Federal Energy Regulatory Commission
Office of Energy Projects

January 2017

Texas Eastern Transmission, LP **Docket No. CP16-501-000**

Marshall County Mine Panel 17W Project

Environmental Assessment

Washington, DC 20426

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Attachment

ENVIRONMENTAL ASSESSMENT
Marshall County Mine Panel 17W Project
Texas Eastern Transmission, LP
Docket No. CP16-501-000

A. PROPOSED ACTION

1. Introduction

The staff of the Federal Energy Regulatory Commission (Commission or FERC) has prepared this environmental assessment (EA) to assess the environmental effects of a natural gas pipeline project proposed by Texas Eastern Transmission, LP (Texas Eastern) in Marshall County, West Virginia, referred to as the Marshall County Mine Panel 17W Project (Project). On September 15, 2016, Texas Eastern filed an application with the Commission in Docket No. CP16-501-000 for the Project. The Project was filed under section 7(c) of the Natural Gas Act (NGA) and Part 157 of the Commission's regulations requesting authority to excavate, elevate, replace, and reinstall certain sections of several different pipelines due to the anticipated longwall coal mining activities of Marshall County Coal Company (Marshall Coal).

We[1] prepared this EA in compliance with the requirements of the National Environmental Policy Act (NEPA), the Council on Environmental Quality regulations for implementing NEPA (Title 40 of the Code of Federal Regulations, parts 1500-1508 [40 CFR 1500-1508]), and the Commission's implementing regulations under 18 CFR 380. The assessment of the environmental impacts is an important and integral part of the Commission's decision on whether to issue Texas Eastern a Certificate of Public Convenience and Necessity (Certificate) to construct, operate, and maintain the Project facilities.

2. Purpose and Need

Texas Eastern states that the purpose of the Project is to mitigate safety hazards associated with the longwall mining of coal under Texas Eastern's existing pipeline facilities. Texas Eastern was notified that Marshall Coal plans to mine its Panel 17W in the Marshall Coal Mine in the near future. Longwall mining is a form of underground coal mining where a long wall of coal is mined in a single slice and the roof of the mine is allowed to collapse as mining advances. Texas Eastern has designed the Project to

[1] "We," "us," and "our" refers to the environmental staff of the Commission's Office of Energy Projects.

ensure the integrity of Texas Eastern's facilities and to ensure that certificated levels of service are maintained throughout the duration of the mining activities.

Under section 7(c) of the NGA, the Commission determines whether interstate natural gas transportation facilities are in the public convenience and necessity and, if so, grants a Certificate to construct and operate them. The Commission bases its decisions on technical competence, financing, rates, market demand, gas supply, environmental impact, long-term feasibility, and other issues concerning a proposed project.

3. Public Review and Comment

On September 30, 2016, the Commission issued a *Notice of Intent to Prepare an Environmental Assessment for the Proposed Marshall County Mine Panel 17W Project and Request for Comments on Environmental Issues* (NOI). The NOI was sent to affected landowners; owners of minerals rights; federal, state, and local government agencies; elected officials; Native American tribes; other interested parties; and local libraries and newspapers. No comments were received in response to the NOI.

4. Proposed Facilities

Texas Eastern's existing Lines 10, 15, 25, and 30 are all collocated within a pipeline right-of-way corridor located within Panel 17W of the Marshall County Mine. Specific activities for the Project are detailed below:

- Excavate and replace the approximate 0.5-mile-long section of the 30-inch-diameter Line 10 from approximately milepost (MP) 719.7 to MP 720.2. The new Line 10 pipeline segment would be left elevated above ground, offset from the backfilled trench, and hydrostatically tested before placing it back into service for the duration of the mining activities. The pipeline segment would be monitored for stress and strain levels from potential ground subsidence during mining activities.

- Excavate and replace the approximate 0.5-mile section of 30-inch-diameter Line 15 from approximately MP 720.2 to MP 720.7, elevate, offset and hydrostatically test the new Line 15 pipeline segment before placing back into service for the duration of the mining activities. The pipeline segment would be monitored for stress and strain levels from potential ground subsidence during mining activities.

- An approximate 140-foot-long section of Line 10 within the Project is located within wetlands W-T01-015 and W-T010-018. Also, an approximate 85-foot-long section of Line 15 within the Project is located within wetland W-01-015. These two sections would be abandoned in place during the mining activities to limit excavation in wetlands and to minimize impacts. When the replacement pipeline

would be reinstalled underground, the abandoned sections of the pipelines would be removed.

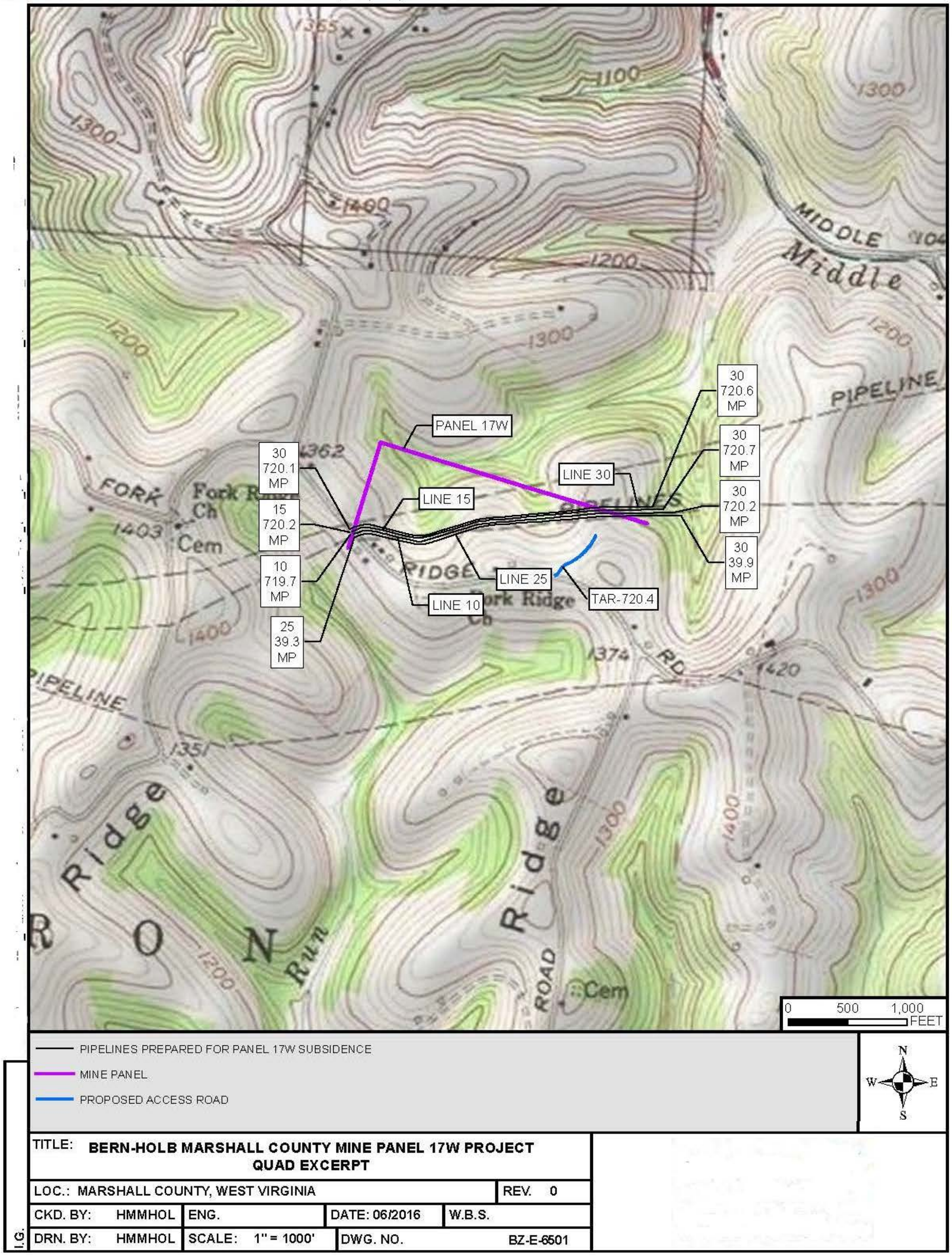
- Excavate an approximate 0.5-mile-long section of the 36-inch-diameter Line 25 from approximately MP 39.3 to MP 39.8. Elevate, offset, and hydrostatically test the excavated Line 25 pipeline segment before placing it back into service for the duration of the mining activities. Monitor the stress and strain levels during mining activities.

- Excavate an approximate 0.5-mile-long section of the 36-inch-diameter Line 30 from approximately MP 720.1 to MP 720.6. Elevate, offset, and hydrostatically test the excavated Line 30 pipeline segment before placing it back into service for the duration of mining activities. Monitor the stress and strain levels during mining activities.

Following mining activities and the 2017-2018 heating season, all pipeline segments would be reinstalled below ground surface, hydrostatically tested, and placed back into service. The certificated design capacities and maximum allowable operating pressures of the pipeline segments would remain unchanged.

A map of the Project is shown in figure 1.

Figure 1


PANEL 17W
30
720.1
MP
15
720.2
MP
10
719.7
MP
25
39.3
MP
LINE 15
LINE 10
LINE 25
LINE 30
TAR-720.4
30
720.6
MP
30
720.7
MP
30
720.2
MP
30
39.9
MP
PIPELINE
PIPELINE
FORK
Fork Run
Ch
Cem
RIDGE
Fork Ridge
Ch
RD
MIDDLE
Middle
Ridge
Ridge
Run
ROAD
Cem
R O N
0 500 1,000 FEET
PIPELINES PREPARED FOR PANEL 17W SUBSIDENCE
MINE PANEL
PROPOSED ACCESS ROAD
N
W
E
S
TITLE: BERN-HOLB MARSHALL COUNTY MINE PANEL 17W PROJECT QUAD EXCERPT
LOC.: MARSHALL COUNTY, WEST VIRGINIA
REV. 0
CKD. BY: HMMHOL
ENG.
DATE: 06/2016
W.B.S.
DRN. BY: HMMHOL
SCALE: 1" = 1000'
DWG. NO. BZ-E-6501
I.G.

