



October 20, 2016

Ms. Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street, NE
Washington, DC 20426

Re: *PennEast Pipeline Company, LLC*, Docket No. CP15-558-000
Response to Technical Comments on the Draft Environmental Impact Statement

Dear Ms. Bose:

On July 22, 2016, the staff of the Federal Energy Regulatory Commission (Commission) issued the Draft Environmental Impact Statement (Draft EIS) for PennEast Pipeline Company, LLC's (PennEast) proposed project (Project). On October 12, 2016, PennEast submitted responses to certain of the comments regarding the Draft EIS that have been filed in the above-referenced docket. PennEast hereby submits as Appendix A supplemental responses to certain technical comments on the Draft EIS filed in the above-referenced docket and the pre-filing docket for the Project, Docket No. PF15-1-000. PennEast is submitting these supplemental responses to assist the Commission's review of comments filed on the Draft EIS comment period for preparation of the Final Environmental Impact Statement.

PennEast addressed many environmental issues during the National Environmental Policy Act (NEPA)¹ review of the Project in its pre-filing docket, Docket No. PF15-1-000, and in the certificate proceeding docket, Docket No. CP15-558-000. Accordingly, in Appendix A, PennEast only addresses comments received on the Draft EIS for which PennEast has new or additional information to add to the record to assist the Commission in its NEPA review. In a subsequent filing, PennEast will provide an expert report addressing comments on the Draft EIS related to arsenic issues.

Should you have any questions concerning this filing, please contact me at (610) 406-4322.

Sincerely,
/s/ Anthony C. Cox
Anthony C. Cox
PennEast Pipeline Company, LLC,
By its Project Manager
UGI Energy Services, LLC

cc: Medha Kochhar (FERC)
All Parties of Record

¹ 42 U.S.C. §§ 4321 *et seq.*

Appendix A

**Response to Comments on Select Technical Issues
in the Draft Environmental Impact Statement for
the PennEast Pipeline Project**

Table of Contents

1. Electric Motor-Powered Compressor Alternative	1
2. Groundwater, Wells, and Water Supply Issues	2
a. Identifying Groundwater Wells	2
b. Wellhead Protection Areas (WHPA)	3
c. Source Water Protection Areas (SWPA)	4
d. Swan Creek Reservoir Issues	5
e. Safe Drinking Water Act Compliance	5
f. Direct Impacts to Groundwater	5
g. Analysis of Arsenic Risk	6
h. Contaminated Sites	6
3. Surface Water and Wetlands Issues	6
a. Appropriate Surface Water Protection Levels	6
b. Susquehanna River Crossing	7
c. Avoiding and Minimizing Impacts to Wetlands and Streams	8
d. Impacts to U.S. Geological Survey (USGS) Gaging Stations	8
e. Hydrostatic Water Sources	9
f. Water Quality Impacts from Failed Revegetation Efforts	10
g. Vernal Pools	10
h. Permanent Loss of Wetlands	11
i. Permitting under Section 404 of the Clean Water Act (CWA)	12
4. Fish, Wildlife, and Protected Species	12
a. Efforts to Minimize Impacts to Bird Species	12
b. Adequacy of Species Analysis	12
c. Habitat Survey Methodologies	13
5. Land Issues and Impacts to Special Regions and Resources	14
a. Forest Fragmentation Issues	14
b. Effects Related to the Appalachian National Scenic Trail (ANST) Crossing	14
c. Impacts on Organic Farming	15
d. Impacts on Lands Protected by Conservation Easements	15
e. Impacts in the Highlands Region	16
f. Impacts in the Sourlands Region	16
g. New Jersey Green Acres Program	17
6. Air Quality and Air Permitting Issues	17
7. GHG Issues	18
8. Pipeline Safety Issues	19
a. Issues with Pipeline Class	19
b. Trap Rock Quarry Issues	19
9. Flooding Issues	20
10. Soils and Geology	20
11. Traffic Issues	20
12. Comments on the Cumulative Impacts Analysis	21
a. Blue Mountain Commercial Developments	21
b. Penn Forest Wind Energy Project	21
c. Oil and Gas Development Near the Project	21
13. Mitigation and Monitoring	22

14. Delaware Canal National Historic Landmark Section 106 Consultations 22

Response to Comments on Select Technical Issues

On July 22, 2016, the staff of the Federal Energy Regulatory Commission (“FERC” or “Commission”) issued the Draft Environmental Impact Statement (Draft EIS) for PennEast Pipeline Company, LLC’s (PennEast) proposed project (Project). The following are PennEast’s responses to select technical issues raised in comments on the Draft EIS.

1. Electric Motor-Powered Compressor Alternative

A comment recommends that the Kidder Compressor Station use electric motor-powered compressors instead of natural gas-driven turbines.¹ Section 3.4.2 of the Draft EIS explains that “use of electric motors as an alternative to natural gas-driven compressors would result in higher overall emissions, due to emissions created by generation of the needed electricity.” The net operational emissions increase for use of electric motors is presented in Draft EIS table 4.10.1-7 and explained in the accompanying text. The Draft EIS discussion indicates that the basis of the electrical power emission rates is a National Renewable Energy Laboratory (NREL) 2004 publication, which included source energy emission factors for eastern U.S. power generation that “were adjusted to account for changes in the generation mix and use of emission controls in the PJM regional grid as of 2010.” Based on the increased emissions from the use of electric motors, among other reasons, the Draft EIS adequately evaluated the alternative to use electric motors and concluded that the proposed natural-gas turbines were preferable.

A comment from EPA Region III states that the evaluation of electric motor compression used information for the PJM regional grid system mix by fuel type from 2010, and that information from 2016 should be considered to reflect the recent reductions in air emissions for electric power delivered over the PJM grid.² The referenced 2010 data used in the electric motor alternative analysis in the Draft EIS and in Resource Report 9 of the Application of PennEast for Certificates of Public Convenience and Necessity and Related Authorization filed on September 24, 2015 (September 2015 Application) was the most recent data available at the time of the September 2015 Application from the U.S. Environmental Protection Agency’s (EPA’s) Emissions & Generation Resource Integrated Database (eGRID).³ An update to the eGRID data was released on October 8, 2015, using information from the prior two (2) to three (3) years. Calculations based on these updated values also confirm that the proposed natural gas-fired turbine compressors would result in lower net air and greenhouse gas (GHG) emissions than electric compressors when considering the entire fuel cycle, including fuel extraction/mining, processing, transport, conversion (where applicable), compression (where applicable), and transmission.

EPA Region III indicates that the PJM Interconnection (PJM) also publishes air emissions data for the regional grid generation sources and that the PJM reports that the percent reduction in NO_x emissions rates for the PJM mix from 2010 to 2016 is 47.5%. EPA Region III claims that

¹ Comment of Appalachian Mountain Club, Accession No. 20160908-5023, Docket No. CP15-558-000, at 4-5 (Sept. 8, 2016) (hereinafter, “Appalachian Mountain Club Comment”).

² Comment of U.S. Env’tl. Prot. Agency Region III, Enclosure, Accession No. 20160913-5144, Docket No. CP15-558-000, at 12-13 (Sept. 13, 2016) (hereinafter, “EPA Region III Comment, Encl.”).

³ Available from the EPA website at: <https://www.epa.gov/energy/egrid>.

this makes the results in this Draft EIS significantly skewed. However, the 47.5% reduction in NO_x emissions rates for the PJM mix from 2010 to 2016 is only the direct emissions from the electrical generation facilities and does not include the “embedded” emissions required to extract, refine, and transport the fossil fuel sources to the electrical generation facilities. The “source energy” emission factors published by NREL in 2004, which are part of the data used in Resource Report 9 of the September 2015 Application and by reference in the Draft EIS, account for all air emissions required to deliver the compression energy to the compressors, and not just the direct emissions. The published values for PJM emissions rates do not go back to 2004, which would be necessary to adjust the NREL reported values. Because EPA’s eGRID data used in the Draft EIS does go back to 2004, and because other factors such as North American Electric Reliability Corporation (NERC) regions and the PJM region do not align, the EPA’s eGRID values are more appropriately used in this analysis.

