

*Atlantic Sunrise Project – PA DEP Chapter 105 Joint Permit Application
Transcontinental Gas Pipe Line Company, LLC
Columbia County*

**ATTACHMENT J -1
PROJECT DESCRIPTION NARRATIVE**

Revised November 18, 2016

The Atlantic Sunrise Project (Project) is a proposed expansion of the existing Transcontinental Gas Pipe Line Company, LLC (Transco) natural gas transmission system. This proposed expansion will enable Transco to provide 1.7 million dekatherms per day of incremental firm transportation of natural gas from the Marcellus Shale production areas in northern Pennsylvania to its existing market areas, extending to as far south as the Station 85 Pooling Point in Choctaw County, Alabama.

The Project includes modifications to the existing Transco Mainline system consisting of the following primary components:

- ~~57.358.7~~ miles of new 30-inch-diameter and ~~425.2127.3~~ miles of 42-inch-diameter greenfield pipeline in Pennsylvania;
- 2.~~59~~ miles of new 36-inch-diameter and 8.~~56~~ miles of 42-inch-diameter pipeline loops in Pennsylvania;
- 2.5 miles of 30-inch-diameter pipeline replacements in Virginia;
- Two new compressor stations in Pennsylvania;
- Additional ancillary facilities, such as mainline valves (MLVs), cathodic protection, communication facilities, and internal inspection device (e.g., pig) launchers and receivers in Pennsylvania;
- Two new meter stations and three new regulator stations with interconnecting piping in Pennsylvania;
- Additional compression and related modifications to two existing compressor stations in Pennsylvania and one in Maryland;
- Modification to six existing compressor stations that enable compression for bi-directional flow in Maryland, Virginia, and North Carolina;
- Installation of deodorization/odor masking equipment at four existing compressor stations in North Carolina;
- Modification to an existing meter station for use of shared facilities with a new meter station in Pennsylvania;
- Supplemental odorization, odor detection, and/or odor masking/deodorization equipment at 42 meter/regulator stations in North Carolina and South Carolina; and

- Odor masking/deodorization equipment at 14 MLV locations in North Carolina and South Carolina.

On March 31, 2015 Transco submitted an application to the Federal Energy Regulatory Commission (FERC) for a Certificate of Public Convenience and Necessity (Certificate) for the Project. Should the FERC approve the Project and issue a Certificate by ~~May~~ December 2016, Transco anticipates that construction of Compressor Stations 605 and 610 as well as selected access roads and contractor yards will begin in ~~June 2016~~ March 2017. ~~Tree clearing for Construction of~~ the remainder of the Project facilities will begin in ~~July~~ March 2016 ~~7~~ to meet an in-service date of July 1, 2017. A summary of the pipeline facilities portion of the Project is included as Table J-1.

**Table J-1
 Location of the Atlantic Sunrise Project Pipeline Facilities**

Project Facility	County	Latitude ^a	Longitude ^a
CPL South, Southern Tie-In	Lancaster	39.835922	-76.254184
County Line Crossing	Lancaster / Lebanon	40.208298 <u>40.208391</u>	-76.530354- 76.530429
County Line Crossing	Lebanon / Schuylkill	40.527409 <u>40.527522</u>	-76.490666- 76.490488
County Line Crossing	Schuylkill / Northumberland	40.731041 <u>40.730388</u>	-76.502773- 76.503827
County Line Crossing	Northumberland / Columbia	40.839815 <u>40.839882</u>	-76.507338- 76.506883
County Line Crossing	Columbia / Northumberland	40.849433 <u>40.849224</u>	-76.503074- 76.502874
County Line Crossing	Northumberland / Columbia	40.854756 <u>40.853947</u>	-76.498663- 76.498206
CPL South / CPL North Tie-In	Columbia	41.273159	-76.406707
County Line Crossing	Columbia / Luzerne	41.284081 <u>41.284092</u>	-76.313326 5
County Line Crossing	Luzerne / Wyoming	41.399086 <u>41.394672</u>	-75.948025- 75.966182
County Line Crossing	Wyoming / Susquehanna	41.642549 <u>41.643203</u>	-75.760925- 75.760946
CPL North Terminus	Susquehanna	41.716101	-75.707028
Unity Loop Eastern Terminus	Lycoming	41.261518	-76.526921
Unity Loop Western Terminus	Lycoming	41.268885	-76.689998
Chapman Loop Eastern Terminus	Clinton	41.377066	-77.714737
Chapman Loop Western Terminus	Clinton	41.400937	-77.760120

Table J-1
Location of the Atlantic Sunrise Project Pipeline Facilities

Project Facility	County	Latitude ^a	Longitude ^a
Notes: ^a NAD 1983			

The workspaces for the Project will include temporary construction right-of-ways (ROWs), additional temporary workspace (ATWS) areas, permanent ROWs, aboveground facility footprints, temporary and permanent access roads, contractor/pipe yards, and contractor staging areas. Transco will maintain the permanent ROWs, permanent access roads, and aboveground facilities during operation of the Project. The land requirements for the Project area summarized in Table J-2.