5. Construction, Operation, and Maintenance Procedures

The Project would follow a general construction sequence of surveying, clearing, grading, trenching for pipe removal, pipe elevation/removal, replacement of pipeline sections, temporary trench backfilling, hydrostatic testing, and temporary restoration. Once the pipelines are elevated, maintenance and monitoring would be conducted during the period of potential ground subsidence that could occur during mining. Following the mining activities and possible ground subsidence, the sequence would continue with trenching for re-installation of the pipelines, hydrostatic testing, backfilling, final cleanup, and restoration.

Project workspaces are primarily located within the existing rights-of-way. Workspace has been selected to minimize tree clearing to the extent practicable; however, the edge of the construction corridor and some areas of additional temporary workspaces (ATWS) are forested, so tree clearing would be required.

Following initial survey, clearing, and grading, all four pipelines would be excavated and the original belowground pipe segments for Lines 10 and 15 would be removed (with the exception of two sections located within wetlands) and replaced with the new pipe. Lines 10, 15, 25, and 30 would be elevated above ground, on sandbags and skids, at the edge of, or adjacent to, the existing maintained pipeline right-of-way. The trenches would be backfilled once removal of the pipelines is complete, and the disturbed areas would be stabilized. Strain gauges would be attached to the aboveground pipelines during the elevation process, and access between the pipelines would be maintained for monitoring and maintenance during the mining and ground subsidence period. After the aboveground pipe installation is complete, each pipeline segment would be hydrostatically tested before being placed into service, and the construction workspace would be temporarily stabilized for the duration of the ground subsidence period.

Each of the pipelines would be monitored while aboveground and during the period of ground subsidence. The monitoring period would be determined by the timing and duration of Marshall Coal's longwall mining activities in Panel 17W, currently estimated to be between September 2017 and December 2017. During this period, Texas Eastern would reposition the aboveground pipelines, as necessary, to minimize stress on the pipelines.

Following completion of Marshall Coal's longwall mining activity and ground subsidence in Panel 17W and after the 2017-2018 heating season, the four pipelines would be re-installed belowground. The general re-installation sequence would continue with trenching to re-install or reconnect the pipelines; backfilling; hydrostatic testing; tie-in; and final cleanup and restoration. During the re-installation, the sections of Lines 10 and 15 that had been replaced before being elevated aboveground would be placed approximately in the original pipeline alignments, tested and placed into service. The

original segments of Lines 25 and 30 would be replaced approximately within their original alignments, tested, and placed into service

Texas Eastern would construct the project in accordance with its Erosion and Sedimentation Control Plan (E&SCP) which incorporates our *Upland Erosion Control, Revegetation, and Maintenance Plan* (Plan) and *Wetland and Waterbody Construction and Mitigation Procedures* (Procedures), with alternative measures discussed in the water resources section of this EA.[2] Additionally, Texas Eastern has developed a Spill Prevention, Control, and Countermeasure (SPCC) Plan to minimize spills of fuel, oil, lubricants, and other construction materials and provide measures for cleanup in the event a spill occurs.

Texas Eastern proposes a construction schedule that would avoid working on its existing pipelines during the heating season (November 1 through April 1). Texas Eastern is proposing to conduct tree clearing and site preparation activities in March 2017 for the Project followed by the excavation and elevation work. These activities are expected to be completed in August 2017, prior to the start of longwall mining activities in September 2017. Texas Eastern's pipelines would remain in service while aboveground. Reburial of the pipelines below-grade is planned to begin in April 2018, after the cessation of ground subsidence and following the 2017-18 heating season. The Project is expected to be completed and all pipeline segments returned to service by October 31, 2018, provided there are no significant mining schedule changes.

6. Land Requirements

Land requirements for the Project are provided in table 1. Project activities would occur primarily within and adjacent to Texas Eastern's existing pipeline right-of-way. The construction workspace would include the 125-foot-wide existing pipeline right-of-way as well as a 75-foot-wide temporary construction right-of-way. The temporary alignments for the aboveground pipeline segments would be located within the temporary construction right-of-way adjacent to and offset from each of the original belowground alignments. The existing and temporary construction rights-of-way would also be used for removing the existing pipelines, monitoring the aboveground pipe segments during mining, and re-installing or reconnecting the pipelines belowground in their original alignments following the mining activity and ground subsidence. The construction workspace would also include additional temporary workspace at road crossings and in steeply sloped areas, which would be used for stockpiling trench spoil and for staging equipment.

[2] Our Plan and Procedures may be found on the FERC website at http://www.ferc.gov/industries/gas/enviro/plan.pdf and http://www.ferc.gov/industries/gas/enviro/procedures.pdf.

Texas Eastern proposes to use the existing and previously certificated Bristoria Wareyard as the contractor wareyard for the Project. In addition, Texas Eastern proposes to use the existing and previously certificated Mount Braddock pipeyard to store new pipe and used pipe prior to disposal. One existing farm road would provide temporary access during construction of the Project. The access road may require minimal improvements; it would be restored in accordance with landowner agreements following completion of construction activities.

Although Texas Eastern has identified areas where extra workspace would be required, additional or alternative areas could be identified in the future due to changes in site-specific construction requirements. Texas Eastern would be required to file information on each of those areas for our review and approval prior to use.

Table 1
Marshall County Mine Panel 17W Project Summary of Land Requirements for Pipeline Facilities

Facility	County, State	Total Construction Workspace (acres)	Permanent Easement for Operation (acres)
Pipeline Right-of-Way			
Lines 10, 15, 25, and 30	Marshall County, WV	18.1	8.6
Other Work Areas			
Temporary Access Roads	Marshall County, WV	0.3	0.0
Bristoria Wareyard	Greene County, PA	7.4	0.0
Mount Braddock Pipeyard	Fayette County, PA	28.9	0.0
Total		**54.7**	**8.6**

Note:
[a] No new permanent easement will be required as part of the Project, and all permanent impacts are within the existing ROW.

Following re-installation or reconnection of the pipelines after ground subsidence, the construction workspace would be restored to its original contours to the extent practicable, stabilized, and allowed to return to pre-construction conditions. Because no expansion of the permanent, maintained right-of-way would be required, all impacts associated with the Project are expected to be temporary.

7. Permits

Texas Eastern states that it would obtain all necessary permits, licenses, and clearances related to the construction of the Project. All relevant permits and approvals, listed in table 2 below, would be provided to the construction contractor who would be required to be familiar with applicable requirements.

Table 2 Marshall County Mine Panel 17W Project Environmental Permits/Approvals			
Agency	**Permit/Approval**	**Submittal Date[a]**	**Expected Approval Date[a]**
Federal			
Federal Energy Regulatory Commission	Certificate of Public Convenience and Necessity	September 2016	*Pending*
U.S. Fish and Wildlife Service	Section 7 Threatened and Endangered Species Consultation and Clearance	January 2016	April 2016
U.S. Army Corps of Engineers	Section 404 Permit	October 2016	*January 2017*
State			
West Virginia			
West Virginia Division of Culture and History	Section 106 of the National Historic Preservation Act Clearance	September 2016	*January 2017*
West Virginia Department of Environmental Protection	Section 401 Water Quality Certification	Individual 401 Water Quality Certification is not required for the Project. The Project complies with all West Virginia 401 Water Quality Certification Special Conditions listed in Nationwide Permit 12.	Not applicable
West Virginia Department of Environmental Protection	General Permit WV0116815 (Stormwater Associated within Oil and Gas related Construction Activities)	September 2016	*February 2017*
West Virginia Department of Environmental Protection	General Permit WV0113069 (General Permit Hydrostatic Test Water Discharge)	September 2016	*February 2017*
West Virginia Department of Natural Resources, Public Land Corporation	Stream Activity Application	December 2016	*January 2017*
West Virginia Department of Natural Resources, Wildlife Resources Section	Threatened and Endangered Species Consultation	January 2016	*January 2017*
Pennsylvania			
Pennsylvania Historical and Museum Commission - Bureau for Historic Preservation	Section 106 of the National Historic Preservation Act Clearance	February 2016	May 2016

Agency	Permit/Approval	Submittal Date[a]	Expected Approval Date[a]
Pennsylvania Fish and Boat Commission	Threatened and Endangered Species Consultation and Clearance	February 2016	March 2016
Pennsylvania Department of Conservation and Natural Resources	Threatened and Endangered Species Consultation and Clearance	February 2016	March 2016
Pennsylvania Game Commission	Threatened and Endangered Species Consultation and Clearance	February 2016	March 2016
Note: [a] *Anticipated dates in italics*			

8. Non-jurisdictional Facilities

No non-jurisdictional facilities would be constructed.

B. ENVIRONMENTAL ANALYSIS

The following sections discuss potential impacts on environmental resources as a result of the Project.

1. Geology

The Project is in Marshall County, West Virginia, and is situated within the Appalachian Plateau Province. The plateau contains an abundance of minable coal. The Project traverses many steep ridges and valleys that are typical of this area of Marshall County. The underlying bedrock within the affected area is from the Permian or Pennsylvania age (230 to 290 million years ago) and made up of cyclic sequences of sandstone, shale, siltstone, limestone, and coal.

The Project is being proposed because the longwall mining of coal at the Marshall County Mine is planned under Panel 17W situated along Texas Eastern's existing pipeline system in Marshall County, West Virginia. The Project would allow coal to be safely mined while maintaining the integrity of Texas Eastern's pipelines.

No geologic resources would be affected as excavation of the existing pipelines would occur on previously disturbed pipeline rights-of-way.

While there are many oil and gas fields located in Marshall County, ten active wells are located within 0.25 mile of the Project. These wells would not be affected because no wells are located directly within the construction workspace of the Project. Texas Eastern is not aware of any existing pipelines that cross its rights-of-way, but if any are discovered during construction Texas Eastern would identify and contact the owner.

