

*Regional Energy Access Expansion Project
401 Water Quality Certification Application
Transcontinental Gas Pipe Line Company, LLC*

SECTION 7.0 DETAILED PROJECT SUMMARY

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A. Overall Project Description

Transco, indirectly owned by The Williams Companies, Inc. (Williams), is seeking authorization from the Federal Energy Regulatory Commission (FERC or Commission) under Section 7(c) of the Natural Gas Act and Part 157 of the Commission's regulations, to construct, own, operate, and maintain the proposed Project facilities. The Project is an expansion of Transco's existing natural gas transmission system that will enable Transco to provide an incremental 829,400 dekatherms per day (Dth/d) of year-round firm transportation capacity from the Marcellus Shale production area in northeastern Pennsylvania (PA) to multiple delivery points along Transco's Leidy Line in PA, Transco's mainline at the Station 210 Zone 6 Pooling Point¹ in Mercer County, New Jersey (NJ) and multiple delivery points in Transco's Zone 6 in NJ, PA, and Maryland (MD). The Project will consist of the following components:

- Approximately 22.3 miles of 30-inch-diameter pipeline partially collocated with Transco's Leidy Line A from milepost (MP) 0.00 to MP 22.32 in Luzerne County, PA (Regional Energy Lateral);
- Approximately 13.8 miles of 42-inch-diameter pipeline collocated with Transco's Leidy Line System from MP 43.72 to MP 57.50 in Monroe County, PA (Effort Loop);
- New gas-fired turbine driven compressor station identified as Compressor Station 201 with 11,107 nominal horsepower (HP) at International Organization of Standardization (ISO) conditions in Gloucester County, NJ;
- Addition of two gas-fired turbine driven compressor units with 31,800 nominal HP at ISO conditions at existing Compressor Station 505 in Somerset County, NJ, to accommodate the abandonment and replacement of approximately 16,000 HP from eight existing internal combustion engine-driven compressor units and increase the certificated station compression by 15,800 HP;
- Addition of two gas-fired turbine driven compressor units with 63,742 nominal HP at ISO conditions and modification of three existing compressors at existing Compressor Station 515 in Luzerne County, PA to support the Project and to

¹ A pooling point defines the aggregation of gas from multiple physical and/or virtual receipt points to a single physical or virtual point, and the disaggregation of gas from a single physical or virtual point to multiple physical and/or virtual delivery points.

accommodate the abandonment and replacement of approximately 17,000 HP from five existing gas-fired reciprocating engine driven compressors and increase the certificated station compression by 46,742 HP;

- Uprate and rewheel two existing electric motor-driven compressor units at existing Compressor Station 195 in York County, PA to increase the certificated station compression by 5,000 HP and accommodate the abandonment of two existing gas-fired reciprocating engine driven compressors which total approximately 8,000 HP of compression;
- Modifications at existing Compressor Station 200 in Chester County, PA;
- Uprate one existing electric motor-driven compressor unit at Compressor Station 207 in Middlesex County, NJ to increase the certificated station compression by 4,100 HP;
- Modifications to three (3) existing pipeline tie-ins in PA (Hildebrandt Tie-in, Lower Demunds Tie-in, and Carverton Tie-in);
- Addition of regulation controls at an existing valve setting on Transco's Mainline "A" in Bucks County, PA (Mainline A Regulator);
- Modifications at the existing Delaware River Regulator in Northampton County, PA;
- Modifications at the existing Centerville Regulator in Somerset County, NJ;
- Modifications to the existing valves and piping at the Princeton Junction (Station 210 Pooling Point) in Mercer County, NJ;
- Modifications to three (3) existing delivery meter stations in NJ (Camden M&R Station, Lawnside M&R Station, and Mt. Laurel M&R Station);
- Modifications to one (1) existing delivery meter station in MD (Beaver Dam M&R Station);
- Contractual changes (no modifications) at ten (10) existing delivery meter stations in PA and NJ (Algonquin-Centerville Meter Station, Post Road Meter Station, New Village Meter Station, Spruce Run Meter Station, Marcus Hook Meter Station, Ivyland Meter Station, Repaupo Meter Station, Morgan Meter Station, Lower Mud

Run Meter Station, and Chesterfield Meter Station);

- Additional ancillary facilities, such as mainline valves (MLVs), cathodic protection, communication facilities, and internal inspection device (e.g., pig) launchers and receivers in PA; and
- Existing, improved, and new access roads and contractor yards/staging areas in PA, NJ, and MD.

In an ongoing effort to reduce its air emissions footprint, Transco is assessing the replacement of vintage gas-fired reciprocating engine driven compressors with more efficient state-of-the-art gas-fired turbine driven compressors. The proposed compression abandonment and replacement scopes at Transco's existing Compressor Station 505 and Compressor Station 515 are part of this effort and have been adopted into the Project scope. Additionally, the uprate and optimization of existing electric motor-driven compression to accommodate abandonment of gas-fired reciprocating engine driven compression at Compressor Station 195 has also been adopted into the Project scope.

Subject to FERC's certification of the Project and receipt of the necessary permits and authorizations, Transco anticipates construction of the Project would commence in third quarter 2022 to meet a proposed in-service date of December 1, 2023.