Construction of the Project will result in both temporary and permanent land disturbance. For temporary disturbance, Transco proposes to utilize the following nominal ROWs during construction of the pipeline facilities:

- A 90-foot-wide construction ROW for installation of the 30-inch-diameter CPL North pipeline. For the approximately [21.319.8](#) miles of CPL North that are co-located with the Transco Leidy Line system ROW, Transco will utilize 30 feet of its existing maintained ROW and an additional 60 feet of new construction ROW. Approximately [5.04.8](#) miles of CPL North are co-located with several Williams Field Services (midstream) pipelines and 0.3 mile of existing powerline ROW. Transco will utilize 5 feet of existing ROWs and an additional 85 feet of new construction ROWs for these areas.
- A 90-foot-wide construction ROW for installation of the 36-inch-diameter Chapman Loop. Transco will utilize approximately 30 feet of the ROW maintained for its existing Leidy Line system and an additional 60 feet of new construction ROWs.
- A 100-foot-wide construction ROW for installation of the 42-inch-diameter CPL South pipeline. For the approximately [14.89](#) miles of CPL South that are co-located with existing pipelines and powerline ROWs, Transco will utilize 10 feet of the existing ROWs and an additional 90 feet of new construction ROW.

- A 100-foot-wide construction ROW for installation of the 42-inch-diameter Unity Loop. Transco will utilize 35 feet of its existing Leidy Line system maintained ROW during construction and an additional 65 feet of new construction ROW.

The width of the proposed construction ROW has been established to provide for safe and efficient construction of large-diameter pipeline facilities in accordance with OSHA regulations (29 CFR 1926.650-1926.652, Subpart P) and are based on the Interstate Natural Gas Association of America's (INGAA) workspace guidelines (INGAA 1999). Reductions of the construction ROWs will be made, where practicable, at various locations to address specific environmental or residential issues along the proposed pipelines. For example, the nominal construction ROW width has been reduced to 75 feet at most wetland crossings. Site specific locations where additional workspace is required in wetlands is provided in [Attachment P Appendix P-1.](#) Following construction, temporary workspace areas necessary to facilitate construction will be restored to preconstruction contours, stabilized, and vegetated per landowner agreements and applicable agency requirements.

Typically, pipeline construction requires additional temporary workspace (ATWS) at road, railroad, wetland, waterbody, and agricultural land crossings, and in areas where specialized construction techniques are required (i.e., on steep slopes). Upon completion of the Project, Transco will restore ATWS areas in accordance with landowner agreements and allow them to revert to prior land uses. The configurations and sizes of ATWS areas are site-specific and vary in accordance with the construction method, feature or land use crossed, and other construction needs.

Permanently affected areas will include those necessary for operation and maintenance of the proposed new and modified facilities and new permanent access roads. Transco proposes to obtain a 50-foot-wide permanent ROW along the greenfield segments of CPL North and CPL South that are not co-located. At MLVs, the permanent ROW in greenfield segments will be expanded to approximately 92 feet wide to allow for access around the facility during operations. Transco will also obtain a 50-foot wide permanent ROW where CPL North is co-located with Williams Field Services (midstream) pipelines and other foreign utility ROWs. Transco proposes to obtain an additional 25-foot-wide permanent ROWs adjacent to the existing ROWs along the proposed Chapman Loop and the Unity Loop, and portions of CPL North that will be co-located

with the Transco Leidy Line system. In these areas, 25 feet of the existing Transco ROWs will also be used for operation of the pipelines. Permanent ROWs will be maintained in an herbaceous state for the operational life of the pipelines, with the exception of forested wetlands in which partial regrowth of woody vegetation will be permitted, as discussed herein.

During pipeline operation, Transco will regularly inspect waterbody crossings and will maintain an open vegetated ROW, except where Transco used the conventional bore or horizontal **directional drill (HDD) methods to avoid waterbody disturbance.**

Within wetlands, a 10-foot wide corridor centered over the pipeline will be permanently maintained in an herbaceous state, except in areas crossed by Horizontal Directional Drills. Outside of this 10-foot wide area, Transco will allow shrubs to regrow within the permanent ROW, however periodic maintenance will be required. In forested wetlands and within 25-feet from top-of-bank of a stream riparian area (e.g., riparian strip), Transco will allow trees to regrow in the outer 10 feet of the permanent ROW, reducing the operational corridor to 30-feet (per FERC Procedures). In all cases, the temporary ROW will be allowed to revert to original pre-construction conditions.

~~Transco will allow establishment of a riparian buffer within 25 feet from the edge of the waterbody. However, to facilitate periodic corrosion/leak surveys, a corridor centered on the pipeline and up to 10 feet wide may be cleared at a frequency necessary to maintain the 10-foot-wide corridor in an herbaceous state.~~

Transco will limit annual vegetation maintenance within PEM and PSS wetlands to a 10-foot-wide corridor centered over the pipeline, and a 30-foot wide corridor in PFO wetlands as required by FERC, to facilitate routine patrols and emergency access. Transco will encourage wetland revegetation within the construction workspaces but will selectively cut and remove trees within wetlands that are located within 15 feet of the centerline of the pipelines. In all other respects, Transco will allow wetland crossings to revert to preconstruction conditions.

**Table J-2
 Summary of Land Requirements for the Atlantic Sunrise Project Facilities**

Facility	Land Affected During Construction (acres) ^a	Land Affected During Operation (acres) ^b
Pipeline Facilities		
CPL North	837.7918.6	284.8295.6

**Table J-2
 Summary of Land Requirements for the Atlantic Sunrise Project Facilities**

Facility	Land Affected During Construction (acres)^a	Land Affected During Operation (acres)^b
CPL South	2,444.22372.6	772.3770.7
Chapman Loop	97.157.1	12.88.6
Unity Loop	164.9166.2	27.126.0
Mainline A & B Lines Replacements	52.832.0	0.60.2
Pipeline Facilities Total	3,596.73,546.5	4,097.61,100.9
New Aboveground Facilities		
New Compressor Stations	83.6	72.7
New Meter and Regulator Stations	23.4	15.8
Total New Aboveground Facilities	107.0	88.5
Modified Aboveground Facilities		
Modified Compressor Stations	170.9	20.4
Modified Meter/Regulator Station	16.8	0.5
Modified MLVs	11.4	0.0
Modified Aboveground Facilities Total	199.1	20.9
Total Project	3,925.73,852.6	4,217.01,210.3
<p>^a All areas required for construction, including areas that will be identified as operational ROW after Project completion.</p> <p>^b Acreages are included within the reported acreage for “Land Affected During Construction.”</p> <p>Key: CPL = Central Penn Line MLV = mainline valve</p>		

