. Exact locations for both the anode bed(s) and test stations will be determined as PennEast finalizes the design and will be filed with the Draft filing.

In areas where the proposed pipeline parallels high-voltage electric transmission lines, an alternating current mitigation system will be implemented as necessary to reduce stray current, prevent possible shock to personnel during post-construction activities, and prevent interference with the cathodic protection system. This system will be primarily composed of zinc ribbon.

The Project will not require additional permanent staff, new operations offices, or district offices for O&M.

1.6.1 Cleared Areas

A 30 foot cleared area in the 50 foot permanent ROW, in non-wetland resource areas, will be maintained over the centerline of the pipeline. A permanent 10-foot wide cleared corridor will be maintained through wetland resource areas in accordance with FERC's *Plan* and *Procedures*. Maintaining a cleared ROW is required:

- For pipeline patrols and corrosion surveys;
- For emergency repairs of the pipeline are needed; and
- For visibility during aerial patrols.

1.6.2 Erosion Control

Erosion problems on the pipeline ROW will be identified and repaired in accordance with the O&M plan

1.6.3 Periodic Pipeline and ROW Patrols

Erosion control devices will be inspected and maintained, including:

- Stormwater outfalls;
- Water control bars;
- Stream and river banks;
- other conditions that could affect operation of the pipeline.

1.7 Agency and Public Consultations and Required Authorizations

PennEast will obtain all needed permits and licenses relating to the aboveground facilities across or under roads, drainage facilities, waterbodies, wetlands, and through any other sites or places that a governmental license or permit may be required. Table 1.7-1 provides a list of permits and the applicable federal, state, and local agencies. Agency consultations letters to date are included in Appendix G. PennEast will include copies of all relevant environmental permits and approvals in the construction bid packages and contracts. The contractor will be required to be familiar with all permits and licenses obtained by PennEast. The contractor will be also required to comply with all the requirements related to the construction of the aboveground facilities and to the restoration of any areas disturbed by the construction of the certificated facilities.

Table 1.7-1
Required Environmental Permits and Approvals For the Project

Agency	Permit/Approval	Status
FEDERAL		
U.S. Army Corps of Engineers - Philadelphia and Baltimore Districts	CWA Section 404/Section 10 Permit(s) - SPGP4 in Pennsylvania and Delegated to NJDEP in NJ	Initial consultation letter sent 8/12/2014. Project update info. sent 10/24/14. Introduction and coordination meeting held 10/30/14
U.S. Fish and Wildlife Service - Pennsylvania	Endangered Species Act, Section 7 Consultation and Clearance	Initial consultation letter sent 8/12/2014. Project update info. sent 10/24/14. Introduction and coordination meeting held 10/29/14
U.S. Fish and Wildlife Service - New Jersey	Endangered Species Act, Section 7 Consultation and Clearance	Initial consultation letter sent 8/12/2014. Project update info. sent 10/24/14.
National Marine Fisheries Service	Endangered Species Act, Section 7 Consultation and Clearance	Initial consultation letter sent 8/12/2014. Response stating no further consultation necessary received 9/18/14
National Park Service	NPS Consultation and Clearance for National Natural Landmarks, National Trails, and National Historic Sites	Initial consultation letter sent 8/12/2014. Introduction and coordination meeting with National Wild and Scenic Rivers Program managers held 10/1/14. Project update info. sent 10/24/14.
National Resources Conservation Service - Pennsylvania	NRCS Consultation	Not consulted at this time
National Resources Conservation Service - New Jersey	NRCS Consultation	Not consulted at this time
STATE - PENNSYLVANIA		
PADEP (Northeast and Southeast Regional Offices)	• -Joint Permit Application (JPA) for Chapter 105 and Section 404 SPGP-4 • -Section 401 Water Quality Certification (covered under Joint Permit Application approval) • -Hydrostatic Testing Discharge General Permit (PAG-10) • DEP Submerged Lands License	Initial consultation letter sent 8/12/2014. Project update info. sent 10/24/14. Pre-application meeting being arranged for November, 2014.