B. Detailed Description for Pennsylvania Project Components Requiring Earth Disturbance

Each project component located in Pennsylvania that will require earth disturbance is outlined below. This includes the proposed pipelines, modifications to existing compressor stations and facilities, the addition of new above ground facilities and communication facilities. Project components requiring earth disturbance are located in Luzerne, Monroe, Northampton, Chester, and Bucks Counties. Project components located in Pennsylvania that do not require earth disturbance include: Compressor Station 195 (York County), Lower Mud Run Meter Station (Northampton County), Post Road Meter Station and Marcus Hook Meter Station (both Delaware County). Project components without earth disturbance are not further discussed. Section 10 of this application provides mapping of the Project components requiring earth disturbance.

B.1. Pipeline Facilities

The Project will include one pipeline lateral and one pipeline loop. Table B.1-1 includes a summary of the proposed pipeline facilities within each township and county.

**Table B.1-1
 Summary of Project Pipeline Facilities**

Facility	County	Municipality	Length (miles)
Regional Energy Lateral	Luzerne	Buck Township	1.5
		Bear Creek Township	6.2
		Plains Township	2.2
		Jenkins Township	2.6
		Lafin Borough	1.1
		Wyoming Borough	1.8
		West Wyoming Borough	2.0
		Kingston Township	3.5
		Dallas Township	1.5
Regional Energy Lateral Total^a			22.3
Effort Loop	Monroe	Ross Township	0.9
		Chestnuthill Township	8.0
		Tunkhannock Township	4.9
Effort Loop Total^a			13.8
Project Total^a			36.1
^a Totals may not sum exactly due to rounding.			

B.1.1. Regional Energy Lateral

Transco proposes to install approximately 22.32 miles of new 30-inch-diameter lateral pipeline in Luzerne County, PA, with a maximum allowable operating pressure (MAOP) of 1,480 pounds per square inch gauge (psig). Transco will refer to the pipeline as the Regional Energy Lateral. Transco developed the proposed alignment of the Regional Energy Lateral to collocate with Transco’s existing Leidy system to the extent practicable in an attempt to minimize overall impacts. Where feasible, Regional Energy Lateral will be collocated with the existing Transco Leidy Line A between MPs 0.00 and 22.32, with a nominal offset of 25 feet from the existing pipeline. In areas where collocation with Leidy Line A was not feasible, Transco also sought to maximize collocation with other existing utility corridors.

The Regional Energy Lateral begins at existing Compressor Station 515 in Buck Township and continues westward to its terminus at Transco’s existing Hildebrandt Interconnect in Dallas Township. Transco will be installing four mainline valves along the pipeline route and at each pipeline terminus. Modifications at three existing pipeline interconnects are proposed to tie-in the proposed pipeline into the existing facilities. Aboveground facilities are further described in Section B.2 below.

Cathodic protection equipment, including both deep and remote anode groundbeds, are proposed at three separate locations along the pipeline. Deep anode ground beds are proposed at Mileposts 7.5 and 19.8. One remote anode ground bed is proposed at Milepost 15.3. Two contractor yards are also proposed for use during construction, CY-LU-001 at Milepost 15.3 and CY-LU-002 is located at MP 10.5.

B.1.2. Effort Loop

The Effort Loop will consist of approximately 13.78 miles of new 42-inch-diameter loop pipeline in Monroe County, PA, with a MAOP of 1,200 psig. The Effort Loop will be collocated with the existing Transco Leidy Line System between MPs 43.72 and 57.50, offset from the existing pipeline by approximately 25 feet, and would tie-in to Transco's Existing Leidy Line D at each end of the loop. Once placed into operation, Transco will refer to the Effort Loop as Leidy Line D. Modifications and additions to mainline valves are proposed at each pipeline terminus and along the pipeline route, which is further described in Section 2.2 below. One remote anode groundbed is proposed at Milepost 43.72. One contractor yard is proposed for use during construction (CY-MO-001) located at Milepost 43.72.

B.2. Aboveground Facilities

New aboveground facilities and modifications to existing aboveground facilities that are part the Project include:

- Additional compression and related modifications to two existing compressor stations;
- Other aboveground facilities including modifications to M&R stations, interconnects, and regulator facilities; and ancillary facilities such as MLVs, communication facilities, and pig launchers and receivers.

Table B.2-1 provides a summary, by location, of the compressor station modifications and the new or modified aboveground facilities in Pennsylvania.