PIPELINE FACILITIES

The Project will include two new greenfield pipelines, two pipeline loops, and non-contiguous pipeline replacements. Table J-3 below provides a summary of the proposed pipelines and milepost (MP) designations within each municipality and county. The two greenfield pipelines have new MPs beginning at their start points (MP 0.0) and continuing to their endpoints. The two pipeline loops are numbered according to their location along the Transco Leidy Line system. All MPs starting with “L” refer to locations along the existing Transco Leidy Line system. The Project Location Maps (Attachment I) identify the location of the proposed pipeline facilities.

Table J-3
Summary of Pipeline Facilities for the Atlantic Sunrise Project

Facility	County	Municipality	Milepost Range ^b	Miles
Pennsylvania				
CPL North				
30-inch-diameter pipeline	Columbia	Sugarloaf Township	0.0-5.0	5.0
	Luzerne	Fairmount Township	5.0-10.3	5.4
		Ross Township	10.3-15.0	4.7
		Lake Township	15.0-19.3	4.3
		Lehman Township	19.3-M-0060 0.2	3.1
		Dallas Township	M-0060 0.2 – 27.2 M-0088 1.6	4.8 <u>5.7</u>
		<u>Franklin Township</u>	<u>M-0088 1.6 – M-0088 2.3</u>	<u>0.7</u>
	Wyoming	Monroe Township <u>Franklin Township</u>	27.2-27.9 <u>M-0088 1.6 – M-0088 2.3</u>	0.7
		Northmoreland Township	M-00882.3 <u>27.9-32.6</u> <u>M-0071 2.0</u>	4.7 <u>4.6</u>
		Eaton Township	<u>M-0071 2.0</u> 32.6-35.0	2.4
		Falls Township	35.0-37.9	3.0 <u>2.9</u>
		Overfield Township	37.9-41.6	3.7
		Clinton Township	41.6-46.2	4.6
		Nicholson Township	46.2-50.6	4.3
	Susquehanna	Lenox Township	50.6- 57.3	6.7
CPL North Total^a				<u>57.4</u>58.7
CPL South				
42-inch-diameter pipeline	Lancaster	Drumore Township	0.0-1.8	1.6
		Martic Township	1.8-8.2	6.7
		Conestoga Township	8.2-12.3	4.2 <u>1</u>
		Manor Township	12.3-19.6	7.4
		West Hempfield Township	19.6-23.9	4.4 <u>3</u>
42-inch-diameter pipeline	Lancaster	Rapho Township	23.9-27.4	3.5
		Mount Joy Borough	27.4-27.6	0.2
		Rapho Township	27.6-34.5	7.0
		Mount Joy Township	34.5-36.5	2.1 <u>0</u>

Table J-3
Summary of Pipeline Facilities for the Atlantic Sunrise Project

Facility	County	Municipality	Milepost Range ^b	Miles
Pennsylvania				
CPL North				
	Lebanon	South Londonderry Township	36.5-41.3	4.78
		South Annville Township	41.3-M- 0183 0424 0.71.5	4.95.0
		North Annville Township	M- 0424 1.50183 0.7 -49.3	3.7
		East Hanover Township	49.3-52.8	3.6
		Union Township	52.8-62.4	11.2
		Cold Springs Township	62.4-64.3	0.2
	Schuylkill	Pine Grove Township	64.3-70.5	6.3
		Tremont Township	70.5-73.1	2.6
		Frailey Township	73.1-M-0201 0.4	1.4
		Porter Township	M-0201 0.4-75.0	0.5
		Hegins Township	75.0-79.1	4.1
		Eldred Township	79.1-M- 0194 1.4247 0.4	3.53.6
	Northumberland	East Cameron Township	M- 0247 0.40194 1.1-84.8 M- 0323 0.1	2.1
		Coal Township	M- 0323 0.184.8- 89.7	4.95.1
		Ralpho Township	89.7-91.0	1.11.3
	<u>Columbia</u>	<u>Cleveland Township</u>	<u>91.0-91.7</u>	<u>0.8</u>
	<u>Northumberland</u>	<u>Ralpho Township</u>	<u>91.7-M-0271 0.1</u>	<u>0.5</u>
	Columbia	Cleveland Township	M- 0271 0.191.0- 91.7-95.4	4.03.2
		Ralpho Township	91.7-95.4	0.7
		Franklin Township	95.4-99.7	4.24.3
		Montour Township	99.7-103.0	3.4
Hemlock Township		103.0- 107.0 M- 0423 0.8	4.04.1	
Mount Pleasant Township		M- 0423 0.8107.0- 112.0	5.05.3	
Orange Township		112.0-112.9	0.8	