2. Groundwater, Wells, and Water Supply Issues

a. Identifying Groundwater Wells

Some comments state that the Draft EIS is inaccurate with respect to the number of wells within 150 feet of the pipeline.⁴ As detailed in Resource Report 2 of the September 2015 Application, PennEast has developed and will implement several measures for monitoring, avoiding, and mitigating impacts to existing wells, including water quality and supply yields. In particular, PennEast will continue to conduct surveys for public and private water supply wells within 150 feet of the construction workspace or within 500 feet of the workspace in areas characterized by karst terrain. As recommended in the Draft EIS, PennEast will file a revised list of such identified water wells with the Commission prior to construction.

Some commenters state that surveying for wells within 150 feet of construction is inadequate, and that PennEast should survey for wells within at least 200 feet.⁵ PennEast has developed plans for monitoring water quality and public/private well yields of existing wells within 150 feet of the proposed construction workspace. Because this measurement is taken from the edge of the construction area, and not from the pipeline centerline, in some cases, wells within 150 feet of the construction workspace may actually be up to 275 feet from the pipeline trench line. In addition, in areas characterized by karst terrain, PennEast will monitor wells before and after construction within 500 feet of the edge of the workspace. This 150-foot radius around construction workspaces, and 500-foot radius around work spaces in karst areas, will enable PennEast to monitor for potential impacts to wells.

⁴ See, e.g., Comment of West Amwell Citizens Against the Pipeline, Accession No. 20160816-5176, Docket No. CP15-558-000, at 2 (Aug. 8, 2016) (hereinafter, “West Amwell Comment”); Comment of Delaware Riverkeeper Network, Accession No. 20160912-5816, Docket No. CP15-558-000, at 7 (Sept. 12, 2016) (hereinafter, “Delaware Riverkeeper Network Comment”).

⁵ See West Amwell Comment at 18.

b. Wellhead Protection Areas (WHPA)

A commenter states that the Draft EIS does not address certain WHPAs within 15 feet of the Project centerline.⁶ For the purpose of PennEast's WHPA analysis in New Jersey, WHPAs are delineated by tiers based on travel time of contaminants to the wellhead and hydrologic boundaries as follows:

- Tier 1 – two (2) years (730 days);
- Tier 2 – five (5) years (1,826 days); and
- Tier 3 – 12 years (4,383 days).

Based on 2011 WHPA data obtained from the New Jersey Geological Society (NJGS), the Project crosses two (2) WHPAs at approximately milepost (MP) 87.3. Based on the most recent publicly available data, there are no other WHPAs in New Jersey located within 150 feet of the current Project alignment. One commenter states that the pipeline may cross and impact a Rosemont Water Company WHPA.⁷ According to the 2011 NJGS WHPA data that was used in PennEast's analysis, there is no WHPA delineated in proximity to MP 92.5, which would cover the area discussed in the comment. For the WHPAs currently identified, and any WHPAs identified in the future, PennEast will implement the mitigation measures discussed below.

In addition to the two (2) WHPAs crossed in New Jersey (Milford Borough and Alexandria Township), the Project also crosses one (1) WHPA in Pennsylvania (Riegelsville Borough), as discussed in the Draft EIS.

PennEast plans to mitigate potential impacts by installing class 3 design factor pipe around the area of the public water well. In addition, PennEast has prepared a Spill Prevention, Control, and Countermeasure (SPCC) Plan for the Project, which the contractor will implement during construction activities and PennEast will implement during post-construction activities. Prior to construction, PennEast will train all of its personnel and contractor personnel in hazardous waste management procedures that will enable them to respond effectively to spills. These construction and post-construction activities include, but are not limited to:

- During construction, hazardous materials and wastes, including oils and fuels, shall not be stored within the WHPA limits. Concrete coating shall not be performed within the WHPAs.
- All construction equipment in use within the WHPAs shall be inspected daily for leaks and worn or damaged hydraulic hoses.
- Within the Project's WHPAs, backfilling shall immediately follow pipe installation using native, clean fill material.
- Hydrostatic test water shall not be discharged to WHPAs.

⁶ Comment of Stony Brook Millstone Watershed Ass'n on Incomplete Draft Environmental Impact Statement, Accession No. 20160912-5990, Docket No. CP15-558-000, at 15 (Sept. 12, 2016) (hereinafter, "Stony Brook Millstone Comment").

⁷ Comment of Rosemont Water Company, Accession No. 20160912-5545, Docket No. CP15-558-000, at 1-2 (Sept. 12, 2016).

- Post-construction, pipeline operational right-of-way (ROW) maintenance in WHPAs shall be limited to manual means only. No use of pesticides or fertilizers shall be permitted within WHPAs.

c. Source Water Protection Areas (SWPA)

EPA Region III states that the Draft EIS does not identify Source Water Protection Areas.⁸ Amendments to the Safe Drinking Water Act (SDWA) require that each state delineates Source Water Protection Areas (SWPA) based on the areas from which public drinking water supplies are drawn, including groundwater wells and surface water intakes. The purpose of defining the SWPA is to conduct an inventory of potential contamination sources and determine the susceptibility of the water supply to contamination.

In preliminary discussions with affected Pennsylvania municipalities, PennEast inquired about available environmental data such as Source Water Protection Plans (SWPP) that PennEast may need to take into account in Project planning. PennEast received a SWPP for the Riegelsville Borough Water Company (effective date of December 6, 2007), which identified the Riegelsville Borough WHPA, an SWPA. This WHPA was discussed in table 2.2-6 of Resource Report Section 2.2.4 as updated in a March 25, 2016 supplemental response to FERC's February 10, 2016 data request, and also discussed in the Draft EIS at Section 5.1.3.1.

In New Jersey, source water assessment reports were completed for community and non-community systems. The reports include WHPAs that were also discussed in table 2.2-6 of Resource Report Section 2.2.4 as updated in a March 25, 2016 supplemental response to FERC's February 10, 2016 data request. These WHPAs are also discussed in the Draft EIS at Section 5.1.3.1.

PennEast also reviewed EPA sole source aquifer (SSA) maps (2014) and identified two (2) SSAs that would be crossed by the Project: the New Jersey Coast Plain Aquifer System and the Northwest New Jersey 15 Basin. These EPA-defined SSAs overlap with Source Water Assessment Areas for Public Water Supply Intakes as defined by the New Jersey Department of Environmental Protection (NJDEP). Discussion of these SSAs were included in PennEast's September 2015 Application in Resource Report Section 2.2.2 and are presented in Draft EIS Section 4.3.1.3.

PennEast will implement an SPCC Plan for the Project during and after construction. PennEast personnel and contractor personnel will be trained in hazardous waste management procedures that will enable them to respond effectively to spills. Within WHPAs, PennEast will implement additional measures to mitigate potential impacts, which are detailed in Section 2.b. of this response.

⁸ EPA Region III Comment, Encl. at 11.

d. Swan Creek Reservoir Issues

Commenters raise issues regarding the proximity of the route to Swan Creek Reservoir and its associated dam.⁹ The Project is collocated in this area with high tension electrical lines adjacent to Swan Creek Reservoir. The Swan Creek Upper Reservoir is located approximately 400 feet east of the proposed ROW. The reservoir is the primary source of drinking water for the City of Lambertville. The Upper Reservoir intake structure is located upstream of the proposed pipeline and therefore was not listed as a downstream water intake. Due to the downstream location of the proposed pipeline crossing, water quality of the active reservoir would not be adversely impacted by the Project. Some commenters also raise concerns regarding interruptions to Lambertville's drinking water supply. The Project crossing plans accommodate crossing water company pipelines without any service interruption to those pipelines.