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**Table B.2-1
Summary of Aboveground Facilities**

Facility	Facility Type	Description	Municipality	County	State
Modification to Existing Compressor Stations					
Compressor Station 515 (Beginning of Regional Energy Lateral-MLV-515RA10)	Compressor Station	Addition of two gas-fired turbine driven compressor units with 63,742 nominal HP at ISO conditions and modification of three existing compressors at existing Compressor Station 515 in Luzerne County, PA to support the Project and to accommodate the abandonment and replacement of approximately 17,000 HP from five existing gas-fired reciprocating driven compressors and increase the certificated station compression by 46,742 HP; Adding MLV-515RA10 and associated pig trap (Regional Energy Lateral)	Buck Township	Luzerne	PA
Compressor Station 200	Compressor Station	Connect existing Transco Mainline A into suction to support south flow.	East Whiteland Township	Chester	PA
Other Aboveground Facilities					
MLV-505LD81 (Effort Loop)	Existing Mainline Valve	Remove existing pig trap and tie-in to existing MLV.	Ross Township	Monroe	PA
MLV-505LD86 (Effort Loop)	Proposed Mainline Valve	New remote operated MLV.	Chestnuthill Township	Monroe	PA
MLV-505LD90 (Effort Loop)	Existing Mainline Valve	Remove existing pig trap and tie-in to existing MLV.	Tunkhannock Township	Monroe	PA
Hildebrandt Tie-In (Terminus of Regional Energy Lateral- MLV-515RA40)	Receipt Interconnect	Install new tie-in piping, valves, and aboveground piping for annubar meter. Adding MLV-515RA40 and associated pig trap (Regional Energy Lateral)	Dallas Township	Luzerne	PA
Lower Demunds REL Tie-In (Regional Energy Lateral)	Receipt Interconnect	Install approximately 400 feet of new 20-inch tie-in piping from the existing Leidy A tie-in site to the new REL tie-in site, valves, and aboveground piping for annubar meter.	Dallas Township	Luzerne	PA
Carverton Tie-In (Regional Energy Lateral)	Receipt Interconnect	Install new tie-in piping, valves, and aboveground piping for annubar meter.	West Wyoming Borough	Luzerne	PA

**Table B.2-1
 Summary of Aboveground Facilities**

Facility	Facility Type	Description	Municipality	County	State
MLV-515RA30 (Regional Energy Lateral)	Proposed Mainline Valve	New remote operated MLV.	West Wyoming Borough	Luzerne	PA
MLV-515RA20 (Regional Energy Lateral)	Proposed Mainline Valve	New remote operated MLV.	Bear Creek Township	Luzerne	PA
Delaware River Regulator	Regulator Station	Upsize existing control valves.	Lower Mt Bethel Township	Northampton	PA
Mainline A Regulator	Regulator Station	Add pressure regulation controls to existing valve actuators.	Lower Makefield Township	Bucks	PA
Key: EMD= electric motor-driven compressor HP = horsepower M&R= meter & regulating					

B.2.1. Modifications to Existing Compressor Stations

Transco proposes to install additional HP/compression and other related modifications at the following existing compressor stations:

- Compressor Station 515 in Luzerne County, PA – addition of two gas-fired turbine driven compressor units with 63,742 nominal HP at ISO conditions and modification of three existing compressors at existing Compressor Station 515 in Luzerne County, PA to support the Project and to accommodate the abandonment and replacement of approximately 17,000 HP from five existing gas-fired reciprocating driven compressors and increase the certificated station compression by 46,742 HP;
- Transco will remove and replace the existing communication tower at Compressor Station 515 during facility modifications. The new communication tower will be freestanding lattice tower (e.g. not supported by guy wires) and approximately 380 feet high, replacing the existing 357 feet high communication tower which is supported by guy wires.
- Compressor Station 200 in Chester County, PA – connect existing Transco Mainline A into suction to support south flow.

B.2.2. Modifications to Other Aboveground Facilities

Transco proposes modifications or increased flow at the following meter and regulating facilities to support the Project:

- Hildebrandt Tie-In in Luzerne County, PA – install new aboveground tie-in piping, valves, and aboveground piping for an annubar meter, and install MLV-515RA40 and associated pig trap at the Regional Energy Lateral terminus;
- Lower Demunds REL Tie-In in Luzerne County, PA – install approximately 400-feet of new 20-inch-diameter tie-in piping from Transco’s existing Leidy Line A tie-in site to the new proposed Regional Energy Lateral tie-in site, valves, and new aboveground tie-in piping for an annubar meter;
- Carverton Tie-In in Luzerne County, PA – install new tie-in piping into the proposed Regional Energy Lateral, valves, and aboveground tie-in piping for an annubar meter;
- Delaware River Regulator in Northampton County, PA – upsize existing control valves;
- Mainline A Regulator in Bucks County, PA – add pressure regulation controls to existing valve actuators.

MLVs are installed along natural gas pipelines as a means to isolate gas flows along sections of a pipeline. New MLV facilities will have remote-control functionality and are spaced based on Department of Transportation (DOT) requirements. Installation of MLV facilities will primarily occur within the proposed pipeline construction areas and permanent rights -of way (ROWs). Pig launchers/receivers and communication equipment may be located at the MLV facilities. Transco proposes the addition of or modifications to the following MLV’s on the project:

- MLV-505LD81 in Monroe County, PA- tie-in to existing MLV and remove pig trap and associated piping;
- MLV-505LD86 in Monroe County, PA- new MLV with remote operating capabilities;
- MLV-505LD90 in Monroe County, PA- tie-in to existing MLV and remove pig trap and associated piping;
- MLV-515RA10 in Luzerne County, PA- new MLV with remote operating capabilities and new pig trap;

- MLV-515RA20 in Luzerne County, PA- new MLV with remote operating capabilities;
- MLV-515RA30 in Luzerne County, PA- new MLV with remote operating capabilities;
- MLV-515RA40 in Luzerne County, PA- new MLV with remote operating capabilities and new pig trap.