Table J-3
Summary of Pipeline Facilities for the Atlantic Sunrise Project

Facility	County	Municipality	Milepost Range ^b	Miles
Pennsylvania				
CPL North				
		Greenwood Township	112.9-118.2	5.4
		Jackson Township	118.2-125.0	6.8
42-inch-diameter pipeline	Columbia	Sugarloaf Township	125.0- M-0353 0.1425.2	0.10.2
CPL South Total^a				126.3127.3
Chapman Loop				
36-inch-diameter pipeline	Clinton	Chapman Township	186.0-188. 59	2.92.5
Chapman Loop Total				2.59
Unity Loop				
42-inch-diameter pipeline	Lycoming	Jordan Township	120.3-121.4	4.11.0
		Franklin Township	121.4-123.8	2.4
		Penn Township	123.8-128.9	5.1
Unity Loop Total				8.56
Pennsylvania Subtotal^a				195.27.0
Virginia				
Mainline A & B Replacements				
30-inch-diameter pipeline segments	Prince William	Brentville District	1578.7-1580.8	2.4
		Gainesville District	1580.8-1581.0	0.1
Virginia Subtotal				2.5
Project Total^a				197.79.4
^a Numbers do not sum exactly for CPL North and CPL South due to rounding. ^b Due to MOCs incorporated in to the current route without re-mileposting the entire route, the difference between beginning and endings mileposts do not equal the total length. Key: CPL = Central Penn Line				

In an effort to minimize the Project footprint, Transco proposes to co-locate the pipeline facilities within or directly adjacent (i.e., abutting) to existing pipeline and other utility corridors, to the extent practicable. The portions of the proposed Project that are planned for co-location with existing ROWs are as follows:

- Approximately ~~43~~7 percent of CPL North is co-located with the existing Transco Leidy Line system, Williams Field Services (midstream) pipelines, and electric

powerline ROWs. Transco has coordinated with other utility owners for use of existing easements for temporary workspace. Transco has discussed with other utility owners to overlap at least 5 feet of the CPL North construction ROW with their existing easements. Negotiations are ongoing with the respective utility companies.

- Approximately 12 percent of CPL South is co-located with electrical powerline ROWs. Transco has coordinated with other utility owners for use of existing easements for temporary workspace. Transco has discussed with other utility owners to overlap at least 10 feet of the CPL South construction ROW with their existing easements. Negotiations are ongoing with the respective utility companies.
- The Chapman Loop and Unity Loop are 100 percent co-located with the existing Transco Leidy Line system.
- Transco is proposing construction ROW widths that provide for safe and efficient construction of large-diameter pipeline facilities in accordance with Occupational Safety and Health Administration regulations (29 CFR 1926.650-1926.652, Subpart P) and Interstate Natural Gas Association of America's (INGAA) workspace guidelines (INGAA 1999). Reductions of the construction ROWs will be made, where practicable, at various locations to address specific environmental or residential issues along the proposed pipelines. The construction ROW will be reduced to 75 feet in wetlands, with the exception of the site-specific locations that will require site-specific plans and approval through FERC.

PFO wetlands will be converted to PSS/PEM wetlands within the permanently maintained corridor. These temporal conversions and the proposed mitigation are further detailed in the Permittee-Responsible Mitigation Master Plan for the Atlantic Sunrise Project (Attachment Q).

During construction, Transco will not clear any trees between the workspaces for HDD entry and exit sites. The only planned activity between the HDD entry and exit points would be foot traffic to place electric guide wires that would be used to track the progress of the drilling operation. During operation Transco will not conduct any routine vegetation maintenance between HDD entry and exit sites. No vegetation clearing or

~~maintenance shall occur in wetlands located between horizontal directional drill (HDD) entry and exit points.~~

Contractor Yards and Pipe Yards

During construction of the pipeline facilities, areas off of or adjacent to the construction ROWs will be utilized for contractor/pipe yards and staging areas. Contractor/pipe yards and staging areas will be used for temporary field offices, equipment/pipe/material storage, and pipe preparation/field assembly areas. Site selection and acquisition will continue throughout the planning and permitting stages of the Project. Staging areas will be used for parking, equipment turn-around, and temporary storage of equipment. These yards and staging areas will be located at various points in the vicinity of the Project with convenient and safe access to the pipeline routes. The proposed contractor yards and pipe yards associated with the Project are not anticipated to have temporary or permanent wetland or waterbody impacts. There ~~are 12~~ are two proposed contractor/pipe ~~yards and staging areas~~ yards (CY/PY-SC-3-07 in Schuylkill County; and CY-CL-1-0 in Clinton County)- that ~~are~~ are partially located within regulated floodplains. Impacts to these floodplains are expected to be temporary in nature. Yards and staging areas will be restored to pre-construction condition upon Project completion in accordance with the landowner lease agreements, and are detailed in Tables J-4 and J-5. FERC Alignment Sheets identifying the locations of the contractor/pipe yards are provided within Attachment H-1.

**Table J-4
 Contractor/Pipe Yards for the Atlantic Sunrise Project in Pennsylvania**

County	Type	Contractor/ Pipe Yard ID	Nearest Milepost	Total Acres
CPL North				
Wyoming	Contractor/pipe yard	CY/PY-WY-2-01	N/A	30.3 <u>14.5</u>
Luzerne	Contractor yard	CY-LU-1-11	N/A	40.5 <u>9.7</u>
<u>Luzerne</u>	<u>Contractor yard</u>	<u>CY-LU-2-05</u>	<u>N/A</u>	<u>33.9</u>
Luzerne	Contractor yard	CY-LU-2-03	N/A	34.8
Luzerne	Contractor/pipe yard	CY/PY-LU-2-02	N/A	24.8
CPL North Total				100.4<u>58.1</u>
CPL South				
Lancaster	Contractor yard	CY-LA-1-04	N/A	23.0 <u>2</u>
Lebanon	Contractor yard	CY-LE-2-10	N/A	17.6 <u>15.4</u>