The alignments for the reinstallation of the pipelines below ground would be within existing trench lines for the majority of the Project facilities; no blasting is anticipated. If blasting does become necessary, Texas Eastern stated it would adhere to blasting requirements in its E&SCP, and all local, state, and federal regulations applying to controlled blasting and blast vibration limits for structures and underground or aboveground utilities. Texas Eastern would apply to the West Virginia Department of Environmental Protection (WVDEP) for its blasting permits prior to any blasting. Its E&SCP requires the development of specific blasting procedures in coordination with the appropriate agencies that address pre- and post-blast inspections; procedures to notify the public; and the development of mitigation measures for building foundations, groundwater wells, and springs. The E&SCP also requires the use of appropriate methods (e.g., blasting mats) to prevent damage to nearby structures and to prevent debris

from entering sensitive environmental resource areas. Its E&SCP addresses blasting in waterbodies.

The Project is designed to minimize risks that could result from coal mining activities and potential ground subsidence under Texas Eastern's existing easements. Other geologic hazards (such as earthquakes, landslides, and soil liquefaction) are not anticipated to be a significant factor for the Project. The Project is not located within a region with a high probability of a serious earthquake, nor does the Project cross faults, and there are no known earthquake epicenters located within Marshall County, West Virginia. The conditions necessary for soil liquefaction are not present in the areas disturbed by the Project. The Project is within an area that generally is characterized as susceptible to the potential for landslides, but Texas Eastern's proposed use of waterbars to direct excess surface water off the right-of-way on slopes, in accordance with its E&SCP, would minimize the development of landslides.

Because of the mining mitigation proposed by Texas Eastern and use of waterbars to minimize landslide development, we conclude that the impacts of geologic hazards on the pipelines would not be significant.

2. Soils

Construction activities have the potential to affect soil characteristics adversely, thereby limiting the restoration potential of areas disturbed by land-clearing activities and the movement of heavy equipment. Potential soil impacts in the Project area include loss of vegetation and subsequent soil erosion, mixing of topsoil and subsoil, and soil compaction. Only a small portion of the disturbed area of the Project has a high compaction potential. The soils in the disturbed areas consist mostly of silt loams and have bedrock within 6 feet of the surface. The Project area is classified as being mostly highly water erodible and from somewhat poorly to well drained.

Texas Eastern would backfill pipeline trenches after the pipelines are elevated and would temporarily restore the rights-of-way as part of the mining mitigation procedures. Therefore, the soils would not be exposed to excess wind and water erosion during the period the pipelines are elevated. In addition, Texas Eastern would monitor the rights-of-way and the temporary erosion controls during the time the pipelines remain elevated.

Texas Eastern plans to temporarily stabilize soils by seeding and mulching to reduce potential wind and water erosion. Because trenches would be backfilled following pipeline elevation, spoil piles present during the period of potential ground subsidence would be limited to areas where topsoil has been segregated for use during final restoration. Travel lanes would be needed along the rights-of-way for monitoring and maintenance during the period while the pipelines are elevated. Temporary erosion

control devices would be installed and maintained as needed until final restoration is completed.

The use of the E&SCP, which would be approved by the county, and the temporary restoration measures while the pipelines are excavated and elevated, would minimize erosion during both the mining mitigation and final restoration of the Project. Therefore, effects on soils, erosion, and sedimentation would be minor and not significant.

3. Vegetation and Wildlife

Vegetation

The vegetation affected by the Project consists mostly of herbaceous and forested vegetation on Texas Eastern's existing and maintained pipeline easements and ATWS adjacent to these easements. Additional workspace would be cleared adjacent to the existing easements to facilitate work on the pipelines. The construction right-of-way, ATWS, and temporary access roads would impact 16.4 acres of agricultural land vegetated mostly in grasses and herbaceous vegetation, 0.4 acre of emergent wetland vegetation, and about 1.3 acres of wooded/forested areas that would be cleared.

The temporary right-of-way and ATWS would be revegetated and allowed to revert to its pre-existing condition and use upon completion of the project. Ongoing easement and pipeline maintenance operations would not permanently impact those areas currently outside the existing permanent easements.

No new areas would be permanently cleared and vegetation impacts associated with the Project would be minimal.

Wildlife

Ground disturbance associated with the Project is relatively small and mostly within existing maintained rights-of-way. Most of the affected workspaces are vegetated with grasses and herbaceous species and 1.3 acres of forest/woodland would be affected. These vegetation types are common in the area and affected wildlife could relocate during construction. Therefore, we conclude that the Project would not have a significant impact on wildlife.

Migratory Birds

Migratory birds are generally species that nest in the United States and Canada during the summer and then migrate to and from the tropical regions of Mexico, Central and South America, and the Caribbean for the non-breeding season. Migratory birds are

protected under the Migratory Bird Treaty Act of 1918 (MBTA). Destruction or disturbance of a migratory bird nest resulting in the loss of eggs or young is a violation of the MBTA. Executive Order 13186 (EO 13186) was enacted in 2001 to, among other things, ensure that environmental analyses of federal actions evaluate the impacts of actions and agency plans on migratory birds. EO 13186 directs federal agencies to avoid or minimize adverse impacts on migratory birds through enhanced collaboration with the U.S. Fish and Wildlife Service (FWS), and emphasizes species of concern, priority habitats, and key risk factors.

On March 30, 2011, the FWS and the Commission entered into a Memorandum of Understanding (MOU) that focuses on avoiding or minimizing adverse impacts on migratory birds and strengthening migratory bird conservation through enhanced collaboration between the Commission and the FWS by identifying areas of cooperation. This voluntary MOU does not waive legal requirements under any other statutes and does not authorize the take of migratory birds.

Texas Eastern would minimize fragmentation, minimize impacts on breeding habitats, avoid permanent habitat alterations, implement erosion controls, and restore disturbed areas. Texas Eastern anticipates conducting tree clearing activities in March 2017 which is prior to the migratory bird nesting season which begins April 15.

Texas Eastern received a response from the FWS dated March 4, 2016, in which the FWS stated that potential impacts on migratory birds would be minimized through the implementation of Texas Eastern's proposed avoidance and minimization measures. Texas Eastern would avoid and minimize tree clearing, habitat disturbance, and habitat fragmentation by concentrating construction within and adjacent to the existing right-of-way. Texas Eastern's E&SCP also prohibits routine vegetation mowing or clearing during the migratory bird nesting season (April 15 to August 1 of any year). Because of these combined avoidance and mitigation measures, the Project is not expected to result in adverse impacts on migratory bird populations.

While no bald eagle nests have been identified by the FWS in any of the Project areas, Texas Eastern has committed to implementing the *National Bald Eagle Management Guidelines,* should an eagle be spotted. We have determined that the Project would not significantly adversely impact bald eagles in the project areas.

Special Status Species

Special status species are those species for which state or federal agencies afford an additional level of protection by law, regulation, or policy. Special status species can include federally listed species protected under the Endangered Species Act (ESA), as amended, and state sensitive species. Section 7 of the ESA requires the lead federal agency to ensure that any action authorized, funded, or carried out by the agency does not

jeopardize the continued existence of a federally listed endangered or threatened species. The action also cannot destroy or degrade designated critical habitat of a federally listed species.

The Commission is required to consult with the FWS to determine whether any critical habitat, proposed critical habitat, federally listed species, or species candidates for federal listing might occur in the project area. The FWS also analyzes the proposed action's potential impacts on these species or critical habitats.

Texas Eastern, acting as the FERC's non-federal representative for the purpose of complying with section 7(a)(2) of the ESA, identified two federally listed species as potentially occurring in the Project area based on the Information in the Planning and Conservation (IPaC) Trust Resource Report for the Project area and initiated informal consultation with the FWS for the Indiana bat and northern long-eared bat, as discussed below. Texas Eastern did not identify any state-listed species potentially occurring in the Project area and requested additional information from the West Virginia Department of Natural Resources (WVDNR).

Indiana Bat

The IPaC tool identified that the federally endangered Indiana bat (*Myotis sodalis*) occurs within the Project area. Indiana bats occur in the Midwest and eastern United States from the western edge of the Ozark region in Oklahoma, to southern Wisconsin, east to Vermont, and as far south as northern Florida. The breeding period usually occurs during the first 10 days of October. Females and juveniles forage near the foliage of riparian areas and often roost in exfoliating (peeling) bark of floodplain trees. Creeks are apparently not used if riparian trees have been removed. Males forage over floodplain ridges and hillside forests and usually roost in caves.

During winter, Indiana bats hibernate in caves and abandoned mines. For hibernation, the bats require cool, humid caves with stable temperatures under 50° Fahrenheit, but above freezing. Very few caves within the range of the species have these conditions. Summer habitat requirements for the species are not well defined, but generally consist of dead or live trees with peeling or exfoliating bark, split tree trunk and/or branches, or cavities; live trees (such as shagbark hickory and oaks); and riparian corridors or upland woodlots that provide forage sites.

The historical decline of the Indiana bat is attributed to commercialization of roosting caves, destruction by vandals, disturbances caused by increased numbers of spelunkers and bat banding programs, use of bats as laboratory experimental animals, and possibly insecticide poisoning. Current threats include loss of hibernating and nesting habitats, and white-nose syndrome. The Indiana bat is nearly extinct over most of its former range in northeastern states.

The FWS stated in a letter dated March 4, 2016, that this Project is not likely to adversely affect the Indiana bat due to the distance from known hibernacula, roosts and minor effect to forested habitat. We agree.

Northern Long-Eared Bat

The IPaC tool also identified that the federally threatened northern long-eared bat occurs within the Project area. Northern long-eared bats are found in a wide variety of forested habitats during the summer. They roost in mines, caves, other manmade structures, and both live and dead trees. These bats typically hibernate in the winter months. They can hibernate in caves, railroad tunnels, and mines. The northern long-eared bat and the Indiana bat have similar yearly cycles that include staging, maternity, and swarming seasons.