C. Cumulative Impacts

Potential cumulative impacts associated with the Project would result from the combined effect of construction and operation of Project facilities with other major developments occurring in the vicinity of the Project. To evaluate potential cumulative impacts, Transco considered past, present, and reasonably foreseeable future major actions and other human-related activities (collectively “actions”) near the Project facilities. For the purposes of the 401 Water Quality Certification, the cumulative impacts analysis is focused only on water quality and use as it relates to the Project components in Pennsylvania.

The cumulative impacts analysis includes resources directly or indirectly affected by the Project in Pennsylvania. If the Project results in no or negligible direct or indirect impacts on a resource, then the Project will not incrementally contribute to cumulative impacts. A negligible impact means that no apparent or measurable adverse impacts are anticipated. In general, if the incremental impact of the actions were deemed to have minor or insignificant impacts, the cumulative impacts resulting from the actions and the Project would also be considered minor or insignificant.

The assessment area for potential cumulative effects includes the area directly affected by construction of the Project and other projects within the geographic scope. The geographic scope has been defined as the hydrologic unit code (HUC-12) watersheds impacted by the Project. This boundary has been selected as surface water impacts occur at a crossing location that includes in-water construction and some distance downstream for a conservative consideration of turbidity for the crossing. Watershed boundaries are defined boundaries of surface water flow within which cumulative impacts can be assessed. The cumulative impact analysis has been limited to those Project components requiring earth disturbance, as those without disturbance would not have the potential to impact water quality and use.

C.1. Actions Considered

Transco has identified past, present, and reasonably foreseeable actions and other human-related activities occurring in the vicinity of the Project in Pennsylvania that may result in cumulative impacts when combined with the effects of the Project. Transco reviewed publicly-available sources to identify actions requiring federal and/or state permits or authorizations, including the FERC's eLibrary of pending and approved major natural gas actions from 2018 to January 2020 (FERC 2020a), FERC-regulated hydropower (FERC 2020b), USACE Public Notices (USACE 2020a, 2020b, 2020c) published between 2018 and 2020, and state-specific resources such as transportation improvement plans (PennDOT 2020) and public portals for state water quality permits (PADEP 2020). In addition, Transco contacted local county and municipal planning agencies for information regarding current and planned developments in the Project areas.

Cumulated effects were considered relative to water quality and use, including effects on groundwater, surface water, and wetlands. Cumulative water quality and use effects will be minimized through the successful implementation of the environmental protection and mitigation measures. Transco has developed Project specific construction plans and compliance plans, as applicable. Table C.1-1 provides a preliminary list of identified past, current, and reasonably foreseeable actions (federal, non-federal, and private) in the vicinity of the Project and discusses the potential cumulative effects on resources that could result from the Project in conjunction with those actions identified. Actions listed in Table C.1-1 are categorized by the general type of action. A map showing the general location of these actions is provided as Figure C.1-1.