Based on a recent blasting analysis PennEast conducted using publicly available geology data, blasting is not anticipated near the Swan Creek Reservoir. This information was provided to the Commission as updated Draft EIS table G-3 on September 23, 2016. Geotechnical evaluations are ongoing and may provide additional information regarding any anticipated blasting near the Swan Creek Reservoir.

e. Safe Drinking Water Act Compliance

One comment states that impacts to groundwater would violate the SDWA.¹⁰ The SDWA does not regulate private wells that serve fewer than 25 individuals. Therefore, allegations regarding temporary impacts to individual private wells do not raise an issue that would implicate the SDWA. As discussed above, PennEast will mitigate impacts to groundwater and private wells by implementing a well monitoring plan, an SPCC Plan, and best management practices (BMPs) during construction and operation.

f. Direct Impacts to Groundwater

A comment raises a concern about the potential for the pipeline to impact water quality if the pipeline comes into direct contact with shallow groundwater.¹¹ As stated in the September 2015 Application, Resource Report 2, Section 2.2.4.1, Potential for Contaminated Groundwater, because the Project would be installed at a relatively shallow depth compared to the depth of potable water supply wells (which should have a minimum casing depth of 50 feet in accordance with N.J.A.C. 7:9D-2.3), direct impact to the wells would not be expected in the event a pipeline leak occurs. The pipeline methane would be expected to diffuse upward towards the atmosphere from near the ground surface instead of migrating downward to groundwater sources of drinking wells. Project pipeline leaks are not expected to cause impacts to groundwater, and the majority of any methane leaks that may occur would eventually be expected to migrate to the atmosphere.

⁹ West Amwell Comment at 15-17; Comment of Susan Shapiro, Accession No. 20160908-5009, Docket No. CP15-558, at 1-2 (Sept. 8, 2016); Comment of Sourland Conservancy, Accession No. 20160912-5634, Docket No. CP15-558, at 1-2 (Sept. 12, 2016).

¹⁰ Comment of Kingwood Township, Accession No. 20160912-5529, Docket No. CP15-558-000, at 1-6 (Sept. 12, 2016).

¹¹ Comment of Deborah J. Kratzer, Accession No. 20160912-5536, Docket No. CP15-558-000, at 1, 4 (Sept. 12, 2016).

g. Analysis of Arsenic Risk

With respect to the comments on the Draft EIS related to arsenic risks,¹² PennEast will be addressing those comments in a supplemental response, which shall include supplemental arsenic analyses.

h. Contaminated Sites

A commenter states that PennEast should develop an alternate route to avoid a site at mile post 112.8R contaminated by fuel storage leakage.¹³ The commenter believes that permeable backfill used by PennEast will allow migration of such contaminants, impacting wells and a C-1 stream.¹⁴ In areas where there is a potential to encounter contamination, PennEast will use additional construction techniques to protect against potential migration of contaminants. These include, but are not limited to, treating the segment with such concerns as a discrete construction segment; supplementing the standard Environmental Inspector with hazardous waste personnel that can monitor the soils with instrumentation as they are excavated and determine how and where they are stockpiled, if they are suitable for refill, or need to be disposed of off-site at an approved facility; and the use of clay or foam trench plugs along the segment to stop movement of potential contaminants along the pipeline.

3. Surface Water and Wetlands Issues

a. Appropriate Surface Water Protection Levels

Certain commenters state that the Draft EIS has disparate protection levels for waterbodies in Pennsylvania as compared to waterbodies in New Jersey.¹⁵ PennEast has prepared an Erosion and Sediment Control Plan (E&SCP) that details the BMPs in accordance with Commission requirements, the Pennsylvania Department of Environmental Protection (PADEP) Erosion and Sediment Pollution Control Program Manual, March 2012, and Standards for Erosion and Sediment Control in New Jersey, 2014 Edition. Both Pennsylvania and New Jersey have state-level permitting and agency reviews for waterbody crossing activities and stormwater management that incorporate a review and comment process on the E&SCP. Thus, although the Commission's requirements will apply in both New Jersey and Pennsylvania, requirements from separate state agencies in New Jersey and Pennsylvania may result in differing substantive standards for protection of waterbodies in each respective state. Any such differing standards are appropriately within the jurisdiction and expertise of the respective state agency. PennEast will file documentation of consultations with appropriate federal and state agencies regarding the

¹² See Comment of HALT-PennEast re Conditional Approval, Accession No. 20160913-5124, Docket No. CP15-558-000, at 8 (Sept. 13, 2016) (hereinafter, "HALT-PennEast re Conditional Approval Comment"); EPA Region III Comment, Encl. at 4-5; Comment of Experts on Arsenic Chemistry, Accession No. 20160912-5411, Docket No. CP15-558-000, at 1-2 (Sept. 12, 2016); see generally Comment of T.C. Onstott, Accession No. 20160802-5034, Docket No. CP15-558-000 (Aug. 2, 2016).

¹³ Comment of Hopewell Township, Accession No. 20160912-5739, Docket No. CP15-558-000, at 1-2 (Sept. 12, 2016).

¹⁴ See *id.*

¹⁵ Comment of Cooks Creek Watershed Ass'n, Accession No. 20160912-5695, Docket No. CP15-558-000, at 17-18 (Sept. 12, 2016); Comment of Trout Unlimited, Accession No. 20160913-5092, Docket No. CP15-558-000, at 2 (Sept. 13, 2016) (hereinafter, "Trout Unlimited Comment").

protection measures for waterbody crossing activities and stormwater management, which will also reflect measures and standards appropriate for each respective jurisdiction, upon receipt of applicable permits.

b. Susquehanna River Crossing

EPA Region III states that the Draft EIS should quantify potential effects from flow perturbations as part of the Susquehanna River crossing.¹⁶ PennEast has submitted permit applications to the U.S. Army Corps of Engineers (USACE) and the PADEP requesting authorization to construct the Susquehanna River crossing, which will be a non-HDD dry crossing using the coffer dam, pump and flume method. PennEast anticipates that construction of the Susquehanna River crossing would be completed within 45 days, including cofferdam construction, dewatering, pipeline construction, and restoration. Of the 45 days anticipated for construction, PennEast anticipates that it will take 6 days for trenching, pipeline construction, and backfilling (three [3] days for each side of the river).

By utilizing this dry crossing technique, stream flow can be temporarily diverted, effectively isolating the workspace from the stream, which greatly reduces sedimentation within watercourses. During cofferdam construction, biologists will monitor the dewatered workspace and relocate fish to the river. Because PennEast intends to complete the crossing during low flow conditions, diverting river flow to either side of Monocanock Island is not anticipated to have substantial impacts on river flow during the limited duration of construction. Although detailed engineering studies are ongoing, and although there are no finalized flow calculations yet available to quantify projected impacts, PennEast anticipates that any impacts to the Susquehanna River aquatic community as a result of workspace dewatering and trenching will be temporary and short-term. Therefore, PennEast does not anticipate adverse impacts to the river ecosystem or morphology.

In addition, PennEast will develop a plan for collecting an appropriate number of sediment samples within the Susquehanna River to determine whether PCBs are present within the Project area. The samples will be collected and sent to an approved laboratory for analysis. In the event that PCBs are found to be present within the Project area, PennEast will consult with the appropriate agencies to determine whether the concentration present is at a level that would warrant PennEast to take additional precautions to prevent the release of PCBs into the water column.

EPA Region III also raises a concern regarding whether the proposed dry crossing of the Susquehanna River is the most protective method. The proposed 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 with PADEP's Abandoned Mine Reclamation Bureau for historic mine shafts and debris. Due to the presence of abandoned mines and the geomorphic conditions at the surface, PennEast proposes a dry crossing in lieu of an HDD crossing. Two other pipeline crossings in the area have been successfully completed using open cut methodology.

¹⁶ EPA Region III Comment, Encl. at 7-8.

c. Avoiding and Minimizing Impacts to Wetlands and Streams

EPA Region III states that the Draft EIS did not sufficiently detail the avoidance and minimization of adverse impacts to wetlands and streams.¹⁷ In PennEast's September 2015 Application, Resource Report 1, Sections 1.5 (Construction and Restoration) and 1.6 (Operations and Maintenance) provide an overview of the avoidance and minimization measures that PennEast incorporated into the Project's design and construction. PennEast supplemented these measures in Resource Report 2, Sections 2.3 (Water Resources) and 2.5 (Wetlands) with information on specific crossing methods, temporary effects, and mitigation. With the exception of several small areas associated with aboveground facilities, there will be no net loss of wetland resources. In addition, for those areas where wetland conversion occurs from one wetland type to another wetland type, PennEast will compensate for such conversion.