Table J-4
Contractor/Pipe Yards for the Atlantic Sunrise Project in Pennsylvania

County	Type	Contractor/ Pipe Yard ID	Nearest Milepost	Total Acres
Lebanon	Contractor yard	CY-LE-2-10A	N/A	12.09 .9
Lebanon	Contractor/ pipe yard	CY/ PY -LE-2-12	N/A	30.224 .9
Schuylkill	Contractor yard	CY-SC-3-07 ^a	N/A	25.4 22.0
<u>Schuylkill</u>	<u>Contractor/pipe yard</u>	<u>CY/PY-SC-3-11</u>	<u>N/A</u>	<u>23.7</u>
Columbia	Contractor yard	CY-CO-4-07	N/A	25.9
Columbia	Contractor yard	CY-CO-4-09	N/A	21.9
Columbia	Contractor yard	CY-CO-4-10	N/A	27. 98
CPL South Total				183.746.8
Chapman Loop				
Clinton	Contractor yard	CY-CL-1-03 ^a	N/A	9.83 11.4
Chapman Loop Total				9.8311.4
Unity Loop				
Lycoming	Contractor/pipe yard	CY-LY-1-06	121.0	13.0 13.2
Lycoming	Contractor/pipe yard	CY/PY-LY-1-01	122.3	17.5 17.8
Unity Loop Total				30.531.0
Pennsylvania Total				324.4247.3
^a A portion of the facility is located within a regulated floodplain Key: CPL = Central Penn Line L = Leidy Line system milepost				

Table J-5
Contractor Staging Areas for the Atlantic Sunrise Project in Pennsylvania

County	Staging Area ID	Nearest Milepost ^a	Area Affected During Construction (Acres)
CPL North			
<u>Columbia</u>	<u>CS-CSA-CO-4-009</u>	<u>0.20</u>	<u>4.8</u>
Columbia	<u>CS-CSA-CO-1-004</u> ^b	1.45	0.4 0
Columbia	<u>CS-CSA-CO-1-003</u>	1.21	0.5 0.71
<u>Columbia</u>	<u>CS-CSA-CO-1-003.1</u>	<u>5.70</u>	<u>2.2</u>
<u>Columbia</u>	<u>CSA-CO-1-002</u>	<u>0.12</u>	<u>0.0</u>
Luzerne	<u>CS-CSA-LU-1-003</u>	21.60	8. 23

**Table J-5
 Contractor Staging Areas for the Atlantic Sunrise Project in Pennsylvania**

County	Staging Area ID	Nearest Milepost ^a	Area Affected During Construction (Acres)
Wyoming	<u>CS-CSA-WY-1-004</u>	41.57	<u>26-50.3</u>
Wyoming	<u>CS-CSA-WY-1-005</u>	M-0054: 0.00	<u>26-50.3</u>
Wyoming	<u>CS-CSA-WY-1-006</u>	44.50	4.2
Susquehanna	<u>CS-CSA-SU-1-007</u>	57.30	<u>5-63.2</u>
Susquehanna	<u>CS-CSA-SU-1-008</u>	57.130	<u>7-65.6</u>
CPL North Total			<u>79.429.7</u>
CPL South			
Lancaster	<u>CS-CSA-LA-1-001</u>	0.0	9.9
Lancaster	<u>CS-CSA-LA-1-002</u>	0.50	3.9
Lancaster	<u>CS-CSA-LA-1-003</u>	6.75	3.1
Lancaster	CSA-LA-1-004	9.55	1.9
Lancaster	<u>CS-CSA-LA-1-005.1</u>	15.00 14.7 0	<u>7.15-6</u>
Lancaster	<u>CS-CSA-LA-1-006^b</u>	20.74	<u>7.12</u>
Lancaster	CS-CSA LA 1-006.3	21.5	1.2
Lancaster	<u>CS-CSA-LA-1-007</u>	25.28	3.0
Lancaster	<u>CS-CSA-LA-1-007.2</u>	27.55	<u>2.02</u>
Lancaster	CS-CSA LA-1-007.1	28.00	0.9
Lancaster	<u>CS-CSA-LA-1-008</u>	M-0162: 0.30	2.0
Lebanon	<u>CS-CSA-LE-2-009</u>	37.40	<u>15.42</u>
Lebanon	CSA-LE-2-010	M-0183: -1.0	1.4
Lebanon	<u>CS-CSA-LE-2-011^b</u>	49.38M- 0229 0.00	<u>23.1</u>
Lebanon	CS-CSA-LE-2-011.1	M-0229 0.10	7.9
Lebanon	<u>CS-CSA-LE-2-012^b</u>	52.60	<u>0.8^{-c}</u>
Lebanon	CS-CSA-LE-2-012.1	M-0388 0.10	0.4
Lebanon	<u>CS-CSA-LE-2-013</u>	<u>63.6N/A</u>	<u>0.4^{-c}</u>
Lebanon	CSA-LE-3-013	N/A	-c
Schuylkill	<u>CS-CSA-SC-3-014.1</u>	64.950	8.5
Schuylkill	<u>CS-CSA-SC-3-015^b</u>	65.10	3.1
Schuylkill	<u>CS-CSA-SC-3-016</u>	76.66	5.9

Table J-5
Contractor Staging Areas for the Atlantic Sunrise Project in Pennsylvania