The FWS also stated in a letter dated March 4, 2016, that while Northern long-eared bats may occur within the Project area, this Project is exempted under the 4(d) rule.

State-protected species

Texas Eastern consulted the WVDNR in a letter dated January 27, 2016, to evaluate the potential presence of state-listed species of concern in the Project area. The WVDNR did not provide a response. In addition, Texas Eastern submitted Pennsylvania Natural Diversity Inventory (PNDI) requests on January 29, 2016, for the Bristoria Wareyard and Mount Braddock Pipeyard. Both PNDI requests returned a 'no impact anticipated' response from all four reviewing agencies; the Pennsylvania Game Commission, the Pennsylvania Department of Conservation and Natural Resources, the Pennsylvania Fish and Boat Commission, and the FWS.

Based on the scope and setting of the proposed Project activities, we conclude that impacts on wildlife would be mostly temporary and not significant. Furthermore, MBTA and ESA consultations for the Project are complete.

4. Water Resources

Groundwater

The Project is underlain by the Permian and Pennsylvanian Aquifers of the Appalachian Plateau Province.

Two water wells and one spring were identified within 150 feet of the Project (See table 3). The landowners currently use the water wells and springs for both residential and agricultural uses. Texas Eastern would offer pre-construction and post-construction

well monitoring to identify and resolve any potential well impacts. The spring identified at MP 719.8 is within the limits of wetland W-T01-018 and is outside the area of construction. Texas Eastern would install a sediment barrier around the spring in order to avoid directly impacting the spring. After construction has been completed, Texas Eastern would restore the wetland to previous contours. Texas Eastern also identified many hillside groundwater discharges in the form of hillside wetlands. These seeps contain diffuse flow and are not developed for human or livestock use.

Table 3
Water Supply Wells and Springs Within 150 Feet of the Construction Workspace

Milepost	Type	Distance from Construction Workspace (feet)	Direction from Construction Workspace
719.9	Well	135	South
719.8	Spring	1	South
719.7	Well	71	South

No known hazardous waste sites are crossed or within 0.5 mile of the Project.

The proposed construction activities associated with the Project would involve shallow excavation, typically less than 10 feet and would avoid impact to the wells. Also, proper implementation of the E&SCP would ensure potential impacts to the spring which is near, but outside of the construction area, would be avoided and effects on groundwater resources would be minimal. However, accidental spills or leaks of hazardous liquids, resulting from refueling of construction vehicles and storage of fuel, oil, and other fluids during construction, could contaminate shallow groundwater and result in impacts on local groundwater. To avoid or minimize potential impacts, Texas Eastern would comply with its SPCC Plan that identifies preventative measures to be used during construction to reduce the potential for a hazardous material spill. We have reviewed the SPCC Plan and find it acceptable.

Surface Water and Fisheries

The Project lies within the Middle Grave Creek watershed (12-digit hydrologic unit code [HUC] 050301060001), which drains to the Ohio River by way of Grave Creek. Field surveys identified eight waterbodies within the construction work area and access roads. The pipeline trench does not cross any of the waterbodies. Project is located outside of the 100-year floodplain and in an area with minimal flooding potential. All watercourses are unnamed tributaries to Middle Grave Creek. According to the WVDEP Water Quality Standards, the designated uses of Middle Grave Creek are warm water

fishery, water contact recreation, agriculture and wildlife, and industrial water supply. Middle Grave Creek does not qualify for trout water, public water supply, or power supply facility designated uses.

Table 4
Watercourses within the Construction Workspace

Milepost	Watercourse	Watercourse Name	Flow Type	Bank Width (feet)	OHWM Width (feet)	OHWM Depth (feet)	Area of Watercourse Within Construction Workspace (acres)
720.0	S-T01-016	UNT to Middle Grave Creek	I	6	2	0 – 0.5	<0.01
720.0	S-T01-017	UNT to Middle Grave Creek	I	10	2	0 – 0.5	<0.01
720.0	S-T01-017A	UNT to Middle Grave Creek	E	4	1	0 – 0.5	<0.01
720.0	S-T01-018	UNT to Middle Grave Creek	P	5	2	0 – 0.5	<0.01
720.0	S-T01-018A	UNT to Middle Grave Creek	P	5	2	0 – 0.5	<0.01
720.2	S-T01-020	UNT to Middle Grave Creek	P	8	4	0 – 0.5	0.02
719.8	S-T01-021	UNT to Middle Grave Creek	P	6	2	0 – 0.5	<0.01
719.8	S-T01-021A	UNT to Middle Grave Creek	I	4	2	0 – 0.5	<0.01
						Total Impacts	**0.03**

Key: E = ephemeral, I = intermittent, OHWM = ordinary high water mark, P = perennial, UNT = unnamed tributary

Middle Grave Creek is listed in the West Virginia 2014 Integrated Water Quality and Monitoring Report as a Category 4a stream, which is defined as waters that are impaired. Because all of the waterbodies within the construction workspace are unnamed tributaries, their attainment status is not assessed in the Integrated Water Quality and Monitoring Report.

Texas Eastern would restore all workspaces to pre-construction contours and would employ the erosion control measures prescribed in its E&SCP to limit and impacts on waterbodies.

Texas Eastern proposes to use the existing and previously certificated (under Docket No. CP14-9-000) Bristoria Wareyard as a pipeyard/contractor wareyard for vehicle parking, equipment staging, and materials storage. Texas Eastern is currently using this 7.4-acre wareyard, which is entirely composed of industrial/commercial land, for the Bailey East Mine Panel 2L project. The southern portion of the Bristoria Wareyard lies within the floodplain of the North Fork Dunkard Fork. No changes in land use or new structures would occur at this wareyard, and thus the floodplain will not be affected. No waterbodies within the Bristoria Wareyard would be disturbed.

Middle Grave Creek and its tributaries are designated for use as warm water fisheries, but the current water quality is not supporting this designated use. Fish were not observed during field surveys, although one stream exhibited a sufficiently large upstream watershed and a consistent water presence that could allow fish passage. This stream had a depth of less than one foot at the OHWM, and was less than five feet wide. The remaining seven streams located within the Project construction workspace are headwater streams and lack the flow regime to consistently support fish populations. Impacts on aquatic resources would be minimized by adhering to the protection measures in the E&SCP. Impacts from construction-related sedimentation and turbidity would be limited to short-term, temporary disturbances. No long-term impacts on fisheries are anticipated after restoration of stream bottoms and re-growth of stream bank and aquatic vegetation.

We conclude that the Project would have minimal impacts on surface waters and fisheries because the overall impact on surface water resources would be small, and the use of Texas Eastern's E&SCP would minimize impacts on these resources.

Wetlands

An on-site wetland survey delineated five freshwater emergent wetlands within the construction right-of-way, totaling 0.41 acre, which would be temporarily impacted. Texas Eastern would install timber matting to use as a travel lane across these wetlands to prevent rutting.

Table 5
Wetland Impacts

Milepost[a]	Wetland ID	Pipeline Crossing Length (feet)[b]	Cowardin Classification			Total[c]
			PEM Temporary Impacts (acre)[c]	PSS Temporary Impacts (acre)[c]	PSS Permanent Impacts (acre)[c]	
720.0	W-T01-014	0	0.06	-	-	0.06
720.0	W-T01-015	85	0.13	-	-	0.13
720.0	W-T01-016	0	0.01	-	-	0.01
720.2	W-T01-017	12	0.06	-	-	0.06
719.8	W-T01-018	51	0.15	-	-	0.15
Total Impacts			**0.41**	**0.00**	**0.00**	**0.41**

Notes:

[a] Mileposts correspond to Line 10 mile-posting.

[b] Length of crossing calculated from field-delineated polygons, rounded to the nearest foot. Zeros indicate wetlands located within the construction workspace but not crossed by the pipelines.

[c] Construction impacts calculated from field-delineated polygons and rounded to the nearest hundredth of a foot. Totals were generated from unrounded data and may not match the sum of a column.

Key: PEM = palustrine emergent PSS = palustrine scrub-shrub

Construction and restoration activities in wetland areas would be conducted in accordance with Texas Eastern's E&SCP. The five wetlands that would be impacted are within 50 feet of construction and require additional temporary workspaces within the 50-foot setback required in our Procedures. Also, due to the construction requirements associated with excavating and monitoring four parallel existing pipelines, additional construction right-of-way is needed in wetland areas of more than 75 feet. Our Procedures limit construction rights-of-way in wetlands to 75-feet-wide; however, a 75-foot-wide workspace is not feasible because of the space requirements for excavation and replacement, the fixed separation of the four existing pipelines, the need for a parallel travel lane, and topographic restraints. During construction and monitoring, Texas Eastern would install and maintain appropriate erosion and sediment controls and temporary equipment bridges to minimize impacts on waterways, drainages, and wetlands. Following re-burial of the pipelines, the wetland would be restored as closely as possible to its original contours and the segregated topsoil would be replaced to assist in restoration.

We find the above alternative measures to our Procedures necessary to allow for the safe construction of multiple pipelines on steep topography and to provide access.

In all cases, impacts on wetlands would be temporary. The use of topsoil segregation, reestablishing original contours after pipeline reburial, reapplying topsoil, and proper seeding techniques would minimize impacts and facilitate restoration of the wetlands to pre-construction conditions. Texas Eastern has applied for a section 404 permit from the U.S. Army Corps of Engineers for wetland disturbance. We also conclude that the use of Texas Eastern's E&SCP would minimize impacts on wetlands.

Hydrostatic testing

During hydrostatic testing, each pipeline would be filled with water and would typically be pressurized to one and a half times higher than the maximum pressure under which the pipeline would be operated. The water would be maintained at the prescribed pressure for a minimum of 8 hours to verify the strength and integrity of the new pipelines. Hydrostatic testing would be conducted in a manner that meets or exceeds the U.S. Department of Transportation's (DOT) Regulations at 49 CFR 192, "Transportation of Natural and Other Gas by Pipeline, Minimum Federal Safety Standards." If possible, Texas Eastern plans to reuse the water from hydrostatic testing until testing on each pipeline is completed.