PennEast's avoidance and minimization efforts also include extensive efforts to route and re-route the Project. Initially, PennEast estimated that the proposed Project would be approximately 100 miles in length with a study corridor of 400 feet in width. PennEast then performed a desktop analysis across an area of consideration approximately one-half mile in width along the corridors. This allowed PennEast to get a clear understanding of potential engineering and environmental constraints within the Project area and the expanded geography encompassed the necessary area for access roads and staging areas. As the Project design became finalized, there was a significant effort to adjust the alignment within the 400-foot survey corridor to avoid and/or minimize impacts to wetlands and waterbodies, cultural resources, preserved agricultural lands and sensitive habitats. Since the Draft EIS was published in August, PennEast has studied an additional 33 minor deviations along the route to reduce impacts on endangered species and wetlands, increase collocation with existing utilities, and address feedback from collaborative discussions with landowners and regulatory agencies. Of these, 26 impact-reducing deviations were implemented in Pennsylvania and seven (7) in New Jersey.

d. Impacts to U.S. Geological Survey (USGS) Gaging Stations

The U.S. Department of the Interior, providing comments prepared by the USGS, notes that Project activities near USGS gaging stations could potentially cause disruptions to USGS operations, and USGS requested that the Draft EIS identify what precautions would be taken to ensure USGS sites are not affected.¹⁸

PennEast does not anticipate that the Project will result in disruption to USGS gaging site infrastructure or monitoring activities. Nine gaging stations are identified in the comment, and additional details for these gaging stations are provided in the table below. Because four of these gaging stations are located significant distances upstream of the Project (ranging from nearly a mile to over eight miles), the Project is unlikely to have any potential impact to these stations.

The remaining five gaging stations are located downstream of proposed crossings. Four of the downstream gaging stations are more than 1.5 river miles from the closest PennEast stream crossing, and one gaging station (USGS Station ID: 01462197) is located approximately 300

¹⁷ *Id.* at 7-18.

¹⁸ Comment of Department of the Interior – OEPC, Accession No. 20160920-5145, Docket No. CP15-558-000, at 3-4 (Sept. 20, 2016).

feet, or 0.06 mile, downstream of the proposed workspace. In all cases, PennEast will implement construction methods that will maintain stream flow, which will avoid impacts to the monitored flow at gaging stations. The dry crossing techniques that PennEast proposes to use for each stream crossing—whether it is a flume crossing or a dam-and-pump crossing—would not alter stream flow at any upstream or downstream gaging station location. 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. The dam-and-pump crossing method involves constructing temporary dams upstream and downstream of the proposed crossing site while using a high capacity pump (or multiple pumps) to divert water from the upstream side around the construction area to the downstream side. Once restoration of the streambed is complete, the dams are removed and flows are re-established in the stream area where construction activities had been occurring. Instream construction activities will be completed within 24 hours for minor streams (10 feet or less) and within 48 hours for intermediate streams (greater than 10 feet wide but less than or equal to 100 feet wide), as practicable.

USGS Station ID	USGS Station Name	Latitude, Longitude	County/State	Hydrologic Unit Code	Location Relative to the Project
01447500	Lehigh River at Stoddartsville, PA	41°07'49"N, 75°37'33"W	Monroe, PA	02040106	5.30 river miles upstream
01447720	Tobyhanna Creek near Blakeslee, PA	41°05'05"N, 75°36'21"W	Carbon, PA	02040106	8.35 river miles upstream
01449375	Wild Crab Penn Forest Reservoir near Kresgeville PA	40°56'24.5"N, 75°35'04.06"W	Carbon, PA	02040106	2.99 river miles downstream
01449360	Pohopoco Creek at Kresgeville, PA	40°53'51"N, 75°30'10"W	Monroe, PA	02040106	3.79 river miles upstream
01457400	Musconetcong River at Riegelsville NJ	40°35'33"N, 75°11'10"W	Warren, NJ	02040105	0.82 river miles upstream
01461500	Delaware River at Stockton NJ	40°24'10"N, 74°58'46"W	Hunterdon, NJ	02040105	2.58 river miles downstream
01461300	Wickecheoke Creek at Stockton NJ	40°24'41"N, 74°59'12"W	Hunterdon, NJ	02040105	1.79 river miles downstream
01462000	Delaware River at Lambertville NJ	40°21'53"N, 74°56'56"W	Hunterdon, NJ	02040105	2.70 river miles downstream
01462197	Moore C tributary at Valley Road near Lambertville NJ	40°20'14"N, 74°54'57"W	Mercer, NJ	02040105	0.06 river miles downstream

e. Hydrostatic Water Sources

A comment states that sources of water for hydrostatic testing have not yet been identified and that withdrawals from coldwater resources should be avoided.¹⁹ Resource Report 2, table 2.4-1, describes the preliminary anticipated hydrostatic test water source locations and quantities for the pipeline facilities filed with the Commission in the September 2015 Application. An updated version of the table was submitted to the Commission on February 22, 2016 as a response to the

¹⁹ Trout Unlimited Comment at 3.

February 10, 2016 Data Request. Updated table 2.4-1 was included in Attachment 1 of that filing. Since the publication of the Draft EIS, table 2.4-1 has been further updated and re-submitted to the Commission to incorporate the September 2016 minor route update. It was filed on September 23, 2016 as part of Volume II – Attachment 13. As that table describes, most of the potential water sources are hydrants and the Delaware and Lehigh Rivers, with limited additional sourcing from Lake Harmony and Big Boulder Lake. These two (2) lakes, which have been stocked for several decades, contain primarily warmwater fishery resources.

f. Water Quality Impacts from Failed Revegetation Efforts

A comment states that the Draft EIS should consider the impacts of failure of revegetation on water quality.²⁰ PennEast addresses revegetation in its E&SCP, which details the BMPs in accordance with Commission requirements, the PADEP Erosion and Sediment Pollution Control Program Manual, March 2012, and Standards for Erosion and Sediment Control in New Jersey, 2014 Edition. PennEast will maintain these BMPs until successful revegetation is established to protect from sedimentation of waterbodies and wetlands, thereby protecting water quality.

g. Vernal Pools

Some comments, including those from the NJDEP, raise concerns about the status of vernal pool surveys.²¹ NJDEP states that only approximately 26% of vernal pool surveys have been completed. The New Jersey Landscape Project (NJ Landscape) mapping includes locations which are classified as either “certified” or “potential” vernal habitat areas. The mapping also incorporates a 1,000-foot radius dispersal area from breeding pools.

PennEast has reviewed the NJ Landscape mapping and has identified two certified vernal habitat areas where the breeding pool is located within or adjacent to the 400-foot survey corridor. An additional five certified vernal habitats have 1,000-foot radius dispersal areas that extend into the 400-foot survey corridor. These seven “certified” vernal pools do not require completion of field surveys because they have already been previously confirmed as vernal habitat.

NJ Landscape mapping data also indicates no “potential” vernal habitat areas where the breeding pool is mapped within or adjacent to the 400-foot survey corridor. However, three (3) potential vernal habitats exist where the 1,000-foot radius dispersal area extends into the 400-foot survey corridor. Of these three (3) “potential” vernal habitats, one (1) pool was field accessible, and following PennEast’s surveys of that pool, it was confirmed as vernal habitat. The remaining two (2) “potential” vernal habitats have breeding pools that are outside of the 400-foot survey corridor and are not presently field accessible. As a result, PennEast presumes that these two (2) meet the criteria of vernal habitat. In addition, PennEast identified one additional previously unmapped location as a potential vernal habitat and confirmed it as vernal habitat following field surveys.

A summary table is provided as follows:

²⁰ Stony Brook Millstone Comment at 12-13.

²¹ Comment of Deborah J. Kratzer, Accession No. 20160912-5694, Docket No. CP15-558-000, at 1-5 (Sept. 12, 2016); Comment of New Jersey Department of Environmental Protection, Accession No. 20160913-5141, Docket No. CP15-558-000, at 5-9 (Sept. 13, 2016) (hereinafter, “NJDEP Comment”).