Agency	Permit/Approval	Status
Pennsylvania Game Commission (PAGC)	T&E Species Consultation and Clearance	Initial consultation letter sent 8/12/2014. Introduction and coordination meeting held 9/25/14. Project update info. sent 10/24/14.
Pennsylvania Fish and Boat Commission (PAFBC)	T&E Species Consultation and Clearance	Initial consultation letter sent 8/12/2014. Project update info. sent 10/24/14. Introduction and coordination meeting held 11/4/14
Pennsylvania Department of Conservation and Natural Resources (PADCNR)	T&E Species Consultation and Clearance	Initial consultation letter sent 8/12/2014. Project update info. sent 10/24/14. Introduction and coordination meeting held 11/4/14
Pennsylvania Historical and Museum Commission (PAHMC)	National Historic Preservation Act, Section 106 Consultation and Clearance	Initial consultation letter received 08/21/2014. Project update info. sent 10/24/14
STATE – NEW JERSEY		
NJDEP	- NJDEP General Permit No. 5G3 (NJ0088323) for Stormwater Discharge Associated with Construction Activity - NJ Wetlands GP or IP - NJ Green Acres	Initial consultation letter sent 8/12/2014. Introduction and coordination meeting held 9/23/14. Project update info. and Permit Readiness Checklist sent 10/24/14.
New Jersey State Historic Preservation Office (NJSHPO)	National Historic Preservation Act, Section 106 Consultation and Clearance	Initial consultation letter sent 8/19/2014. Introduction and coordination meeting held 9/16/14. Project update info. sent 10/24/14.
COUNTY		
Luzerne County Conservation District	ESCGP - 2 for Earth Disturbance NPDES PAG - 10 GP for Hydrostatic Testing Discharge	Initial consultation letter sent 8/21/2014
Carbon County Conservation District	ESCGP - 2 for Earth Disturbance NPDES PAG - 10 GP for Hydrostatic Testing Discharge	Initial consultation letter sent 8/21/2014
Northampton County Conservation District	ESCGP - 2 for Earth Disturbance NPDES PAG - 10 GP for Hydrostatic Testing Discharge	Initial consultation letter sent 8/21/2014
Bucks County Conservation District	ESCGP - 2 for Earth Disturbance NPDES PAG - 10 GP for Hydrostatic Testing Discharge	Initial consultation letter sent 8/21/2014
Hunterdon County Conservation District	ESCGP - 2 for Earth Disturbance NPDES PAG - 10 GP for Hydrostatic Testing Discharge	Initial consultation letter sent 8/21/2014

Agency	Permit/Approval	Status
Mercer County Conservation District	ESCGP - 2 for Earth Disturbance NPDES PAG - 10 GP for Hydrostatic Testing Discharge	Initial consultation letter sent 8/21/2014
Delaware River Basin Commission (DRBC)	NPDES PAG - 10 GP for Hydrostatic Testing Discharge	Initial consultation letter sent 8/21/2014. Introduction and coordination meeting held 9/3/14. Project update info. sent 10/24/14.
Susquehanna River Basin Commission (SRBC)	NPDES PAG - 10 GP for Hydrostatic Testing Discharge	Initial consultation letter sent 8/21/2014. Project update info. sent 10/24/14. Introduction and coordination meeting held 11/6/14.

1.7.1 Agency Consultations

- PennEast has initiated consultation with federal, state, and local agencies regarding the construction of the proposed pipeline in Pennsylvania and New Jersey, to request involvement and encourage agency participation during the pre-filing process. At the Federal level, these consultations have included USACE, USFWS, National Marine Fisheries Service (NMFS), and National Park Service (NPS). At the state level, these consultations have included PADEP, Pennsylvania Game Commission (PGC), PFBC, Pennsylvania Department of Conservation and Natural Resources (DCNR), and Pennsylvania Historical and Museum Commission (PHMC) in Pennsylvania; and NJDEP and New Jersey State Historic Preservation Office (NJSHPO) in New Jersey. At the local level, these consultations have included Luzerne County Conservation District, Carbon County Conservation District, Northampton County Conservation District, Bucks County Conservation District, Hunterdon County Conservation District, Mercer County Conservation District, Delaware River Basin Commission (DRBC), and Susquehanna River Basin Commission (SRBC). Introductory meeting with National Wild and Scenic Rivers PA Board held on 10/1/2014 NPS
- Pre-application meeting being arranged for November, 2014 PADEP and December, 2014 NJDEP
- Consultation meeting held 9/25/2014. PGC
- Coordination meeting held 9/12/2014 NJSADC

1.7.2 Public Participation and Outreach Program

PennEast believes that effective stakeholder engagement is achieved through a consistent, twofold approach of sharing information and listening to feedback. PennEast views such proactive stakeholder engagement as the foundation for earning and building the positive relations critical to responsive business operations. Early and effective engagement of stakeholders ultimately can lead to prompt identification and resolution of issues, resulting in a comprehensive project design and application.