In total, Texas Eastern estimates 510,000 gallons of water would be required for hydrostatic testing of the aboveground pipelines for the Project, and about the same amount for hydrostatic testing after re-installation of the pipelines below ground. Texas Eastern plans to acquire water from a local municipal or commercial water source and discharge at upland locations at either end of the proposed work area. Hydrostatic test water withdrawals and discharges would comply with Texas Eastern's E&SCP, and federal and state requirements. Therefore, impacts from withdrawal and discharge of hydrostatic test water are expected to be temporary and minimal.

5. Land Use, Recreation, and Visual Resources

The Project would affect 54.4 acres of a variety of land types. The majority of lands affected are commercial/industrial and agricultural. Additionally, there would be impact to forest and wetlands. Table 6 summarizes the Projects construction and operational impacts by land use category.

Table 6
Construction and Operational Impacts by Land Use Category

	Agricultural	Forest/ Woodland	Open Land	Residential	Industrial/ Commercial	Wetlands, Waterbodies & Drainages	Total
Maintained ROW	8.4	0.0	0.0	0.0	0.0	0.2	**8.6**
Temporary ROW and ATWS	8.0	1.3	0.0	0.0	0.0	0.1	**9.5**
Bristoria Wareyard	0.0	0.0	0.0	0.0	7.4	0.0	**7.4**
Mount Braddock Pipeyard	0.0	0.0	0.0	0.0	28.9	0.0	**28.9**
Total[a]	**16.4**	**1.3**	**0.0**	**0.0**	**36.3**	**0.4**	**54.4**

Note:

[a] The numbers in this table have been rounded for presentation purposes. As a result, the totals may not reflect the sum of the addends.

Key:

ATWS = additional temporary workspace

ROW = right-of-way

One temporary access road measuring a total length of 502 feet is proposed for use during construction of the project. The access road is an existing farm road and may require minimal improvements, including tree clearing and trimming, gravel placement, or path widening. The access road used for construction would be restored to previously existing conditions and in accordance with landowner agreements, following completion of construction activities.

One residence is located within 50 feet of the construction right-of-way near MP 719.7. The residence includes a garage and elevated pool. The residence is located approximately 20 feet south of the construction workspace, along Fork Ridge Road. Additionally, Texas Eastern has identified one shed within 50 feet of an ATWS. The shed is located approximately 7 feet from the ATWS to be used for equipment staging near MP 719.9. Texas Eastern has filed a site-specific residential construction plan for the residence within 50 feet of the construction work areas (see appendix A). We have reviewed the site-specific residential construction plan and find it acceptable.

Potential impacts on the adjacent residence during construction may include noise and dust from construction equipment and temporary visual effects from removal of vegetation and excavation of soils. To minimize fugitive dust emissions during construction, Texas Eastern would use a procedure that requires periodic watering of disturbed areas (via a mobile watering truck) when needed, based on conditions encountered daily. In addition, all construction-related litter and debris will be removed daily from the construction work areas. Texas Eastern would also install a safety fence at

the edge of the construction right-of-way for a distance of 100 feet on either side of the residence

While the pipelines remain elevated, topsoil would be stockpiled in upland locations, the trenches would be backfilled, and the disturbed areas would be temporarily seeded. Varner Road would remain open for landowner access, but Texas Eastern may temporarily restrict access during construction activities. Texas Eastern has notified the affected landowners through several direct mailings of initial survey activity and Texas Eastern representatives have held meetings with individual landowners to discuss the proposed activity. Landowners have also been notified of the project in accordance with 18 CFR Part 157.203(d). Texas Eastern would provide landowners a pre-construction notice a week prior to the start of activity on their property.

No new permanent impacts on land use would result from construction and operation of the Project as there are no proposed changes in land use. No new permanent easement would be required. Impacts associated with the operation of the pipeline would be limited to continued routine vegetation maintenance along the existing pipeline right-of-way and pipeline maintenance activities as needed. Clearing woody shrubs and trees for temporary construction workspace would have more significant, long-term impacts on vegetation than temporary use of open areas because of the longer growth period. However, following construction in these areas, establishment of a shrub- and tree-dominated community is expected to progress through several successional stages until the original vegetation is re-established. The Project would not affect any specialty uses such as nurseries, orchards, or any other specialty crop agricultural land.

There are no recreational use areas, public lands, or special-use areas within 0.25 mile of the Project; therefore, construction and operation would not have a significant impact on recreational resources. The Project is not in the coastal zone.

Visual impacts would occur during construction and for the duration of mining activity. The pipelines would be aboveground and visible for about 2 years to allow mining to occur and to allow time for settlement before the pipelines are reburied. After reburial and restoration occurs, no long-term visual impacts would occur.

We conclude that the Project would not have a significant impact on land use, visual resources, or recreational uses. Those areas temporarily affected would be allowed to revert to prior use once the mining mitigation is concluded.

6. Cultural Resources

Texas Eastern conducted two cultural resource surveys of the four parallel pipeline rights-of-way within a 350-foot-wide survey corridor as well as extra workspaces, a ware yard and an access road. No cultural resources were identified in either survey. The

West Virginia State Historic Preservation Officer (SHPO) concurred in letters dated February 9 and June 24, 2016. We also concur.

The Mount Braddock and Bristoria ware yards were previously reviewed and approved by the Commission in Docket No. CP14-9-000. Texas Eastern surveyed an extension of the Bristoria ware yard in 2016. No cultural resources were identified. The Pennsylvania SHPO concurred in a letter dated April 5, 2016. We also concur.

On July 28, 2015 Texas Eastern wrote to the Catawba Indian Nation, the Delaware Nation, the Delaware Tribe of Indians, the Shawnee Tribe of Oklahoma, the United Keetoowah Band of Cherokee Indians, Eastern Band of Cherokee Indians, the Cherokee Nation, the Absentee Shawnee Tribe of Oklahoma, the Eastern Shawnee Tribe of Oklahoma, the Tuscarora Nation, the Tonawanda Band of Seneca Indians, the St Regis Mohawk Tribe, the Seneca-Cayuga Tribe of Oklahoma, the Seneca Tribe of Indians, the Onondaga Nation, the Oneida Nation of Wisconsin, the Oneida Indian Nation, and the Cayuga Nation to provide them an opportunity to comment on the project. On September 30, 2016 we sent our NOI to the same tribes. The Catawba Indian Nation responded that they did not have any concerns about the Project but requested to be notified in the event of any unanticipated discoveries. The Delaware Tribe of Indians requested a copy of the survey report. On December 12, 2016, Texas Eastern provided the tribe with the report. No other comments have been received to date.

Texas Eastern prepared a plan in the event any unanticipated historic properties or human remains are encountered during construction. It provides for the notification of interested parties, including Indian Tribes in the event of a discovery. We requested revisions to the plan, which Texas Eastern made. We find the revised plan to be acceptable.

Therefore we have determined, in consultation with the SHPO's and interested Indian Tribes, that the Project as proposed would have no effect on any properties listed in, or eligible for listing in, the National Register of Historic Places.

7. Air Quality and Noise

The Project facilities would result in air emissions through short-term construction activities. Air quality impacts associated with construction of the Project would result from mobile source emissions (fossil-fueled construction equipment) and fugitive dust. There would be no new operating emissions associated with the Project.

The Clean Air Act of 1970, as amended (CAA), is the basic federal statute governing air pollution. With authority granted by the CAA, the U.S. Environmental Protection Agency (EPA) has established National Ambient Air Quality Standards (NAAQS). The NAAQS were established to protect public health (primary standards)

and public welfare (secondary standards). The EPA set NAAQS for the following air contaminants designated as criteria pollutants: carbon monoxide, lead, nitrogen dioxide, ozone, particulate matter less than or equal to 10 microns in aerodynamic diameter, particulate matter less than or equal to 2.5 microns in aerodynamic diameter, and sulfur dioxide. West Virginia implements its state implementation plan through the WVDEP. West Virginia has adopted the federal NAAQS.

On December 7, 2009, the EPA defined air pollution to include six greenhouse gases (GHGs): carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. GHGs occur in the atmosphere both naturally and because of human activities such as the burning of fossil fuels. The primary GHGs produced by construction activities for the Project are carbon dioxide, methane and nitrous oxide, which are produced by fossil-fuel fired construction equipment. The EPA regulates operational GHG emissions; however, operation of the pipelines would not result in any new direct GHG emissions.

An air quality control region (AQCR) is an area designated by the EPA for air quality planning purposes, in which the states implement and enforce the NAAQS through state implementation plans, which are approved by the EPA. AQCRs are intra- and interstate regions, such as large metropolitan areas, where improvement of the air quality in one portion of the AQCR requires emission reductions throughout the AQCR. Each AQCR, or portion thereof, is designated based on compliance with the NAAQS. AQCR designations fall under one of the following four categories: attainment (areas in compliance with the NAAQS), nonattainment (areas not in compliance with the NAAQS), unclassified (areas that cannot be classified on the basis of available information), or maintenance (areas previously designated as nonattainment that have since reached attainment). Nonattainment or maintenance areas for any criteria pollutant are held to more restrictive air emissions limits when determining whether the facility is subject to air permitting requirements.

The Project is located in Marshall County, West Virginia, and the Project area is designated attainment for all applicable pollutants and averaging times.

Construction activities, including land excavation and vehicle traffic on paved and unpaved roads, would generate fugitive dust in the vicinity of the construction sites. The amount of fugitive dust depends on the type of material being moved, its moisture content, and the wind speed. In order to minimize fugitive dust emissions, Texas Eastern has committed to implementing mitigation measures such as applying water, calcium chloride, or other dust control agents when needed, controlling and removing any dust/dirt tracked onto roads by construction equipment, covering loads, and maintaining appropriate low vehicle speeds in unpaved areas. These measures are consistent with WVDEP fugitive dust regulations. Estimates of construction air emissions are shown in table 7.2-1 below.