Number of Habitat Areas	Vernal Habitat Classification	Orientation pertaining to 400' Survey Corridor	Survey Status
2	Certified	Breeding Pool & dispersal area	No survey due to previous certification
5	Certified	Dispersal Area	No survey due to previous certification
1	Potential	Dispersal Area	Surveyed – vernal habitat confirmed
2	Potential	Dispersal Area	No survey due to inaccessible pool location; vernal habitat presumed
1	Field-identified Potential	Breeding Pool & dispersal area	Surveyed – vernal habitat confirmed

PennEast acknowledges that additional, previously unmapped vernal habitat areas may be identified during ongoing field efforts, and those locations will be surveyed. However, based on the currently identified resources, PennEast maintains that vernal pool surveys are currently 100% complete.

h. Permanent Loss of Wetlands

Commenters state that the Draft EIS is inconsistent regarding whether permanent loss of wetlands will occur and that there is insufficient information to make such determinations.²² These commenters question whether PennEast will be unable to fully mitigate or restore wetlands after construction. The Project would impact a total of 56 acres of wetlands during construction, of which about 26 acres would be in Pennsylvania and 30 in New Jersey (see table 4.4.2-1 in Section 4.4.2 of the Draft EIS). Appendices G-11 and G-12 identify all wetland crossings by milepost in Pennsylvania and New Jersey, respectively.

With the exception of 0.01 acre (604 square feet) of isolated palustrine emergent (PEM) wetlands that will be filled to accommodate construction and operation of the Kidder Compressor Station, there will be no permanent wetland fill associated with construction of the Project. PennEast will return all wetlands within the pipeline ROW and temporary workspace to preconstruction contours and will restore natural flow conditions to all affected waterbodies. Wetland impacts would include those associated with temporary construction disturbance as well as disturbance to palustrine forested (PFO) and/or palustrine scrub-shrub (PSS) wetlands as these wetlands will be converted to PEM wetlands within the maintenance corridor. For temporarily disturbed wetlands, PennEast will perform restoration and revegetation in place following completion of construction in accordance with approved wetland restoration plans. For wetlands permanently disturbed through conversion, PennEast will also provide offsite compensatory mitigation which will provide wetland functions and values equivalent to those lost as a result of the Project. PennEast will comply with agency-approved compensatory wetland mitigation plans that will be developed during the permitting processes.

²² See, e.g., Comment of Martha Akers, Accession No. 20160909-5336, Docket No. CP15-558-000, at 1 (Sept. 9, 2016).

i. Permitting under Section 404 of the Clean Water Act (CWA)

A commenter states that the Draft EIS does not accurately reflect that NJDEP has authority to permit discharges to wetlands in New Jersey under Section 404 of the CWA.²³ The list of required permits in table 1.3-1 of the Draft EIS properly identifies the need for an individual permit from NJDEP's Division of Land Use Regulation as part of the State's Freshwater Wetlands Protection Act program, which operates in place of the federal 404 program administered by the USACE.

4. Fish, Wildlife, and Protected Species

a. Efforts to Minimize Impacts to Bird Species

Comments were filed regarding reroutes to avoid impacts on migratory birds and important bird areas.²⁴ As noted in Resource Report 3, Resource Report 10, and Appendix P of the September 2015 Application, PennEast has made significant efforts over the past two (2) years to minimize environmental impacts including to migratory birds by collocating the pipeline within existing ROWs to the greatest extent practicable. Since the September 2015 Application filing, numerous additional adjustments to the Project route (deviations and re-routes) have been made in order to accommodate multiple stakeholder requests and to minimize environmental impacts as a whole. Approximately 44.5 miles of the Project are collocated with existing maintained ROWs. By lowering impacts to interior forest habitat, these reroutes and the resulting increases in collocation serve to reduce potential impacts to migratory birds and environmental impacts generally. PennEast did not propose to implement other reroutes that would increase landowner or environmental impacts or would fail to meet the Project's purpose and need, and all reasonable and practicable routes have been thoroughly documented and analyzed in accordance with current regulatory guidance. In addition, as the Draft EIS recognizes, PennEast will abide by timing and seasonal restrictions on construction in accordance with the Migratory Bird Treaty Act and Endangered Species Act and develop and adhere to a Migratory Bird Conservation Plan to ensure reduction of impacts to migratory birds.²⁵ These measures will effectively lower impacts to migratory birds and migratory bird habitat.

b. Adequacy of Species Analysis

Commenters raised questions regarding the analysis of state-listed plant species in New Jersey in the Draft EIS.²⁶ PennEast noted in its comments on the Draft EIS submitted on September 12,

²³ Comment of HALT-PennEast Regarding Wetlands Impacts, Accession No. 20160908-5042, Docket No. CP15-558-000, at 1-2 (Sept. 8, 2016).

²⁴ Comment of U.S. Fish and Wildlife Service, Accession No. 20160913-5213, Docket No. CP15-558-000, at 4, 6-7 (Sept. 13, 2016).

²⁵ *E.g.*, Draft EIS at 4-113 to 4-114.

²⁶ Comment of New Jersey Conservation Foundation on Rare Species, Accession No. 20160909-5047, Docket No. CP15-558-000, at 1-3 (Sept. 8, 2016) (hereinafter, "NJCF Comment on Rare Species"); Comment of New Jersey Conservation Foundation on Rare Plants, Accession No. 20160912-5774, Docket No. CP15-558-000, at 1-3 (Sept. 12, 2016) (hereinafter, "NJCF Comment on Rare Plants"); Comment of New Jersey Conservation Foundation on Land Use, Accession No. 20160913-5104, Docket No. CP15-558-000, at 4-6 (Sept. 13, 2016) (hereinafter, "NJCF Comment on Land Use"); *see also* Comment of Ruth Bowers, Accession No. 20160909-5292, Docket No. CP15-558-000, at 1 (Sept. 9, 2016).

2016 that state-listed rare, threatened, and endangered plant species discussed in Resource Report 3 and associated Appendices were not included within the Draft EIS tables or text. The commenter stated that its organization had identified additional plant species along the route and that the State of New Jersey's list of 37 plant species was inadequate. The commenter also stated that other RTE species are not identified in the Draft EIS, as shown in maps/surveys submitted by the commenter. PennEast conducted appropriate consultation and coordination with the New Jersey Division of Natural Heritage and the U.S. Fish and Wildlife Service (FWS) – Regional New Jersey Field Office, which is documented in the September 2015 Application, Resource Report 3, and the associated Appendices. The species that those agencies identified have been historically documented and serve as the regulatory basis for the Project's environmental analyses.

c. Habitat Survey Methodologies

NJDEP states that PennEast should provide the methodology of its surveys/habitat assessments to determine if they are adequate.²⁷ PennEast provided information regarding survey protocols in the September 2015 Application, Resource Report 3, and associated Appendices. Detailed site-specific and species-specific surveys were based on consultation with the applicable state and federal agencies. Due to the sensitive nature of the survey data, certain portions of the reports have been filed as privileged and confidential.

With respect to the freshwater mussel survey of the Delaware River and the northern copperhead survey, PennEast provided its survey methodology to the NJDEP. With respect to the freshwater mussel survey of the Delaware River, PennEast provided a formal survey work plan to NJDEP, Endangered and Nongame Species Program (ENSP) on August 8, 2016, which ENSP approved on August 19, 2016. With respect to the northern copperhead survey, in March 2016 ENSP provided its most recently revised Pre-permitting Venomous Snake Survey Protocols as well as the ENSP's cover-board protocols, and ENSP identified the specific Project locations requiring northern copperhead surveys. Scientific collecting permits were also obtained for applicable species, including vernal pool surveys. Species surveys in New Jersey follow standard methodologies as required by NJDEP, and species-specific work plans can be provided if requested by NJDEP.

Habitat assessment methodologies for long-tailed salamander and marsh birds have not been submitted to the NJDEP to date, as PennEast anticipates that this information will be provided within the context of formal application(s) to be submitted to the NJDEP. This information will include surveyor qualifications, methodologies utilized during habitat assessments, results of such assessments, whether further targeted species surveys were recommended, as well as the methodologies and results of all targeted surveys performed.