**Table C.1-1
 Past, Present, and Reasonably Foreseeable Future Actions Evaluated for Potential Cumulative Effects**

Project (Company Name as appropriate)	Location (County, State)	Status / Estimated Construction Date	Description	Approximate Closest Distance (miles) (to Project)	Approximate Construction Impacts	Overlapping Geographic Scope(s) and Discussion of Impact
FERC-Jurisdictional Natural Gas Actions						
PennEast Pipeline Project (CP15-558-000, CP19-78-000, CP20-47-000)	Luzerne, Carbon, Bucks, Monroe, and Northampton, PA. Mercer and Hunterdon, NJ	Permitting - In Progress Phase I Construction Anticipated : January 2021 to September 2022; Phase II Construction Undetermined (duration estimated at 15 months)	Phase I includes 68 miles of 36-inch pipe, 31,800 HP compressor station, three receipt interconnects, and three delivery interconnects constructed entirely within PA. Phase II includes 46-miles of new greenfield pipeline and one new compressor station in NJ.	Crosses Regional Energy Lateral (closely parallel MP 2.0 to 6.3; MP 14.6 to 15.0; MP 17.3 to 17.8; MP 18.5 to 18.8; MP 22.1 to 22.3); 0.1-mile west of Carverton Interconnect & Tie-In; 0.1-mile east of Lower Demunds REL Tie-in; 0.1-mile south of Hildebrandt Interconnect & M&R; 5.7 miles southwest of Station 210 Pooling Point	1,588 acres	<u>Water Quality and Use:</u> 269 waterbody crossings and approximately 27 acres of wetland impact. Action will cross some of the same waterbodies as the Project; restoration is expected to be complete prior to construction start for the Project. Impacts to wetlands/waterbodies will be permitted by federal/state agencies; therefore, no significant cumulative impacts are anticipated.
Adelphia Gateway (CP18-46-000)	Northampton, Bucks, Montgomery, Chester, PA. New Castle, DE.	In Construction (May 2020 to October 2021)	Conversion of 84 miles of existing pipeline to natural gas pipeline; 5 miles of new pipeline laterals, two new compressor stations, existing and new meter stations, and other appurtenant facilities.	0.1-mile west of Delaware River Regulators Facility; 0.2-mile east of Compressor Station 200;	42 acres	<u>Water Quality and Use:</u> Minimal waterbody (2) and wetland (1 acre) crossings due to use of existing pipeline. No cumulative effects to water quality and use are anticipated.
Other Natural Gas Facility Actions						
Sunoco Mariner East II	Chester and Delaware, PA (and other PA counties – impacts described herein are limited to counties listed here)	Construction ongoing in 2020	Mariner East II is an expansion of the existing Sunoco Mariner East pipeline system. Sunoco recently upgraded its existing Mariner East I pipeline to transport natural gas liquids from Ohio and the Pittsburgh area to its Marcus Hook Industrial Complex in Delaware County	2 miles west of Compressor Station 200	281 acres	<u>Water Quality and Use:</u> 82 waterbody crossings and approximately 5 acres of wetland impact. Construction and restoration are anticipated to be complete before the Project commences; therefore, no cumulative impacts are anticipated.
Various Well Developments	Luzerne, PA	Active oil and gas wells have been constructed throughout the county in the past 10 years.	Oil and Gas Natural Wells	Varies	Varies	Well Development has been minimal in the Project counties over the past 10 years, however future development is possible. Two unconventional wells (no conventional wells) were drilled in Luzerne County within the past 10 years. Well construction may have temporary impacts with localized permanent impacts during operation. BMPs would be utilized during construction and would avoid and/or minimize impacts; therefore, no cumulative impacts are anticipated as a result of oil and gas well development.
USACE Regulated In-Water Actions						
None	-	-	-	-	-	=
Transportation Facility Actions						
Pittston Avenue/Route 315	Luzerne, PA	Ongoing	Intersection upgrade with traffic signals.	1.0 mile northeast of Regional Energy Lateral Loop MP 10.6		<u>Water Quality and Use:</u> Action to be conducted in accordance with permit conditions; therefore, no cumulative impacts anticipated.
Various Other Roadway and Bridge Actions	Multiple Counties, PA; Multiple Counties, NJ; and Baltimore County, MD	Completed, ongoing construction, and proposed	Active and proposed PennDOT, NJDOT, and MDOT roadway and bridge actions.	Various	Various	<u>Water Quality and Use:</u> Construction/repairs could have temporary impacts on water resources. BMPs would be utilized during construction and would avoid/minimize impacts; therefore, no cumulative impacts are anticipated.

**Table C.1-1
 Past, Present, and Reasonably Foreseeable Future Actions Evaluated for Potential Cumulative Effects**

Project (Company Name as appropriate)	Location (County, State)	Status / Estimated Construction Date	Description	Approximate Closest Distance (miles) (to Project)	Approximate Construction Impacts	Overlapping Geographic Scope(s) and Discussion of Impact
Residential/Commercial/Industrial Developments						
North Bacton Hill Road	Chester, PA	Development pending	Reallocation of gross floor area by constructing two buildings, totaling 35000 square feet.	0.4 mile southeast from Compressor Station 200	Information Not Available	<u>Water Quality and Use</u> : Action to be conducted in accordance with permit conditions; therefore, no cumulative impacts anticipated.
South Bacton Hill Road	Chester, PA	Development approved	Divide an existing 71.5-acre tract into three separate lots for the future development of a data center complex and solar field.	0.96 mile south of Compressor Station 200	71.5 acres	<u>Water Quality and Use</u> : Action to be conducted in accordance with permit conditions; therefore, no cumulative impacts anticipated.
Phoenixville Pike	Chester, PA	Development under review	Construct two office/flex buildings	1 mile northeast of Compressor Station 200	Information Not Available	<u>Water Quality and Use</u> : Action to be conducted in accordance with permit conditions; therefore, no cumulative impacts anticipated.
Bacton Hill Expansion	Chester, PA	Development approved	Expand surface parking area to include private fueling station and outdoor storage area.	0.20 mile south of Compressor Station 200	Information Not Available	<u>Water Quality and Use</u> : Action to be conducted in accordance with permit conditions; therefore, no cumulative impacts anticipated.
Market Street ^b	Luzerne, PA	Proposed	Single-family home	0.06 mile southwest of Regional Energy Lateral Loop MP 11.1	Information Not Available	<u>Water Quality and Use</u> : Action to be conducted in accordance with permit conditions; therefore, no cumulative impacts anticipated.
Beverage Company ^c	Luzerne, PA	Proposed	Beverage company will be moving into an existing commercial site.	1.2 miles northeast of Regional Energy Lateral Loop MP 10.5	Information Not Available	<u>Water Quality and Use</u> : Action to be conducted in accordance with permit conditions; therefore, no cumulative impacts anticipated.
Railroad Street Salt Shed ^c	Luzerne, PA	Proposed	Construction of a salt shed next to existing pole barn.	2.9 miles southwest of Regional Energy Lateral Loop MP 10.3	Information Not Available	<u>Water Quality and Use</u> : Action to be conducted in accordance with permit conditions; therefore, no cumulative impacts anticipated.
Union Street Quarry ^c	Luzerne, PA	Proposed	Expand quarry operations toward Union Street	0.5 miles southwest of Regional Energy Lateral Loop MP 11.0	Information Not Available	<u>Water Quality and Use</u> : Action to be conducted in accordance with permit conditions; therefore, no cumulative impacts anticipated.
Manchester Drive ^c	Luzerne, PA	Ongoing	Adding infrastructure, in addition to milling and paving work	0.82 miles east of Regional Energy Lateral Loop MP 11.2	Information Not Available	<u>Water Quality and Use</u> : Action to be conducted in accordance with permit conditions; therefore, no cumulative impacts anticipated.
Maplewood Drive ^c	Luzerne, PA	Ongoing	Adding infrastructure, in addition to milling and paving work	0.13 miles east of Regional Energy Lateral Loop MP 11.2	Information Not Available	<u>Water Quality and Use</u> : Action to be conducted in accordance with permit conditions; therefore, no cumulative impacts anticipated.
Various Single-Family Home Construction, Additions, and Out-buildings	Multiple Counties, PA; Multiple Counties, NJ	Completed, ongoing construction, and proposed	Active and proposed construction of single-family homes.	Varies	Varies	Single-family home development is on-going within the Project counties. Residential construction may have temporary impacts with localized permanent impacts during operation. BMPs would be utilized during construction and would avoid and/or minimize impacts; therefore, no cumulative impacts are anticipated as a result of single-family home construction.
Various Residential, Commercial, and Industrial Developments	Multiple Counties, PA; Multiple Counties, NJ	Completed, ongoing construction, and proposed	Active and proposed residential, commercial, and industrial developments.	Various	Various	<u>Water Quality and Use</u> : Construction could have temporary impacts on water resources. Actions to be conducted in accordance with permit conditions; therefore, no cumulative impacts are anticipated.
Air Quality Permitting Actions						