Construction of the Project would cause a temporary reduction in local ambient air quality due to fugitive dust and emissions generated by construction equipment. This temporary impact would occur only in the immediate vicinity of the construction activity. Once the construction activity in an area is completed, the fugitive dust and emissions would subside. With the mitigation measures proposed by Texas Eastern, air quality impacts from construction equipment would be temporary and should not result in a significant impact on regional air quality.

Table 7
PROJECT CONSTRUCTION EMISSIONS SUMMARY

Elevation and Excavation Work (Calendar Year 2017)								
Construction Emission	Pollutants (tpy)							
	CO	**NOx**	**PM_{10}**	**$PM_{2.5}$**	**SO_2**	**VOCs**	**HAPs**	**CO_2e**
Construction Activities PM	--	--	2.01	0.42	--	--	--	--
Off-Road Construction Equipment	19.44	6.63	0.46	0.45	0.01	1.11	0.17	2,354
On-Road Vehicles	0.84	0.62	0.018	0.015	0.003	1.67	0.26	372
Construction Equipment and Vehicle Travel on Unpaved Roads	--	--	0.16	0.02	--	--	--	--
Total	**20.3**	**7.26**	**2.65**	**0.90**	**0.02**	**2.78**	**0.43**	**2,726**
Reinstallation Work (Calendar Year 2018)								
Construction Activities PM	--	--	2.01	0.42	--	--	--	--
Off-Road Construction Equipment	21.8	6.04	0.42	0.4	0.01	1.08	0.17	2,172
On-Road Vehicles	0.84	0.62	0.02	0.015	0.003	1.67	0.26	372
Construction Equipment and Vehicle Travel on Unpaved Roads	--	--	0.16	0.02	--	--	--	--
Total	**22.6**	**6.67**	**2.6**	**0.85**	**0.01**	**2.75**	**0.43**	**2,545**

Key:
CO = carbon monoxide
CO_2e = carbon dioxide equivalent
HAPs = hazardous air pollutants
NOx = nitrogen oxides
PM = particulate matter
PM_{10} = particulate matter less than or equal to 10 microns aerodynamic diameter
$PM_{2.5}$ = particulate matter less than or equal to 2.5 microns aerodynamic diameter
SO_2 = sulfur dioxide
tpy = tons per year
VOCs = volatile organic compounds

The EPA has indicated that a day-night level of 55 decibels on the A-weighted scale protects the public from indoor and outdoor activity noise interference. Construction equipment would contribute to the noise environment during construction in the Project area; however, once construction is complete, noise would return to pre-construction levels.

There are no state or local noise ordinances applicable to the Project. Construction would require use of heavy equipment, such as excavators, bulldozers, dump trucks, and side-boom tractors; however, not all of the equipment would be used during each phase of construction. Construction is currently planned to primarily occur Monday through

Saturday for ten hours a day during daytime hours. The construction activities would cause a temporary increase in the ambient noise in the immediate vicinity of the construction site; however, because of the temporary nature of the construction activities, there would be no significant noise impact from construction.

There are no noise-emitting facilities that would increase the ambient noise environment during operation of the Project. Therefore, we conclude there would not be a significant impact on noise as a result of the Project.

8. Reliability and Safety

The transportation of natural gas by pipeline involves some risk to the public in the event of an accident and subsequent release of gas. The greatest hazard is a fire or explosion following a major pipeline rupture. Methane, the primary component of natural gas, is colorless, odorless, and tasteless. It is not toxic, but is classified as a simple asphyxiate, possessing a slight inhalation hazard. If breathed in high concentration, oxygen deficiency can result in serious injury or death.

The pipelines associated with the project must be designed, constructed, operated, and maintained in accordance with the DOT Minimum Federal Safety Standards in 49 CFR Part 192. The regulations are intended to ensure adequate protection for the public and to prevent natural gas facility accidents and failures.

The DOT pipeline standards are published in Parts 190-199 of Title 49 of the CFR. For example, Part 192 of 49 CFR specifically addresses natural gas pipeline safety issues, prescribes the minimum standards for operating and maintaining pipeline facilities, including emergency shutdowns and safety equipment. Part 192 also requires a pipeline operator to establish a written emergency plan that includes procedures to minimize the hazards in a natural gas pipeline emergency.

The operator must also establish a continuing education program to enable customers, the public, government officials, and those engaged in excavation activities to recognize a gas pipeline emergency and report it to appropriate public officials. Facilities associated with Texas Eastern's project must be designed, constructed, operated, and maintained in accordance with the DOT standards, including the provisions for written emergency plans and emergency shutdowns. Texas Eastern would continue to provide the appropriate training to local emergency service personnel.

The purpose of this Project is to maintain the integrity of existing pipelines and upgrade sections of the pipelines to USDOT Class 2 design, therefore we conclude that the Project would not represent an increase in risk to the nearby public.

9. Polychlorinated Biphenyls and Asbestos

Existing pipeline facilities (e.g., pipe, valves, fittings) used in gas service, which have the potential for Polychlorinated Biphenyls (PCB) contamination, would be managed in accordance with EPA regulations found in 40 CFR 761, which specifically address requirements for removal and abandonment.

Lines 10, 15, 25, and 30 are PCB-regulated because of the historical detection of PCBs at concentrations greater than 50 parts per million (ppm) in pipeline liquids. For the abandoned or replaced segments of pipeline regulated under the Toxic Substances Control Act for PCBs, the pipeline segments would be disposed of in compliance with this act after removing free flowing liquids (if present). The removed pipe would be wipe-sampled in accordance with 40 CFR Subpart M procedures to determine removed pipe disposal or resale options. Removed pipe with wipe sampling results ≤10 micrograms per 100 square centimeters (10μg/100 cm^2 or 50 ppm) PCB would be managed as scrap material. Pipe with wipe sampling results > 10 μg/100 cm^2 PCB would be managed by:

- disposal at a TSCA permitted landfill; or
- decontaminated and wipe sampled until PCB results are ≤ 10 μg/100 cm^2 and coal tar coating would be removed.

Texas Eastern has developed procedures to ensure worker health and safety that includes the use of personal protective equipment (PPE) to prevent exposure to PCBs in a Project-specific safety plan and Texas Eastern's standard operating procedures. These procedures provide for dermal and respiratory protection and methods for preventing PCB releases to the environment. Specific procedures include:

- inspecting and removing pipeline liquids;
- cutting pipe;
- management and storage of PCB impacted material (recovered pipeline liquids and pipe); and
- procedures for transporting removed PCB material to the disposal facility.

Lines 10, 15 and 25 have coal tar coating. Because of the potential that coal tar coating contains asbestos, pipe with coal tar pipe coating would be sampled. Removed non-PCB pipe (wipe sample results ≤ 10 μg/100 cm^2) with pipe coating containing asbestos would be managed by one of the following options:

- disposal at a subtitle D landfill that is permitted to accept asbestos containing material (ACM); or

- a Texas Eastern approved vender would remove the pipe coating and the pipe would be managed as scrap material and the removed coating would be disposed at a subtitle D landfill that is permitted to accept ACM.

PPE would be used by workers to prevent exposure to asbestos along with the measures in the project-specific safety plan and Texas Eastern's standard operating procedures. These procedures include respiratory protection and methods for preventing asbestos releases to the environment. Specific requirements include:

- contractor personnel must have asbestos removal certification; and
- specific containment procedures to be followed when coating is removed from the pipe, when pipe with asbestos containing coating is removed from the pipe trench, and during pipe transportation and storage.

The use of PPE by workers during pipe removal containing PCBs and/or asbestos and the implementation of Texas Eastern's project-specific safety plan, site-specific residential construction plan, and standard operating procedures would minimize risk to workers and adjacent residents to ensure proper disposal of contaminated pipe or coating.

10. Cumulative Impacts

The Project lies in the Western Allegheny Plateau ecoregion. The ecoregion covers approximately 32,630 square miles and is about 72 percent forest and 23 percent agriculture. The forest area is mostly mixed oak and mixed temperate forests that still exist today on most of the remaining rounded hills. Dairy, livestock, and general farming, as well as residential developments, are concentrated in the valleys. Settlement initially consisted of farming communities; later, emphasis shifted to extractive industries such as coal, iron ore, clay, oil and gas, and, sandstone. The climate of this subregion can be characterized as continental, with cool summers and cold winters.

In accordance with NEPA, we identified other actions located in the vicinity of the Project facilities and evaluated the potential for a cumulative impact on the environment. As defined by the Council on Environmental Quality (CEQ), a cumulative effect is the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency or person undertakes such other actions. CEQ guidance states that an adequate cumulative effects analysis may be conducted by focusing on the current aggregate effects of past actions without delving into the historical details of individual past actions. In this analysis, we consider the impacts of past projects within the geographic scope as part of the affected environment (environmental baseline) which was described and evaluated in the preceding environmental analysis. However, present effects of past actions that are relevant and useful are also considered.

Consistent with CEQ guidance and to determine cumulative impacts, we expanded the geographic boundaries of our review into geographic scopes, as described in table 8. Actions located outside the geographic scope are generally not evaluated because their potential to contribute to a cumulative impact diminishes with increasing distance from the Project.

Table 8
Geographic Scope for Cumulative Impact Analysis

Environmental Resource	Area of Impact
Soils and Geology	Construction workspaces
Groundwater, Wetlands, Vegetation, Wildlife	Hydrologic Unit Code (HUC) 12 Watershed
Surface Water Resources	HUC 12 Watershed. For direct in-water work (e.g. dredging) include potential overlapping impacts from sedimentation, turbidity, and water quality
Cultural Resources	Overlapping impacts within the Area of Potential Effects
Land Use	1 mile from the centerline
Visual	0.25 mile and existing visual access points (e.g., road crossings)
Noise - Construction	0.25 mile from pipeline
Air Quality – Construction	0.25 mile from pipeline

Table 9 identifies the present and reasonably foreseeable projects or actions that occur within the geographic scope defined above. These projects were identified by a review of publicly available information; aerial and satellite imagery; consultations with federal, state, and local agencies/officials and development authorities; and information provided by Texas Eastern.