In the case of long-tailed salamander, PennEast recognizes that further species-specific consultation may be required with NJDEP. If it is determined that a targeted survey will be necessary, PennEast will work with NJDEP to develop the appropriate survey protocols and to obtain the necessary Scientific Collecting Permit prior to initialization.

²⁷ NJDEP Comment at 30.

5. Land Issues and Impacts to Special Regions and Resources

a. Forest Fragmentation Issues

Several commenters suggest that cumulative impacts of forest fragmentation have not been evaluated and that impacts on interior forests should be quantified in the Draft EIS.²⁸ PennEast quantified impacts to forests in the September 2015 Application, Resource Report 3, tables 3.3-3a and 3.3-3b, and the quantified impacts were reflected in Section 4.5.1.2 of the Draft EIS, noting permanent conversion to an herbaceous state of about 452 acres of forest. PennEast also provided information on impacts to forest vegetation in Resource Report 3, Section 3.3.1.1, along with potential mitigation measures, as well as impacts to forest interior birds and wildlife species resulting from forest fragmentation in Resource Report 3, Section 3.4.2. Cumulative impacts to wildlife and fisheries resources and to vegetative communities are discussed in Section 3.5.3 of Resource Report 3.

EPA Region III states that the Draft EIS did not provide documentation of efforts to avoid or reduce impacts on forests. Resource Report 10, table 10.3-2, outlines the Project Alternatives considered and their respective impacts to state forests. PennEast has made efforts to collocate and reduce impacts to forests to the extent practicable while meeting the purpose and need of the Project.

b. Effects Related to the Appalachian National Scenic Trail (ANST) Crossing

Some comments focus on whether the ANST crossing can be mitigated using HDD techniques.²⁹ PennEast has met with the Appalachian Trail Conservancy, the Pennsylvania Game Commission, and the National Park Service (NPS) regarding the trail crossing and has discussed the trenchless crossing methodology. PennEast included a site-specific drawing of the direct-pipe crossing in Attachment 6 (Page 19 of 28) of its August 31, 2016 Response to Draft EIS Recommended Mitigation Items. In addition, a detailed alignment sheet drawing depicting the crossing was provided as Drawing No. 000-03-07-019 on September 23, 2016. The drawings show use of the direct-pipe methodology to avoid impacts to the ANST and the viewshed within the 400-foot-wide ANST corridor. In addition, PennEast will continue to meet with the stakeholders to address timing restrictions, proposed closure details, and site-specific safety and mitigation measures applicable to the crossing.

In addition, the NPS states that the visual impact analysis for the ANST crossing is insufficient. Visual impacts to the ANST were an integral part of the route variations and crossing locations considered in the alternatives analyses. The original route crossed the ANST along the top of a ridge. Based on feedback from various agencies (Pennsylvania Game Commission, Appalachian

²⁸ Comment of Citizens for Pennsylvania's Future and Sierra Club, Accession No. 20160912-5997, Docket No. CP15-558-000, at 2 (Sept. 12, 2016) (hereinafter, "Sierra Club and Penn Future Comment"); Comment of Lower Saucon Township, Accession No. 20160912-5515, Docket No. CP15-558-000, at 25, 68 (Sept. 12, 2016) (hereinafter, "Lower Saucon Comment"); Comment of Clean Air Council, Accession No. 20160912-5840, Docket No. CP15-558-000, at 17-19 (Sept. 12, 2016) (hereinafter, "Clean Air Council Comment").

²⁹ Comment of Nat'l Parks Conservation Ass'n, Accession No. 20160913-5133, Docket No. CP15-558-000, at 2 (Sept. 13, 2016) (hereinafter, "Nat'l Parks Conservation Ass'n Comment"); Comment of the Nat'l Park Serv., Accession No. 20160913-5110, Docket No. CP15-558-000, at 4 (Sept. 13, 2016) (hereinafter, "Nat'l Park Serv. Comment").

Trail Conservancy, and National Park Service) it was determined that the route along the ridge was not preferred due to impacts to the viewshed and was relocated to the current preferred route located adjacent to a roadway. The direct pipe installation of the current preferred route crossing of the ANST will avoid surface impacts within the 400 foot memorandum of understanding (MOU) viewshed surrounding the trail. PennEast will continue to meet with the stakeholders to address timing restrictions, proposed closure details, and site-specific safety and mitigation measures applicable to the ANST crossing.

c. Impacts on Organic Farming

A comment states that impacts on organic farming operations are not discussed in the Draft EIS, and that only certified organic farms were considered.³⁰ The Draft EIS, at page 4-125, states that “No certified organic farms would be crossed by or located adjacent to the Project.” However, PennEast has identified one certified organic farm in New Jersey, as described in Section 8.3.4.3 of Resource Report 8 of the September 2015 Application. As stated therein, PennEast will avoid impacts to this farm by utilizing HDD technology to drill under forested lands located adjacent to the farm, and bore pits will be located greater than 1,500 feet from the property boundary. Therefore, no impacts are anticipated to occur to known certified organic farms as a result of the Project. Farms that are not certified as organic are appropriately considered in the Draft EIS Section 4.2 with impacts on other agricultural areas that do not have certified organic status.

d. Impacts on Lands Protected by Conservation Easements

One commenter notes that the Project would be built on a property in Holland Township, New Jersey, that is owned by NJDEP and was acquired in part with Land and Water Conservation Funds under the Highlands Conservation Act.³¹ Information available in the deed to the property notes that:

- Funding for NJDEP’s acquisition of this property included funds received from the New Jersey Green Acres Program administered by the NJDEP and funds received from the Highlands Conservation Act administered by the FWS, and the property is subject to all the terms and conditions of Grant Agreement Number NJ HCA-5-L between the FWS and NJDEP.
- NJDEP, as the grant recipient, has acknowledged that it is responsible for exercising sufficient control over the property to ensure that the property is used, and will continue to be used, for the approved purposes for which it is acquired and that the property may not be conveyed or encumbered, in whole or in part, to any other party or for any other use, whatsoever, without the written consent of the FWS Regional Director for Region 5.

NJDEP is responsible to comply with the terms of the grant agreement, and PennEast is coordinating with NJDEP to identify all constraints on the property, including potential limitations on properties purchased in part with Land and Water Conservation Funds, as well as potential avenues for avoidance or appropriate mitigation. Project disturbances on this property are largely to agricultural areas and most impacts are anticipated to be temporary. Tree clearing

³⁰ See NJCF Comment on Land Use at 8.

³¹ See Appalachian Mountain Club Comment at 4.

will be mitigated as required by New Jersey's No Net Loss Reforestation Act. PennEast's ongoing coordination with the Green Acres Program will confirm details of mitigation requirements, which are anticipated to be based on providing replacement parkland acreage at a ratio of 4:1 or by providing monetary compensation at a land value ratio of 10:1. PennEast anticipates that mitigation to be provided for use of this property will enable NJDEP to provide suitable replacement land or other appropriate compensation as may be required by FWS.

e. Impacts in the Highlands Region

A commenter states that the Draft EIS does not sufficiently address the Highlands region and the applicable laws of the area.³² The Draft EIS fully recognizes the location of the proposed Project within the Highlands Region. To the extent that on-site survey access has been available, appropriate Highlands species identifications have been performed. Where site access has not been available, PennEast has utilized information that is available through all available sources, including NJDEP's Landscape GIS data, Natural Heritage Priority site data, and other information and mapping provided by the Highlands Council.

In terms of applicable laws within this region, the proposed Project is located entirely within the Planning Area of the Highlands Region. The Highlands Water Protection and Planning Act Rules do not provide a separate level of review for projects of this nature as would be found if this Project were located within the Preservation Area. The Project also does not trigger municipal site plan review processes in Highlands conforming municipalities. Although the Project does not trigger any Highlands-specific review processes, PennEast remains committed to complying with all applicable State and Federal laws, regulations, and permit conditions.

f. Impacts in the Sourlands Region

A commenter states that there is erroneous information on the docket stating that the Project does not cross the Sourland Region except for Baldpate Mountain.³³ The Project crosses a region of New Jersey sometimes referred to as the Sourland Mountain Region. The Sourland Mountain Region is labeled as such by various private conservation organizations including the Sourland Conservancy and New Jersey Audubon Society; however, there is no formal federal or state designation of the Sourland Mountain Region, and there are no region-specific land use regulations which apply to this region. Land preservation within the Sourland Mountain Region is accomplished through a multitude of stewardship programs.