The Project Public Participation Program will continue throughout the life of the Project:

- Informing landowners and other stakeholders about the Project through early public notification and regular communication;
- Sharing fact-based, accurate information;
- Communicating clearly about the proposed Project and its potential impacts;
- Providing timely opportunities for stakeholders to pose questions or express concerns;
- Taking such input into consideration, and as feasible, sharing with stakeholders how their input influenced the Project.

The PennEast outreach team (public affairs and communications), in concert with the overall Project team (e.g. safety, land, environment, engineering, construction, and operations), will plan and implement this Public Participation Program. Elements of the Program include:

1. Identifying stakeholders with whom PennEast will communicate about the Company, the proposed Project and potential impacts to the community and its citizens;
2. Designating a single point of contact;
3. Establishing a website presence; dedicated toll-free phone number; e-mail address; and physical mailing address;
4. Identifying hours PennEast will be available (during work day and weekends);
5. Conducting consultation meetings with elected officials and other community leaders;
6. Hosting open house for landowners, elected officials and other stakeholders;
7. Producing and distributing informational materials; and
8. Supporting on-going outreach throughout the life of the Project, including documentation of issues.

Stakeholder Identification

The Project team has gathered stakeholder contact information for landowners; local, county, commonwealth, state, and federally elected officials and staff; business, community and civic organizations; first responders; homeowner associations; other non-governmental organizations; and media.

Single Point of Contact

Anthony Cox, Manager for the Project, will serve as the single point of contact. Additionally, PennEast has established a project-specific web site; toll-free number; e-mail address; and physical mailing address to facilitate and enhance communication between stakeholders and the Project team. PennEast routinely responds to inquiries within 24 hours Monday through Friday and a maximum of 48 hours Saturdays, Sundays and holidays. The combination of the following resources will help ensure information is accessible to all stakeholders:

Website Address: www.penneastpipeline.com

Toll-free Number: (844) 347-7119

E-mail Address: answers@penneastpipeline.com

Mailing Address: 55 West Street Tunkhannock, PA 18657

Website

The PennEast web site provides information about the Project. It is updated regularly, and specifically, at relevant Project and regulatory milestones. The web site includes:

- Project information
  - Overview
  - Proposed Route Location Map
  - Expected Timeline
- Meeting information
  - News Releases
  - Open houses (dates and locations)
  - Displays
  - Other materials used at meetings
- Informational materials
  - Fact Sheet
  - Answers to frequently asked questions
  - Public participation opportunities
  - Regulatory process descriptions
  - Pipeline Safety
  - Construction procedures
  - A list of public repositories along the proposed route where all project-related information, including project maps, will be available for inspection
  - Route selection process
  - Other information of interest to stakeholders
  - Project newsletters (as applicable)
- Contact information
  - Project toll-free number
  - E-mail address
  - Physical mailing address

- FERC information
  - Link to the FERC web site
  - Project docket
  - FERC landowner brochure
  - Environmental documents issued by FERC

Community Leader Outreach

PennEast has identified community leaders, including local, regional and federal officials, along the proposed route. PennEast has completed one-on-one meetings with many of the elected officials, while others have received initial contact via letter, e-mail and/or phone call to alert them to the proposed Project. PennEast expects to complete in-person outreach meetings before the November open houses. PennEast will identify and conduct outreach with other stakeholders, including first responders and community groups, throughout the FERC Pre-filing Process.

Responses to Requests from Federal and Commonwealth Permitting Agencies

PennEast has identified the requisite federal, commonwealth and state agencies and has conducted initial stakeholder consultations with them. Additionally, PennEast will respond to requests for information from these agencies in a timely manner, providing the most up-to-date and responsive information available. (Exhibit C-1 of the pre-filing contains the list of agencies.)