**Table C.1-1
 Past, Present, and Reasonably Foreseeable Future Actions Evaluated for Potential Cumulative Effects**

Project (Company Name as appropriate)	Location (County, State)	Status / Estimated Construction Date	Description	Approximate Closest Distance (miles) (to Project)	Approximate Construction Impacts	Overlapping Geographic Scope(s) and Discussion of Impact
White Haven CTR	White Haven, PA	Permit Issued – Construction Date Unknown	Modification	<10 mi from Compressor Station 515	Information Not Available	White Haven CTR own and operate a power plant in White Haven, PA. A plan approval to apply a voluntary limit on coal throughput to the existing coal boilers was approved. This permit action also incorporates the requirements of NESHAPS Subpart JJJJJJ. No cumulative emissions impact is expected.
Ball Metal Beverage Container Corporation	Wilkes Barre, PA	Permit Issued – Construction Date Unknown	New Facility	<10 mi from Compressor Station 515	Information Not Available	Information Not Available
<p>Sources: FERC 2021a and 2021b; PADEP 2020; PADEP, Office of Oil and Gas 2020; PennDOT 2020a and 2020b; USACE 2020a, 2021b, 2020c; East Whiteland Township Planning Commission 2020a and 2020b; Sipple 2020; Bucks County Planning Commission 2020a and 2020b; Boyd 2020; Kernan 2020; Bilger 2020; Barry 2020; Calluori 2020; Chester County Planning Commission 2020; Calarusso 2020; D'Amico 2020; Dell 2020, Eck 2020; Fairchild 2020a, 2020b, 2020c; LaPlace 2020; Leach 2020; Levecchia 2020; Luzerne County Planning and Zoning Department 2020; Majewski 2020; Rost 2020; Scheffler 2020; Watkins 2020; York County Planning Commission 2020.</p> <p>^a Information provided by Tunkhannock Township ^b Information included due to proximity to the Project ^c Information provided by Laffin Borough ^d Information provided by the Burlington County Planning Board</p> <p>Key: I = Interstate PA = Pennsylvania PADEP = Pennsylvania Department of Environmental Protection PennDOT = Pennsylvania Department of Transportation SR = State Route</p>						

C.2. Cumulative Impact Analysis Conclusions

In addition to projects listed Table C.1-1, Transco anticipates using a local utility company to modify the current electrical power supply for existing Compressor Stations 195 and 515. These utilities likely will require minor construction activities to extend existing power distribution infrastructure to sufficiently support the incremental load requirements for each facility. At this time, no modifications to the utilities' overall distribution networks, such as line change outs, are anticipated. Transco is coordinating facility modifications with customers. should modifications be completed by the customer, Transco will identify as such.