County	Staging Area ID	Nearest Milepost ^a	Area Affected During Construction (Acres)
Schuylkill	<u>CS-CSA-SC-3-017</u>	77.79	<u>8.14.4</u>
<u>Northumberland</u>	<u>CS-CSA-NO-4-001</u>	<u>M-0240</u> <u>0.20</u>	<u>0.4</u>
Columbia	CS-CSA-CO-4-001/002 ^b	94.45	5.1
Columbia	CS-CSA-CO-4-002.2	95.00	<u>4.11.9</u>
Columbia	CS-CSA-CO-4-002.1 ^b	95.00	<u>4.11.9</u>
Columbia	CS-CSA-CO-4-003	101.80	<u>1.34</u>
Columbia	CS-CSA-CO-4-004	101.80	0.7
<u>Columbia</u>	<u>CS-CSA-CO-4-10</u>	<u>104.00</u>	<u>2.6</u>
<u>Columbia</u>	<u>CS-CSA-CO-4-11^b</u>	<u>104.00</u>	<u>0.3</u>
<u>Columbia</u>	<u>CS-CSA-CO-4-12^b</u>	<u>104.00</u>	<u>0.7</u>
<u>Columbia</u>	<u>CS-CSA-CO-4-13</u>	<u>114.50</u>	<u>1.9</u>
Columbia	CS-CSA-CO-4-05	122.14	1.4
Columbia	CS-CSA-CO-4-06	122.14	1.4
Columbia	CS-CSA-CO-4-007	125.00	0.4
Columbia	CS-CSA-CO-4-008	125.00	4.6
<u>Columbia</u>	<u>CS-CSA-CO-4-009</u>	<u>125.00</u>	<u>4.9</u>
CPL South Total			<u>1123.24</u>
Chapman Loop			
Clinton	<u>LFC-CSA-CL-001</u>	<u>N/A185.7</u>	<u>0.6</u> 0.4
Clinton	<u>LFC-CSA-CL-002</u>	186. <u>005.95</u>	<u>1.3</u> 0.4
Clinton	<u>LFC-CSA-CL-003</u>	188.3 <u>50</u>	<u>1.0</u> 0.4
Clinton	<u>LFC-CSA-CL-004</u>	188. <u>5087</u>	<u>1.1</u> 0.4
Chapman Loop Total			<u>4.0</u>0.4
Unity Loop			
Lycoming	<u>LFU-CSA-LY-001</u>	120. <u>3440</u>	<u>3.5</u> 0.4
Lycoming	<u>LFU-CSA-LY-002^b</u>	128.87	<u>4.5</u> 0.4
Unity Loop Total			<u>8.0</u>0.4
Pennsylvania Total			<u>154.1492.6</u>

**Table J-5
 Contractor Staging Areas for the Atlantic Sunrise Project in Pennsylvania**

County	Staging Area ID	Nearest Milepost ^a	Area Affected During Construction (Acres)
<p>^a Where route modifications have been incorporated into the proposed route, new mileposts (MPs) have been developed. The new MPs are identified by inclusion of the associated route modification number (M-####) preceding the MP value.</p> <p>^b A portion of the facility is located within a regulated floodplain</p> <p>CSAs that are contiguous with the construction ROW are included within the associated LOD and are not included as separate facilities.</p> <p>Key: CPL = Central Penn Line L = Leidy Line system milepost</p>			

Access Roads

Transco will utilize existing and new roads to access Project workspaces during construction. A total of **419-1021** temporary access roads and **3859** permanent access roads will be needed to construct and operate the Project facilities (Table J-6). Temporary access roads will be used during the construction phase of the Project and will be restored to pre-construction conditions following Project completion. Transco will maintain permanent access roads for the life of the respective facility. No impacts to regulated areas are expected to occur from construction or operation of permanent access roads associated with the Project.

**Table J-6
 Private Access Roads Associated with the Atlantic Sunrise Project Facilities^a**

County	Access Road ID	Milepost ^b	Existing Road Type	Modification Required/New	Use (Permanent or Temporary)	Existing Land Use	Justification	Limit of Disturbance (Acres)
CPL North								
Luzerne	AR-LU-006	5.7	Gravel	None	Temporary	Transportation Agricultural Land Upland Forest	Required for access to ROW near pipeline crossover location.	0.8
Luzerne	AR-LU-007.1	6.7	Vegetative	New	Permanent	Open Land Upland Forest	Required for valve site access.	<0.1
Luzerne	AR-LU-008	7.3	Gravel	Trim trees and add aggregate	Temporary	Transportation Open Land Upland Forest Residential Land	Required for access to ROW near stream crossing.	3.8
Luzerne	AR-LU-009	M-0056 0.74	Gravel	Trim trees and add aggregate	Temporary	Transportation Upland Forest	Required for access to ROW near pipeline crossover location.	0.3
Luzerne	AR-LU-009.1	13.4	Gravel	None	Permanent	Transportation	Required for access to ROW near road crossing.	0.6
Luzerne	AR-LU-011	17.2	Gravel	Trim trees and add aggregate	Temporary	Residential Land Upland Forest	Required for access to ROW near pipeline crossover location.	0.8
Luzerne	AR-LU-012	17.5	Gravel/Dirt/Vegetative	Trim trees and add aggregate	Temporary	Open Land Upland Forest Agricultural Land	Required for access to ROW near stream crossing.	0.5
Luzerne	AR-LU-013.1	21.2	Gravel/Dirt/Vegetative	Trim trees and add aggregate	Permanent	Transportation Open Land Upland Forest	Required for valve and regulator site access.	1.6
Luzerne	AR-LU-014	21.5	Gravel	None	Temporary	Open Land	Required for access to ROW near wetland crossing.	1.1
Luzerne	AR-LU-015	24.2	Gravel	Trim trees and add aggregate	Temporary	Transportation	Required for access to ROW.	<0.1
Luzerne	AR-LU-019	25.4	Gravel	Add aggregate	Temporary	Transportation Open Land Upland Forest	Required for access to ROW near road crossing.	0.6
Luzerne	AR-LU-020.1	25.5	Gravel	None	Temporary	Industrial / Commercial	Required for turnaround.	<0.1
Luzerne	AR-LU-020	25.7	Gravel	Add aggregate	Temporary	Transportation Open Land	Required for access to ROW near road and stream crossing.	0.8