Table 9
Marshall County Mine Panel 17W Project
Past, Present, and Reasonably Foreseeable Future Projects in the Cumulative Impact Area

Project name, sponsor/proponent, and location (county)	Approximate distance and direction from the Project	Type and description	Footprint/layout and anticipated impacts	Permits or authorizations required for the Project	Current status
Leach Xpress, Columbia Gas Transmission, LLC, Various counties in Ohio and West Virginia (including Marshall County, West Virginia)	0.2 miles east of the Project	Approximately 160 miles of natural gas pipeline and compression facilities in southeastern Ohio and West Virginia's northern panhandle	Project would impact approximately 3,000 acres during construction, including 16.1 acres of wetlands and 1,204.5 acres of forest	FERC Docket CP15-514	Construction anticipated to begin early 2017 and be completed within a year
Marshall County Panel 18W Project, Texas Eastern, Marshall County, West Virginia	0.2 mile east of the Project	Approximately 1.5 miles of natural gas pipeline elevation and replacement	Project would impact approximately 60 acres during construction	FERC Certificate	Construction expected in 2018
Panels 17W and 18W, Marshall County Coal Company Mining, Marshall County, West Virginia	Directly beneath the Project	Longwall coal mining	Limited surface impacts	West Virginia state permitting	Panel 17W expected to be mined in 2017, and Panel 18W expected to be mined in 2018
Gas Wells, Multiple Companies, Marshall County, West Virginia	Various. Closest well is approximately 0.1 mile south of the Project	Natural gas production wells	Each well pad impacts approximately 0.1 acre with an associated access road	West Virginia state permitting	Ongoing

In addition to the geographic relationship between the Project and other projects in the area, we also consider the temporal relationship between the Project and other projects in the area. As discussed throughout the EA, the majority of impacts associated with the Project would occur during construction and most resources (with exceptions) would return to preconstruction conditions shortly after or within 3 years of construction. Thus, construction related cumulative impacts could occur if other projects in the defined geographic scope would affect the same resources within these timeframes.

The cumulative impacts for all resource areas, except air quality, would be limited to the vicinity of the Project In this analysis, we discuss further cumulative impacts on air quality, vegetation, and wildlife. Our determination to include these resources is based on:

- cumulative impacts on air quality may occur across a wider area than impacts on other resources;

- impacts on vegetation, such as forest lands, may persist over a longer period; and
- many species of wildlife are dependent on vegetation for food and/or shelter.

Columbia's Leach Express Project (Leach) crosses Texas Eastern's pipelines at approximately Line 10 MP 720.6. Construction of Leach is scheduled to begin in March 2018 with the project placed in service in March 2018. The Leach Project would contribute cumulative effects to many of the same resources affected by the Project. Texas Eastern expects that Columbia would employ similar restoration and impact avoidance measures resulting in minimal cumulative impacts on these resource areas.

Texas Eastern has been informed by Marshall Coal that additional mining activities are beginning in 2019 along Panel 18W of its Marshall County Mine. This panel will also be beneath Lines 10, 15, 25, and 30, located east of the segments undermined by Panel 17W. Texas Eastern will file separately for the Marshall County Mine Panel 18W Project to replace and temporarily elevate sections of Lines 10 and 15, and to temporarily elevate and perform maintenance on Line 25 and 30, during the longwall mining activities for Panel 18W. Depending on the timing of Marshall Coal's mining activities, Texas Eastern may begin construction on the Marshall County Mine Panel 18W Project concurrently with the reburial of the pipelines above Panel 17W.

The mining would only have a minimal impact on air quality, vegetation, and wildlife. The longwall mining activities would affect geology by the removal of coal followed by the collapse of the bedrock above the coal seam after mining. As previously indicated, the Project would have very minimal impact on geology and; therefore, we have not identified a discernable cumulative impact on geology.

Our review of potential cumulative impacts also included the gas production wells in the geographic scope. Natural gas production from shale resources in the area involves the drilling and completion of wells and construction of gathering systems and consequent rights-of-way. Production and gathering activities, and the pipelines and facilities used for these activities, are not regulated by FERC but are overseen by the affected region's state and local agencies with jurisdiction over the management and extraction of the shale gas resources.

A well site is specifically designed for the function and the existing physical conditions present at the well location. Consequently, the footprint of construction is variable. If an average footprint is assumed, then some imprecision is introduced. However, the resources that lie within the footprint are not readily available for inclusion in a cumulative impacts analysis. Thus, gas production in the region could potentially add to a cumulative effect. We do not know how many acres of that land consisted, or currently consist, of industrial, forest, agriculture, or wetland. As a result, it is only possible to speak in general terms about the cumulative effects on specific resources.

Natural gas production from shale resources involves improvement or construction of roads, preparation of a well pad, drilling and completion of wells, and construction of gathering systems and consequent rights-of-way. It is likely that development activities would continue through the construction of the proposed Project, but the exact extent of such drilling is unknown. Whether or not these facilities contribute cumulative impacts to those of the Project depends on proximity and the level of stabilization of the impact area. The latter characteristic is likely a function of time and the level of stabilization administered following construction. This impact information is not readily available for consideration here. However, if it were available, there would still not be specific resource impact information to consider cumulatively with the resource impacts of the Project. We assume that resource impacts caused by these facilities are similar to those described for the Project and therefore are also largely temporary and localized. Consequently, they would contribute minor cumulative impacts.

The other projects considered would impact air quality within the same timeframe of those of Texas Eastern proposed mine mitigation projects. Consequently, the combined projects would have a cumulative impact on air quality. The proposed project would only involve construction emissions that generally include fugitive dust and emissions from construction equipment. These emissions would be temporary in nature and, once construction is complete, would subside and return to pre-construction conditions. Because the proposed project is limited in scope and would only involve a temporary, minor increase in air emissions, we conclude that the proposed project would not result in a significant cumulative impact on air quality.

All of the projects considered would result in cumulative impacts on vegetation and wildlife. However, we conclude that the proposed project's contributions to impacts on these resources would be temporary and minor and would be minimized by adherence to Texas Eastern's E&SCP. Therefore, cumulative impacts on vegetation and wildlife would not be significant.

No new permanent easement and no new permanent structures are required for the Project. We find that cumulative impacts attributable to the Project would not be significant.

C. ALTERNATIVES

As required by NEPA and the Commission's implementing regulations, we considered alternatives to the proposed action. Specifically we considered the no-action alternative and alternative pipeline routes. The following evaluation criteria were used to determine whether an alternative would be environmentally preferable:

- technical feasibility and practicality;
- significant environmental advantage over the proposed action; and
- ability to meet the project's stated objective.

Under the no-action alternative, the proposed Project would not be constructed and the associated impacts of the Project would be avoided. However, public safety and operational integrity could be affected if mining were to occur under the pipelines without the proposed mitigation. Mining could be curtailed if the pipeline mitigation is not implemented, and the coal underneath the pipelines may not be mined. As a result, this alternative would disrupt the coal mining operations and would deny Marshall Coal its rights to coal reserves below the pipelines. The no-action alternative is not a viable alternative as the objectives of the Project are not met and mining could not safely occur under the pipelines.

The pipelines could be rerouted to other areas to avoid coal reserves or rerouted over previously mined areas. Under this option the pipelines would be longer in length, impact new landowners, require new easements, delay the mining mitigation, and have greater impact on each resource area discussed in this EA. Consequently, alternative routing would not provide a significant environmental advantage over the proposed action. We were not able to identify any alternatives to the Project that could reduce impacts. Further, we received no requests to consider other alternatives. Therefore, we conclude that the proposed action is the preferred alternative to meet the Project objectives.

D. CONCLUSIONS AND RECOMMENDATIONS

Based on the analysis in this EA, we have determined that if Texas Eastern constructs, and operates the proposed facilities in accordance with its application and supplements, and the staff's recommended mitigation measures, approval of the proposal would not constitute a major federal action significantly affecting the quality of the human environment. We recommend that the Commission's Order contain a finding of no significant impact and include the mitigation measures listed below as conditions to any Certificate the Commission may issue.

1. Texas Eastern shall follow the construction procedures and mitigation measures described in its application and supplements (including responses to staff data requests) and as identified in the EA, unless modified by the Order. Texas Eastern must:

    a. request any modification to these procedures, measures, or conditions in a filing with the Secretary of the Commission (Secretary);
    b. justify each modification relative to site-specific conditions;
    c. explain how that modification provides an equal or greater level of environmental protection than the original measure; and
    d. receive approval in writing from the Director of the Office of Energy Projects (OEP) **before using that modification**.

2. The Director of the OEP has delegated authority to take whatever steps are necessary to ensure the protection of all environmental resources during construction and operation of the project and abandonment activities. This authority shall allow:

    a. the modification of conditions of the Order; and
    b. the design and implementation of any additional measures deemed necessary (including stop-work authority) to assure continued compliance with the intent of the environmental conditions as well as the avoidance or mitigation of adverse environmental impact resulting from project construction and operation.

3. **Prior to any construction**, Texas Eastern shall file an affirmative statement with the Secretary, certified by a senior company official, that all company personnel, environmental inspectors, and contractor personnel will be informed of the environmental inspector's authority and have been or will be trained on the implementation of the environmental mitigation measures appropriate to their jobs **before** becoming involved with construction and restoration activities.

4. The authorized facility locations shall be as shown in the EA. **As soon as they are available, and before the start of construction**, Texas Eastern shall file with the Secretary any revised detailed survey alignment maps/sheets at a scale not smaller than 1:6,000 with station positions for the facility approved by the Order. All requests for modifications of environmental conditions of the Order or site-specific clearances must be written and must reference locations designated on these alignment maps/sheets.