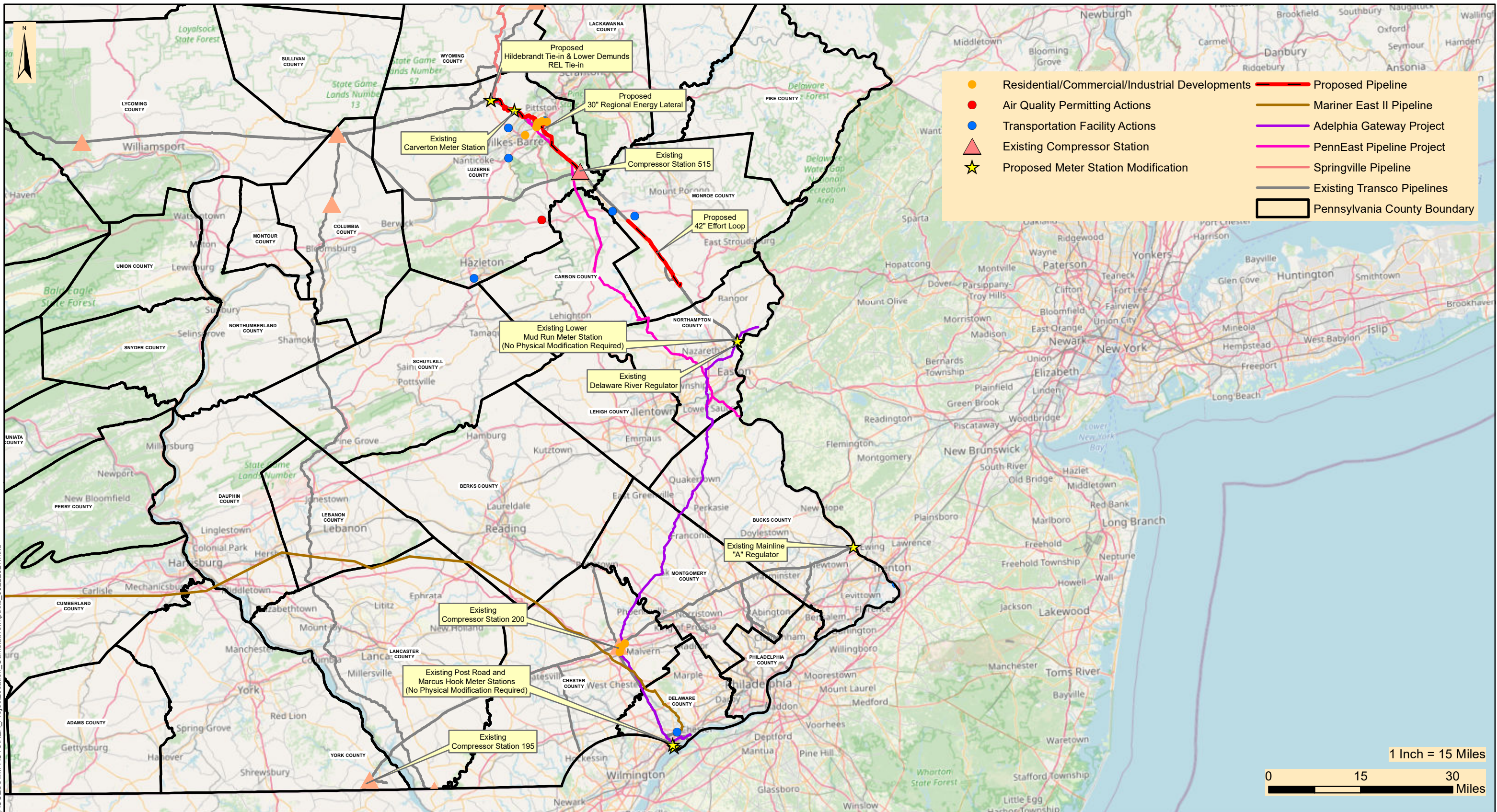
In summary, Transco reviewed past, present, and reasonably foreseeable actions that, when taken into consideration with the Project, could result in cumulative impacts to water quality and use. Reasonably foreseeable actions identified are subject to permit requirements like that of the Project, which will help to minimize and/or mitigate impacts. Transco is developing Project-specific construction and compliance plans, and will implement BMPs and impact minimization and mitigation measures to minimize environmental impacts for the Project. The Project is not expected to result in significant cumulative impacts.

D. References

- Barry, M. (Dallas Township Main Office). 2020. Personal Communication [Phone call]. August 4, 2020.
- Bilger, C. (Peach Bottom Township Main Office). 2020. Personal Communication [Phone call, email]. August 4, 2020.
- Boyd, C. (Lafin Borough Main Office). 2020. Personal Communication [Phone call, email]. August 4, 2020.
- Bucks County Planning Commission. 2020a. Personal Communication [Phone call]. August 5, 2020.
- Bucks County Planning Commission. 2020b. Proposed Subdivision and Land Development. Available at: <https://development-bucksgis.opendata.arcgis.com/>. Accessed October 14, 2020.
- Calluori, S. (Lower Mt. Bethel Township). 2020. Personal Communication [Phone call]. August 13, 2020.
- Chester County Planning Commission. 2020. Personal Communication [Phone call]. August 5, 2020.
- Colarusso, R. (Wyoming Borough Main Office). 2020. Personal Communication [Phone call]. August 4, 2020.
- Council on Environmental Quality (CEQ). 1997. Considering Cumulative Effects Under the National Environmental Policy Act. Available online at: <https://ceq.doe.gov/docs/ceq-publications/ccenepa/exec.pdf>. Accessed on August 3, 2020.
- Council on Environmental Quality (CEQ). 2005. *Guidance on the Consideration of Past Actions in Cumulative Effects Analysis*. Available online at: https://www.energy.gov/sites/prod/files/nepapub/nepa_documents/RedDont/G-CEQ-PastActsCumulEffects.pdf. Accessed on November 17, 2020.
- Council on Environmental Quality (CEQ). 2016. *Guidance on Consideration of Greenhouse Gas Emissions and the Effects of Climate Change in National Environmental Policy Act Review*. Available online at: https://ceq.doe.gov/docs/ceq-regulations-and-guidance/nepa_final_ghg_guidance.pdf. Accessed on August 3, 2020.
- Dell, F. (York County Planning Commission). 2020. Personal Communication [Phone call, email]. August 6, 2020.
- East Whiteland Township Planning Commission. 2020a. Personal Communication [Phone call]. August 10, 2020.