Open Houses

PennEast plans to host four open houses in the Project area. The open houses are described below in Table 10.7-1. Structured to foster one-on-one discussions with experts in the areas of safety, environment, land, construction, and operations, the open houses will provide stakeholders the opportunity to gain insight about the Project, as well as share their concerns. Project maps and informational materials will be distributed. Open house venues and times will be communicated in the following manner:

- Letter of invitation - landowners will receive a letter of invitation after the pre-filing request is made, as will agency representatives, elected officials and other community leaders
- Advertisements in area newspapers that include the invitation and map
- Advertisements will be published consecutively over the two weeks nearest the open houses;
- News release to local media and on the Project website
- Posting on the Project web site.

Feedback from participants will be documented and integrated into the Project route selection process.

Informational Materials

PennEast will augment its outreach efforts by developing printed materials tailored to address questions and concerns of stakeholders. Though the landowner survey brochure was included in the introductory letter to landowners, it is available now upon request and will be available at the open houses. Fact sheets and question-and-answer documents will be distributed through direct mail, as well as at the open houses, at individual meetings and by request. Updates will be sent to landowners and stakeholders at appropriate Project milestones.

Ongoing Stakeholder Outreach

PennEast will conduct proactive outreach throughout the Project with all interested stakeholders, including landowners, media, elected and public officials and other community leaders.

Documentation

PennEast has established a database and tracking system to ensure stakeholder contacts and issues are documented and addressed timely and accurately. PennEast is making diligent efforts to inform the public about the proposed Project. PennEast sent initial letters to landowners the week of August

11, 2014. Updates were sent to landowners and abutters along the proposed pipeline route where reroutes were implemented to avoid constraints.

Table 1.7 – 1

Open House Schedule

Wilkes-Barre, PA	Monday, November 10 (Luzerne County)	Coughlin High School 80 North Washington Street Wilkes-Barre, PA 18702
Bethlehem, PA	Wednesday, November 12 (Northampton County)	Hanover Township Community Center 3660 Jacksonville Road Bethlehem, PA 18017
New Jersey	Thursday, November 13 (Hunterdon County)	South Hunterdon Regional High School 301 Mt. Airy-Harbourton Road Lambertville, NJ 08530
Palmerton, PA	Tuesday, November 18 (Carbon County)	Aquashicola Volunteer Fire Company 270 Little Gap Road Palmerton, PA 18071

1.8 Landowner Names and Addresses

The proposed Project facilities will affect limited portions of five counties in Pennsylvania and two counties in New Jersey. Updates were sent to landowners and abutters along the proposed pipeline route where reroutes were implemented to avoid constraints. The letter introduced the Project, contained a brochure explaining the survey process and provided the Project contact vehicles, including a toll-free number established specifically for landowners. Abutters, defined as landowners within 1,000' of the 400' survey corridor, received a similar Project introductory letter. Once the proposed compressor station location has been finalized, landowners within one-half mile of the proposed compressor station site will also receive the letter.

PennEast continues to engage landowners through individual discussions and site visits, as well as through response to e-mail inquiries and calls to the toll-free line. To date, PennEast has been granted survey permission by approximately 50% of the Project ROW needing to be surveyed. There are approximately 6 abutting parcels to Penn East's proposed compressor station. Additionally, PennEast sent landowners a letter of invite to the November 2014 open houses. The open houses will provide an opportunity for stakeholders to talk with experts in the fields of safety, environment, land, construction, and operations. Computer mapping services staffed by the Project team's ROW experts will complement poster-sized alignment sheets identifying impacted tracts.

1.9 Future Expansion

There are no plans to expand the PennEast Pipeline beyond its current alignment.

1.10 Proposed Non-Jurisdictional Facilities

At this time the PennEast Pipeline does not anticipate any non-jurisdictional facilities.

1.11 References

Council on Environmental Quality (CEQ). 1979. Memorandum for NEPA Liaisons. *Agency Implementing Procedures Under CEQ's NEPA Regulations*. Washington, DC. January 19, 1979.