   Texas Eastern's exercise of eminent domain authority granted under NGA section 7(h) in any condemnation proceedings related to the Order must be consistent with these authorized facilities and locations. Texas Eastern's right of eminent domain granted under NGA section 7(h) does not authorize it to increase the size of its natural gas pipeline to accommodate future needs or to acquire a right-of-way for a pipeline to transport a commodity other that natural gas.

5. Texas Eastern shall file with the Secretary detailed alignment maps/sheets and aerial photographs at a scale not smaller than 1:6,000 identifying all route realignments or facility relocations, and staging areas, pipe storage yards, new access roads, and other areas that would be used or disturbed and have not been previously identified in filings with the Secretary. Approval for each of these areas must be explicitly requested in writing. For each area, the request must include a description of the existing land use/cover type, documentation of landowner approval, whether any cultural resources or federally listed threatened or endangered species would be affected, and whether any other environmentally sensitive areas are within or abutting the area. All areas shall be clearly identified on the maps/sheets/aerial photographs. Each area must be approved in writing by the Director of OEP **before construction in or near that area**.

   This requirement does not apply to extra workspace allowed by Texas Eastern's Erosion & Sediment Control Plan and/or minor field realignments per landowner needs and requirements which do not affect other landowners or sensitive environmental areas such as wetlands.

   Examples of alterations requiring approval include all route realignments and facility location changes resulting from:

   a. implementation of cultural resources mitigation measures;
   b. implementation of endangered, threatened, or special concern species mitigation measures;
   c. recommendations by state regulatory authorities; and
   d. agreements with individual landowners that affect other landowners or could affect sensitive environmental areas.

6. **Within 60 days of the acceptance of the Certificate and before construction begins**, Texas Eastern shall file an Implementation Plan with the Secretary for review and written approval by the Director of OEP. Texas Eastern must file revisions to the plan as schedules change. The plan shall identify:

    a. how Texas Eastern will implement the construction procedures and mitigation measures described in its application and supplements (including responses to staff data requests), identified in the EA, and required by the Order;
    b. how Texas Eastern will incorporate these requirements into the contract bid documents, construction contracts (especially penalty clauses and specifications), and construction drawings so that the mitigation required at each site is clear to onsite construction and inspection personnel;
    c. the number of environmental inspectors assigned, and how the company will ensure that sufficient personnel are available to implement the environmental mitigation;
    d. company personnel, including environmental inspectors and contractors, who will receive copies of the appropriate material;
    e. the location and dates of the environmental compliance training and instructions Texas Eastern will give to all personnel involved with construction and restoration (initial and refresher training as the project progresses and personnel change);
    f. the company personnel (if known) and specific portion of Texas Eastern's organization having responsibility for compliance;
    g. the procedures (including use of contract penalties) Texas Eastern will follow if noncompliance occurs; and
    h. for each discrete facility, a Gantt or PERT chart (or similar project scheduling diagram), and dates for:

        (1) the completion of all required surveys and reports;
        (2) the environmental compliance training of onsite personnel;
        (3) the start of construction; and
        (4) the start and completion of restoration.

7. Texas Eastern shall employ at least one environmental inspector (EI) per construction spread. The EIs shall be:

    a. responsible for monitoring and ensuring compliance with all mitigation measures required by the Order and other grants, permits, certificates, or other authorizing documents;
    b. responsible for evaluating the construction contractor's implementation of the environmental mitigation measures required in the contract (see condition 6 above) and any other authorizing document;

c. empowered to order the correction of acts that violate the environmental conditions of the Order, and any other authorizing document;
d. responsible for documenting compliance with the environmental conditions of that Order, as well as any environmental conditions/permit requirements imposed by other federal, state, or local agencies; and
e. responsible for maintaining status reports.

8. Beginning with the filing of its Implementation Plan, Texas Eastern shall file updated status reports with the Secretary **on a bi-weekly basis during active construction and abandonment activities and monthly during the elevation period until all construction and restoration activities are complete**. On request, these status reports will also be provided to other federal and state agencies with permitting responsibilities. Status reports shall include:

   a. an update on Texas Eastern's efforts to obtain the necessary federal authorizations;
   b. the construction status of the project, work planned for the following reporting period, and any schedule changes for stream crossings or work in other environmentally-sensitive areas;
   c. a listing of all problems encountered and each instance of noncompliance observed by the environmental inspector(s) during the reporting period (both for the conditions imposed by the Commission and any environmental conditions/permit requirements imposed by other federal, state, or local agencies);
   d. a description of the corrective actions implemented in response to all instances of noncompliance, and their cost;
   e. the effectiveness of all corrective actions implemented;
   f. a description of any landowner/resident complaints which may relate to compliance with the requirements of the Order, and the measures taken to satisfy their concerns; and
   g. copies of any correspondence received by Texas Eastern from other federal, state, or local permitting agencies concerning instances of noncompliance, and Texas Eastern's response.

9. **Prior to receiving written authorization from the Director of OEP to commence construction of any Project facilities**, Texas Eastern shall file with the Secretary documentation that it has received all applicable authorizations required under federal law (or evidence of waiver thereof).

10. **Within 30 days of completing the mining mitigation and final hydrotest**, Texas Eastern shall file an affirmative statement with the Secretary, certified by a senior company official:

a. that the facilities have been constructed in compliance with all applicable conditions, and that continuing activities will be consistent with all applicable conditions; or

b. identifying which of the Certificate conditions Texas Eastern has complied with or will comply with. This statement shall also identify any areas affected by the project where compliance measures were not properly implemented, if not previously identified in filed status reports, and the reason for noncompliance.

E. LIST OF PREPARERS

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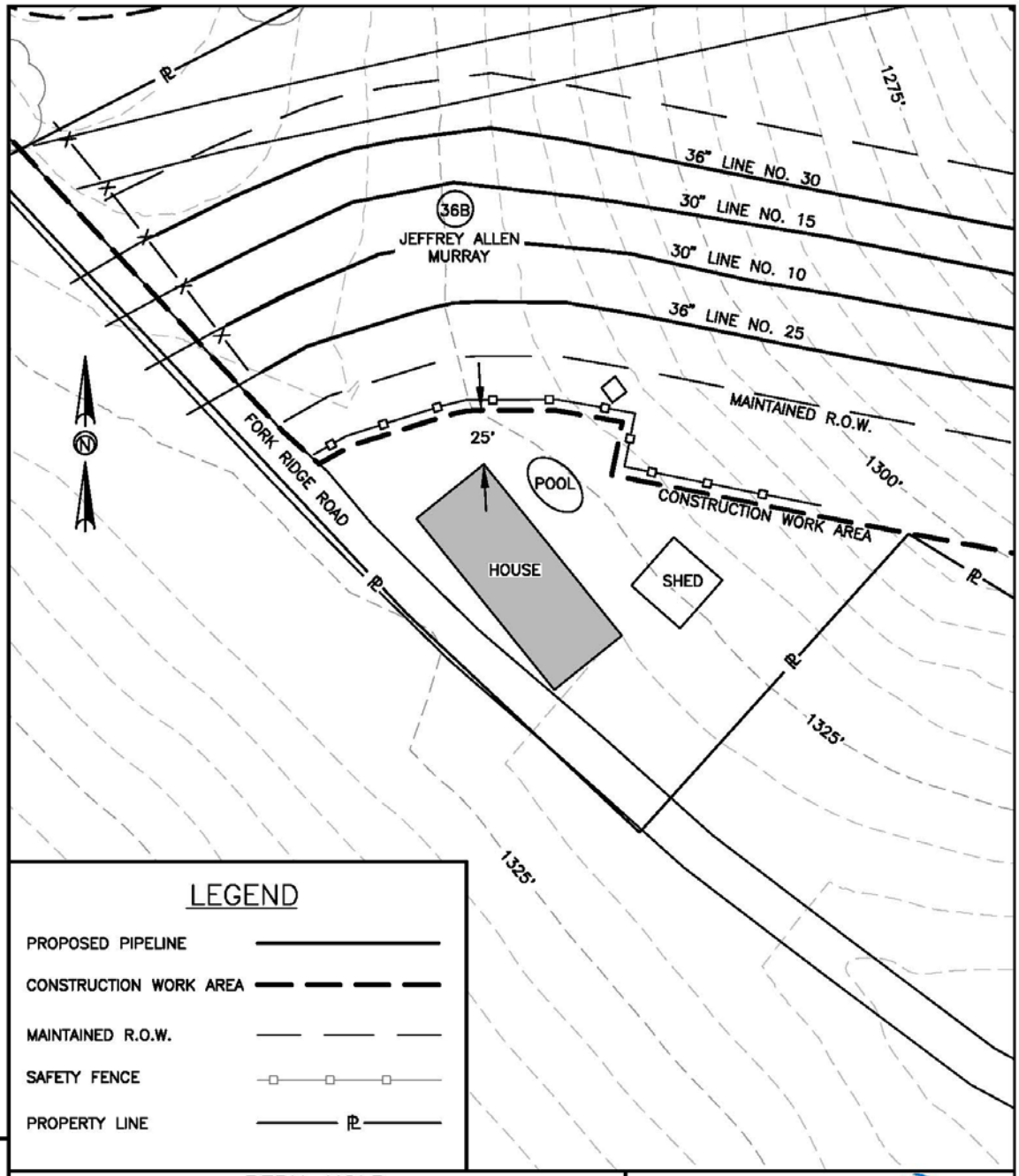
Appendix A



LEGEND

- PROPOSED PIPELINE
- CONSTRUCTION WORK AREA
- MAINTAINED R.O.W.
- SAFETY FENCE
- PROPERTY LINE

TITLE: BERN–HOLB
MARSHALL CO. LONGWALL MINING PANEL 17W
SITE SPECIFIC RESIDENTIAL

LOC.: MARSHALL COUNTY, WEST VIRGINIA			REV.
CKD. BY: HMM	ENG.	DATE: 1/18/2017	
DRN. BY: HMM	SCALE: 1"=60'	DWG. NO. BERN-E-7001	

LG.

Spectra Energy Partners.

Texas Eastern Transmission, LP
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