Based on figures presented on the Sourland Conservancy website,³⁴ the Sourland Mountain Region extends from a stretch of the Delaware River (between Alexauken Creek and the southern limits of Baldpate Mountain Park) northeast to Hillsborough and Montgomery Townships in Somerset County. The Project crosses the Sourland Mountain Region near its western edge within a portion of the region where existing utility ROWs and roadways have

³² Comment of New Jersey Highlands Council, Accession No. 20160823-5099, CP15-558-000, at 1-2 (Aug. 23, 2016).

³³ Comment of Sourland Conservancy, Accession No. 20160815-0175, Docket No. CP15-558-000, at 1 (Aug. 15, 2016); *see also* EPA Region III Comment, Encl. at 8-9 (requesting consideration of special protections or avoidance for certain areas, including the Sourland Mountain).

³⁴ *See* Map, Sourland Mountains, <http://sourland.org/wp-content/uploads/2013/09/SourlandsMap.pdf>.

already resulted in forest fragmentation. The entirety of the Lambertville Lateral (1.4 miles) and approximately eight (8) miles of the PennEast mainline (from MP 100.4R2 to MP 108.4R2) are located within this region based on Sourland Conservancy figures. The majority of this portion of the Project (0.8 mile of Lambertville Lateral and 6.9 miles of the Project's mainline) is collocated with an existing utility ROW. The remaining portion of the lateral is located within a partially forested area situated approximately 250 feet south of US Route 202, between that roadway and an agricultural area. In addition, portions of the mainline that are not collocated traverse non-forested/agricultural areas. In sum, construction of the Project will result in additional tree clearing, but because approximately 88% of this portion of the Project is located proximate to existing linear development, the Project will not result in significant additional forest fragmentation in this area.

g. New Jersey Green Acres Program

NJDEP states that the Draft EIS does not adequately analyze impacts on Green Acres program parcels and says that PennEast has not submitted site-specific crossing plans needed to analyze impacts.³⁵ NJDEP says that the Draft EIS does not discuss visual impacts to these properties or tree replacement requirements. PennEast anticipates that such details will be addressed within the context of formal application(s) to be submitted to the Green Acres Program.

The Draft EIS adequately describes potential visual impacts to recreation and open space areas. The Draft EIS details how the route would minimize these impacts by virtue of significant collocation within or parallel to existing ROWs. The Draft EIS also adequately discusses requirements for tree replacement. With regard to state lands, an estimate of the anticipated requirement can be completed based upon acreage, as characteristics other than the area of forest affected are not a factor in the reforestation requirement. PennEast acknowledges that the tree replacement requirements for Green Acres encumbered lands are based upon a basal area based tree count. Nonetheless, for the purposes of the Draft EIS, an area of disturbance can be used to estimate the anticipated mitigation to be provided by tree planting. PennEast anticipates that the final details regarding tree planting will be addressed within the context of formal application(s) to be submitted to the Green Acres Program.

In addition, PennEast has attended several work sessions with NJDEP Green Acres Program staff. These work sessions have enabled PennEast and NJDEP to identify properties subject to Green Acres encumbrances and the information to be included in eventual applications for releases associated with those encumbrances. Because formal submittal of such applications requires the cooperation of the land owner, formal applications cannot be submitted at this time. PennEast anticipates providing a "technical submittal" regarding lands owned by the State of New Jersey to the NJDEP in late October 2016.

6. Air Quality and Air Permitting Issues

Commenters suggest that Project emissions should be aggregated for Clean Air Act PSD and Title V review purposes, and EPA Region III notes PADEP's policy on emissions aggregation.³⁶

³⁵ NJDEP Comment at 20-23.

³⁶ See Comment of Lorraine Crown, Accession No. 20160909-5231, Docket No. CP15-558-000, at 3-4 (Sept. 9, 2106); EPA Region III Comment at 12-13.

Air permitting regulations in both Pennsylvania and New Jersey define and regulate air emission facilities such that each project location with emission sources would be reviewed separately and individually for permit applicability, and a review of the emissions sources here does not suggest that the aggregation policy applies to these facilities.

EPA Region III comments that the Draft EIS lacks sufficient data regarding operational emissions. The emissions discussion in the text of the Draft EIS summarizes some of the detailed assumptions and bases for the emission calculations. Resource Report 9 of the September 2015 Application also describes some of these details and the related Appendix L3 provides all of the detailed calculations on which the Draft EIS is based.

EPA Region III also comments that more details of the compressor station are needed to assess the station emission rates and determine if a major source permit is required. PennEast prepared and submitted to PADEP an application for a Plan Approval (air permit), which describes the emission sources of the Project's compressor station. A copy of this application and supporting emission calculations were provided to the Commission, and Appendix L3 of Resource Report 9 of the September 2015 Application also provides these details.

A commenter states that the analysis of the Kidder Compressor Station and its impact on air quality in the immediate vicinity of the proposed Kidder Compressor Station is incomplete in the Draft EIS.³⁷ PennEast has provided to the PADEP the emission estimates and analyses required by the PADEP and the Clean Air Act as part of the Plan Approval Application for the Kidder Compressor Station. The proposed emission sources will be evaluated in terms of the applicable regulations, including the National Emission Standards for Hazardous Air Pollutants.

7. GHG Issues

Some comments argue that the Draft EIS is speculative with respect to PennEast lowering GHG emissions and that there is a lack of evidence that gas would replace coal.³⁸ Although predicting the future may be imprecise, it is verified that coal combustion has a higher carbon intensity than natural gas. Although aggregate usage of natural gas in the United States was 81% more than coal on a heat of combustion basis in 2015, the two (2) sources had nearly equal carbon dioxide emissions, each releasing about 1.5 billion metric tons. In addition, there is ample past evidence that natural gas-fueled electrical power generation is displacing coal-fired generation. A regional example is the EPA's eGRID, which reports that coal generation in the NERC region where the Project occurs (this region is governed by the ReliabilityFirst Corporation) has decreased 24% from 2004 to 2012, while natural gas generation has increased 246% over the same period. Also, from a national and economy-wide standpoint, the Energy Information Administration published projections in its "Short-Term Energy Outlook" that by the end of 2016 natural gas is expected to supply 34.3% of power generation, while coal will supply 30.3% for the year.

³⁷ Clean Air Council Comment at 19-20.

³⁸ Comments of N.J. Conservation Found. on the PennEast Draft EIS: Air Quality, Accession No. 20160902-5043, Docket No. CP15-558-000, at 2 (Sept. 2, 2016) (hereinafter, "NJCF Comment on Air Quality").

8. Pipeline Safety Issues

a. Issues with Pipeline Class

Comments state that PennEast will use class 1 pipe in certain areas, which does not comport with the U.S. Department of Transportation's (DOT) Pipeline and Hazardous Materials Safety Administration (PHMSA) standards and PennEast's commitment to use class 2 pipe.³⁹ Resource Report 11, Section 11.3, of the September 2015 Application provides a detailed analysis of pipeline class, and class locations have been determined using DOT Minimum Federal Safety Standards in regulations contained in 49 C.F.R. Part 192. The proposed facilities will be designed and constructed to meet or exceed the DOT's safety standards in 49 C.F.R. Part 192. In particular, where class 1 pipe is the minimum required, PennEast is committing to meet minimum class 2 requirements. Class locations will be used to determine pipe design factors, shutoff valve spacing, and depth of cover requirements, and the Project will be constructed in accordance with regulations that govern material selection and qualification, minimum design requirements, and protection from internal, external, and atmospheric corrosion. Although the class location band shown on the alignment sheets may be class 1 in certain areas, PennEast reiterates its commitment to construct the pipeline using materials that will meet a minimum class 2 requirement including in areas for which only class 1 pipe is required.

b. Trap Rock Quarry Issues

A comment states that the Draft EIS fails to address the fact that the Project is within 0.25 mile of Trap Rock Quarry in Delaware Township, Hunterdon County, New Jersey, and only recognizes proximity to active quarries in Pennsylvania.⁴⁰ PennEast has provided detailed information regarding Trap Rock's Hunterdon County quarry throughout the development of the Project, including a comprehensive response and analysis in its June 21, 2016 supplemental data response to FERC Staff's April 29, 2016 Environmental Information Request. Specifically, with respect to Trap Rock's Hunterdon County quarry, PennEast provided a report titled "Evaluation of the Hunterdon County Trap Rock Quarry Blasting Activities Effects on the Proposed PennEast Pipeline." The report concludes that blasting at the Trap Rock Quarry in Hunterdon County is not anticipated to have any disruptive or damaging effect on the proposed Project and that based on the analysis in the report and other studies conducted by PennEast, PennEast does not anticipate blasting will impact the safety of the proposed Project. Trap Rock has not provided PennEast with any additional information regarding specific plans to expand any of its quarries in the vicinity of the Project. In the event that Trap Rock activates and expands its Hunterdon County quarry, the expanded quarry will still be greater than 0.25 mile from the PennEast Project at its closest point.