- East Whiteland Township Planning Commission. 2020b. Subdivision and Land Developments. Available at: <https://www.eastwhiteland.org/385/2020-Subdivision-and-Land-Developments>. Accessed October 14, 2020.
- Eck, B. (Kingston Township Main Office). 2020. Personal Communication [Phone call, email]. August 4, 2020.
- Energy Information Administration. 2020. “Annual Energy Outlook 2020 with Projections to 2050.” Available online at: <https://www.eia.gov/outlooks/aeo/>. Accessed on May 28, 2020.
- Fairchild, B. (Jenkins Township Main Office). 2020a. Personal Communication [Phone call]. August 4, 2020.
- Fairchild, B. (Jenkins Township Main Office). 2020b. Personal Communication [Email]. August 11, 2020.
- Fairchild, B. (Jenkins Township Main Office). 2020c. Personal Communication [Phone Call]. October 13, 2020.
- Federal Energy Regulatory Commission (FERC). 2021a. Natural Gas. Available online at: <https://www.ferc.gov/industries-data/natural-gas>. Accessed on January 21, 2021.
- Federal Energy Regulatory Commission (FERC). 2021b. Hydropower. Available online at: <https://www.ferc.gov/industries-data/hydropower>. Accessed on January 21, 2021.
- Interstate Natural Gas Association of America (INGAA). 2008. *America’s Natural Gas Transporters’ Commitment to Landowners*. Endorsed by the INGAA Board of Directors in January 2008. Washington, D.C. Available online at: <http://www.ingaa.org/Topics/Pipelines101/LandownerCommitment/6849.aspx>. Accessed on May 12, 2020.
- Interstate Natural Gas Association of America (INGAA). 1999. Temporary Right-of-Way Width Requirements for Pipeline Construction. Available online at: <http://www.ingaa.org/File.aspx?id=19105>. Accessed on May 14, 2020.
- Kernan, T. (Tunkhannock Township Main Office). Personal Communication [Phone call]. August 4, 2020.
- Luzerne County Planning and Zoning Department. 2020. Personal Communication [Phone call]. August 5, 2020.
- Majewski, J. (Lower Makefield Township Planning and Zoning). 2020. Personal Communication [Phone call]. August 3, 2020.

- Pennsylvania Department of Environmental Protection (PADEP). 2020. Pennsylvania Pipeline Portal. Available online at: <https://www.dep.pa.gov/Business/ProgramIntegration/Pennsylvania-Pipeline-Portal/Pages/default.aspx>. Accessed on August 3, 2020.
- Pennsylvania Department of Environmental Protection, Office of Oil and Gas (PADEP Oil and Gas). 2020. Oil and Gas Reports, Wells Drilled by County. Available at: http://cedatareporting.pa.gov/Reportserver/Pages/ReportViewer.aspx?/Public/DEP/OG/SSRS/Wells_Drilled_By_County. Accessed September 24, 2020.
- Pennsylvania Department of Transportation (PennDOT). 2020a. Transportation Improvement Program, Four and Twelve Year Plans. Available at: <https://gis.penndot.gov/paprojects/TipVisMap.aspx>. Accessed September 30, 2020.
- Pennsylvania Department of Transportation (PennDOT). 2020b. Conchester Highway Project Information, Section CSX. Available at: <http://us322conchester.com/project-information/section-csx/>. Accessed October 14, 2020.
- Scheffler, K. (West Wyoming Borough). 2020. Personal Communication [Phone call]. August 7, 2020.
- Sipple, R. III (Buck Township Zoning Office). 2020. Personal Communication [Phone call]. August 4, 2020.
- U.S. Army Corps of Engineers (USACE). 2020a. Baltimore District Regulatory Branch Public Notices. Available at: <https://www.nab.usace.army.mil/Missions/Regulatory/Public-Notices/>. Accessed September 23, 2020.
- U.S. Army Corps of Engineers (USACE). 2020b. Philadelphia District Regulatory Branch Public Notices. Available online at: <https://www.nap.usace.army.mil/Missions/Regulatory/Public-Notices/>. Accessed October 1, 2020.
- Watkins, J. (Bear Creek Township Code and Zoning). Personal Communication [Phone call]. August 4, 2020.
- York County Planning Commission. 2020. York County Subdivisions. Available at: <https://yorkcountypa.maps.arcgis.com/apps/webappviewer/index.html?id=1247213c09e644fbaf5ee480a7a441a4>. Accessed October 14, 2020.



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REGIONAL ENERGY ACCESS EXPANSION PROJECT
ACTIONS CONSIDERED IN CUMULATIVE IMPACTS ANALYSIS
FOR PA 401 WATER QUALITY CERTIFICATION

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