**Table J-6
 Private Access Roads Associated with the Atlantic Sunrise Project Facilities^a**

County	Access Road ID	Milepost ^b	Existing Road Type	Modification Required/New	Use (Permanent or Temporary)	Existing Land Use	Justification	Limit of Disturbance (Acres)
Wyoming	AR-WY-021	M-0088 2.40	Gravel/Vegetative	Trim trees and add aggregate	Temporary	Transportation Upland Forest	Required for access to ROW.	0.5
Wyoming	AR-WY-023	30.6	Gravel/Dirt/Vegetative	Trim trees and add aggregate	Temporary	Transportation Open Land Upland Forest	Required for access to ROW near pipeline crossover location.	0.8
Wyoming	AR-WY-024	M-0071 0.9	Gravel	None	Permanent	Transportation Open Land	Required for access ASR Springville Station.	1.3
Wyoming	AR-WY-025	M-0071 2.2	Gravel/Dirt/Vegetative	Add aggregate	Temporary	Transportation Agricultural Land Upland Forest	Required for access to ROW near wetland crossings.	1.2
Wyoming	AR-WY-026	M-0071 2.7	Gravel	None	Temporary	Transportation Open Land	Required for access to ROW near residences and road crossing.	2.0
Wyoming	AR-WY-027	34.8	Vegetative	New	Temporary	Open Land	Required for access to ROW near road crossing.	0.1
Wyoming	AR-WY-027.1	34.8	Gravel	None	Temporary	Transportation Open Land	Required for access to HDD entry box.	<0.1
Wyoming	AR-WY-028	35.8	Dirt/Vegetative	Trim trees and add aggregate	Permanent	Transportation Open Land Agricultural Land	Required for valve site access.	0.7
Wyoming	AR-WY-029	35.3	Gravel/Dirt/Vegetative	Trim trees and add aggregate	Permanent	Transportation Open Land Upland Forest	Required for access to ROW.	2.1
Wyoming	AR-WY-030	37.0	Gravel/Dirt/Vegetative	Add aggregate	Temporary	Transportation Open Land	Required for access to ROW near wetland and stream crossings.	1.2
Wyoming	AR-WY-031	40.6	Gravel/Dirt	Trim trees and add aggregate	Temporary	Transportation Agricultural Land Upland Forest	Required for access to ROW near wetland crossings.	1.1
Wyoming	AR-WY-032	43.4	Vegetative	Trim trees and add aggregate	Temporary	Transportation Open Land Upland Forest	Required for access to ROW near wetland and stream crossings.	2.3
Wyoming	AR-WY-034.1	44.4	Vegetation	Add aggregate	Temporary	Agricultural Land Transportation	Required for access to ROW.	<0.1
Wyoming	AR-WY-035.3	44.6	Vegetative	New	Permanent	Agricultural Land	Required for station access.	0.1

**Table J-6
 Private Access Roads Associated with the Atlantic Sunrise Project Facilities^a**

County	Access Road ID	Milepost ^b	Existing Road Type	Modification Required/New	Use (Permanent or Temporary)	Existing Land Use	Justification	Limit of Disturbance (Acres)
Wyoming	AR-WY-036	45.7	Gravel/Vegetative	Trim trees and add aggregate	Temporary	Transportation Open Land Upland Forest	Required for access to ROW near wetland crossing.	0.6
Wyoming	AR-WY-039	M-0080 0.30	Gravel/Vegetative	Trim trees and add aggregate	Temporary	Transportation Residential Upland Forest	Required for access to ROW near road, stream and wetland crossings.	0.5
Wyoming	AR-WY-039.1	M-0080 0.4	Gravel	Add aggregate	Temporary	Residential Upland Forest	Required for access to ROW.	0.1
Wyoming	AR-WY-040.2	M-0080 0.40	Vegetative	New	Temporary	Residential Industrial/Commercial	Required for access to ROW.	0.2
Susquehanna	AR-SU-041	50.7	Gravel	Trim trees and add aggregate	Permanent	Transportation Open Land Upland Forest	Required for access to ROW near wetland crossings.	1.9
Susquehanna	AR-SU-044	52.1	Gravel	None	Temporary	Transportation Open Land	Required for access to ROW near pipeline crossover location and stream crossing.	2.6
Susquehanna	AR-SU-045	52.9	Gravel/Vegetative	Add aggregate	Temporary	Transportation Open Land	Required for access to ROW.	0.2
Susquehanna	AR-SU-046	56.4	Gravel/Vegetative	New	Permanent	Open Land	Required for access to ROW near stream and wetland crossings.	0.9
Susquehanna	AR-SU-046.1	57.1	Vegetative	New	Temporary	Transportation	Required for contractor staging area access.	<0.1
Susquehanna	AR-SU-046.4	57.1	Vegetative	New	Temporary	Transportation	Required for contractor staging area access.	<0.1
Susquehanna	AR-SU-047	57.3	Gravel	None	Permanent	Transportation Agricultural Land	Required for access to ROW, proposed MLV site and existing compressor station.	0.9
Susquehanna	AR-SU-047.1	57.3	Vegetative	New	Permanent	Agricultural Land	Required for access to ROW, proposed MLV site and existing compressor station.	0.1
CPL NORTH SUBTOTAL								32.4
CPL South								
Lancaster	AR-LA-001.1	0.1	Vegetative	New	Permanent	Agricultural Land	New permanent access road needed for access to MLV site at MP 0.0.	2.6
Lancaster	AR-LA-002	M-0147 MP 0.1	Dirt	Add gravel	Temporary	Agricultural Land	Temporary access road needed for improved access to ROW during construction.	0.3
Lancaster	AR-LA-006.1	4.9	Dirt	New	Temporary	Agricultural Land Upland Forest	Temporary access road needed for improved access to ROW during construction.	0.6