³⁹ Comment of Vincent DiBianca, Accession No. 20160909-5230, Docket No. CP15-558-000, at 3-4 (Sept. 9, 2016); Comment of Lucy Freck, Accession No. 20160909-5034, Docket No. CP15-558-000, at 1 (Sept. 9, 2016); Comment of Maryanne Plesher, Accession No. 20160909-5228, Docket No. CP15-558-000, at 1-2 (Sept. 9, 2016).

⁴⁰ Comment of Delaware Township, Accession No. 20160912-5531, Docket No. CP15-558-000, at 2 (Sept. 9, 2012).

9. Flooding Issues

A comment states that the Draft EIS fails to adequately address flooding issues such as increased runoff and that the Commission has failed to comply with Executive Order 11988 regarding flood risk.⁴¹ In Resource Report 2, Sections 2.3 and 2.6 of the September 2015 Application, PennEast addresses the use of BMPs during construction, operation, and maintenance to control stormwater runoff from its facilities. Aboveground facilities will have approved detention and retention structures in compliance with state and local zoning requirements to control runoff and manage any increases in storm flows resulting from impervious surfaces associated with the Project. PennEast anticipates that the Project's design avoids any impacts from flooding. Regarding Executive Order 11988, which relates to the management of floodplains, PennEast does not propose the development of aboveground facilities within floodplains. Executive Order 11988 is therefore not implicated with respect to the proposed Project.

10. Soils and Geology

Comments raise concerns regarding the Draft EIS's conclusions on mitigation of geological issues such as earthquakes.⁴² PennEast performed a screening-level evaluation of the potential surface fault displacement hazard along the pipeline. Although the pipeline crosses the Ramapo fault system, the Draft EIS correctly stated that the U.S. Geological Survey does not consider the Ramapo fault system to be Quaternary active because the "geologic evidence is insufficient to demonstrate (1) the existence of a tectonic fault or (2) Quaternary slip or deformation associated with the feature." Because there are no known Quaternary active faults beneath the pipeline, the surface fault displacement hazard along the pipeline is considered to be negligible, requiring no mitigation measures. Appendix O in the Draft EIS provides more detail.

11. Traffic Issues

A comment states that certain roadways near the Project are light duty and would not be able to handle heavy duty construction equipment.⁴³ PennEast submitted a *Residential Access and Traffic Management Plan* to the Commission on August 5, 2016 as Attachment 3 to the Third Supplemental Response of the November 2015 Data Request. Section 3, *Utilization of Roadways during Construction*, explains how PennEast will avoid and mitigate any impacts to public roadways utilized for the movement of construction equipment and the daily commuting of workers to and from the construction work areas. In particular, prior to commencing construction, PennEast will require its contractors to obtain road and highway permits for the use of public roads to transport construction equipment and materials, especially for any overweight or oversized equipment. Any damage to public and private roadways directly attributable to construction activities will be repaired by PennEast's contractors.

⁴¹ See *id.* at 3.

⁴² See Comment of Lucy Gorelli, Accession No. 20160815-5024, Docket No. CP15-558-000, at 1 (Aug. 15, 2016).

⁴³ Comment of Terese Buchanan, Accession No. 20160908-5182, Docket No. CP15-558-000, at 1 (Sept. 8, 2016).

12. Comments on the Cumulative Impacts Analysis

a. Blue Mountain Commercial Developments

Several commenters suggest that the Draft EIS should include in its cumulative impacts analysis proposed developments at the Blue Mountain resort associated with new hotels and a water park.⁴⁴ PennEast has included the Combined Heat and Power Plant proposed to be located at Blue Mountain in its cumulative impacts analysis (see DEIS table 4.12-1). However, when PennEast prepared its September 2015 Application, there was insufficient information regarding these other new developments and their foreseeability. PennEast reassessed whether there is adequate current information to support the potential hotel and water park development's inclusion in the cumulative impacts analysis and concludes that, at this time, there is not. It does not appear that any reasonable site development plan is available that provides firm details on acreage, number of units, and construction schedule, nor has such a plan been submitted to applicable state, county, or local agencies for review or approval. One commenter provided promotional materials for the development that included a "concept plan" for potential development at the Blue Mountain resort, but these materials do not indicate that the development is anything other than speculative.

Several comments also request an updated version of Draft EIS table G-14. To address the route modifications filed by PennEast on September 23, 2016, PennEast included an updated version of table G-14 as part of that filing.

b. Penn Forest Wind Energy Project

A commenter states that potential construction conflicts between the Project and the Penn Forest Wind Energy Project should be addressed in the Draft EIS.⁴⁵ Although news releases indicate that the Penn Forest Wind Energy Project is seeking zoning approval, additional state and federal agency approvals will be necessary before the project could move forward. Not enough information is available at this time to forecast whether the construction of the project will move forward, to what extent the projects' schedules would overlap or impede each other, and any potential for cumulative impacts.

c. Oil and Gas Development Near the Project

EPA Region III recommends that the Commission consider estimating the number of wells permitted within 10 miles of the Project.⁴⁶ A review of the PADEP's Oil and Gas Mapping Website,⁴⁷ does not indicate any wells in the Pennsylvania counties of the Project (Luzerne, Carbon, Northampton, and Bucks). A review of an online well mapping and information services website⁴⁸ also confirms that there are no records of gas wells in the Project counties in New

⁴⁴ See Appalachian Mountain Club Comment at 2-3; Comment of Appalachian Trail Conservancy, Accession No. 20160912-5664, Docket No. CP15-558-000, at 1-2 (Sept. 12, 2016).

⁴⁵ See Appalachian Mountain Club Comment at 6-7.

⁴⁶ See EPA Region III Comment, Encl. at 2-3.

⁴⁷ PA Oil and Gas Mapping, Pennsylvania Department of Environmental Protection, <http://www.depgis.state.pa.us/PaOilAndGasMapping/>.

⁴⁸ See Map of Oil & Natural Gas Drilling Health & Safety Issues, Drilling Maps, <http://www.drillingmaps.com/>.

Jersey (Hunterdon and Mercer). Therefore, it is PennEast's current understanding that there are no records of natural gas wells within 10 miles of the Project.

13. Mitigation and Monitoring

Comments raise concerns that the Draft EIS does not sufficiently address analysis of mitigation techniques.⁴⁹ PennEast's August 31, 2016 Response to Draft EIS Recommended Mitigation Items includes further analysis and documentation of proposed mitigation techniques for the PennEast Project. Other Project mitigation techniques are still being developed in consultation with federal, state, and local agencies as environmental and other critical surveys are still ongoing.

14. Delaware Canal National Historic Landmark Section 106 Consultations

The NPS states that it would like to participate in the Section 106 consultations for Delaware Canal National Historic Landmark area, which the Project crosses using HDD methods.⁵⁰ PennEast does not believe that the HDD will affect the Delaware Canal National Historic Landmark, and PennEast will submit information supporting this opinion to the Pennsylvania State Historic Preservation Office in October 2016.

⁴⁹ See Lower Saucon Comment at 54-56; NJCF Comment on Air Quality at 2-3.

⁵⁰ See Nat'l Park Serv. Comment at 5-6.