**Table J-6
 Private Access Roads Associated with the Atlantic Sunrise Project Facilities^a**

County	Access Road ID	Milepost ^b	Existing Road Type	Modification Required/New	Use (Permanent or Temporary)	Existing Land Use	Justification	Limit of Disturbance (Acres)
Lancaster	AR-LA-009.1	8.1	Field Road	Construct Road through AG field and add gravel	Temporary	Agricultural Land	Temporary access road needed for improved access to ROW during construction.	0.1
Lancaster	AR-LA-010.2	8.2	Vegetative	New	Permanent	Agricultural Land	Permanent Access Road to access proposed valve site.	<0.1
Lancaster	AR-LA-012.1	12.1	Gravel, Dirt	Widen road, add gravel	Temporary	Agricultural Land	Temporary access road needed for improved access to HDD entry point during construction.	0.4
Lancaster	AR-LA-012.2	12.8	Gravel, Dirt	Add gravel	Temporary	Agricultural Land	Temporary access road needed for improved access to HDD exit point during construction.	<0.1
Lancaster	AR-LA-013.1	M-0248 0.2	Vegetative	New	Temporary	Agricultural Land	Required for access to ROW.	0.6
Lancaster	AR-LA-013.2	M-0248 0.2	Vegetative	New	Temporary	Agricultural Land	Required for access to ROW.	0.2
Lancaster	AR-LA-014.1	14.9	Gravel	Add aggregate	Temporary	Agricultural Land	Required for access to CSA.	0.2
Lancaster	AR-LA-016	15.6	Gravel	Add gravel	Temporary	Agricultural Land	Temporary access road needed for improved access to ROW during construction.	0.1
Lancaster	AR-LA-018.3	M-0185 0.1	New	Construct road through field and add gravel	Permanent	Agricultural Land	Permanent Access Road to access proposed valve site.	<0.1
Lancaster	AR-LA-020	M-0396 0.1	Forested/Gravel/Paved	Clear timber, widen, add gravel, construct 400 ft. of new road	Permanent	Upland Forest Open Land	Temporary access road needed for improved access to ROW during construction and to be kept by Operations after construction complete.	1.1
Lancaster	AR-LA-021	M-0396 0.1	Paved/Dirt/Gravel	Construct new road thru field, add gravel, trim trees	Permanent	Residential Agricultural Land Upland Forest	Temporary access road needed for improved access to ROW during construction and to be kept by Operations after construction complete.	2.8
Lancaster	AR-LA-023.3	M-0396 0.1	Vegetative	Add aggregate	Temporary	Transportation Agricultural Land	Required for access to ROW.	0.2
Lancaster	AR-LA-023.2	21.5	Vegetative	Add aggregate	Temporary	Upland Forest Open Land	Required for access to ROW.	2.7
Lancaster	AR-LA-026.2.1	M-0209 0.5	Vegetative	New	Permanent	Agricultural Land	Permanent Access Road to access proposed valve site.	0.5
Lancaster	AR-LA-026.4	27.0	Vegetative	New	Temporary	Agricultural Land	Required for access to ROW.	0.8
Lancaster	AR-LA-027.05	27.6	Vegetative	New	Temporary	Agricultural Land	Temporary access road needed for improved access to ROW during construction and access CSA	<0.1

**Table J-6
 Private Access Roads Associated with the Atlantic Sunrise Project Facilities^a**

County	Access Road ID	Milepost ^b	Existing Road Type	Modification Required/New	Use (Permanent or Temporary)	Existing Land Use	Justification	Limit of Disturbance (Acres)
Lancaster	AR-LA-027.1	M-0162 0.3	Field Road	Construct road; add gravel	Temporary	Agricultural Land Transportation	Gain access to the North side of HWY 283 boring site.	3.3
Lancaster	AR-LA-028.1	30.6	Field Road	Construct road ; add gravel	Temporary	Agricultural Land	Temporary access road needed for improved access to ROW during construction.	1.4
Lancaster	AR-LA-029.3	29.7	Vegetative	New	Permanent	Agricultural Land	Permanent Access Road to access proposed valve site.	<0.1
Lancaster	AR-LA-030	35.4	Gravel and Dirt	Add gravel and widen	Temporary	Agricultural Land Transportation Open Land Residential	Temporary access road needed for improved access to ROW during construction.	0.9
Lebanon	AR-LE-033.1	36.6	Gravel	Widen; add gravel	Temporary	Residential Agricultural Land	Gain access to South side of I-76 boring site.	2.4
Lebanon	AR-LE-033.2	37.4		New	Temporary	Agricultural Land	Temporary access road needed for improved access to ROW during construction and access CSA.	<0.1
Lebanon	AR-LE-037.2	42.6	Vegetative	New	Permanent	Agricultural Land	Permanent Access Road to access proposed valve site.	<0.1
Lebanon	AR-LE-039.1	M-0183 1.0	Paved and Dirt	Construct road from end of pavement, add gravel	Temporary	Residential	Temporary access road needed for improved access to ROW during construction.	0.1
Lebanon	AR-LE-040	M-0183 1.1	Forest/Gravel	Trim trees, add gravel	Temporary	Transportation Open Land	Temporary access road needed for improved access to ROW during construction.	0.9
Lebanon	AR-LE-042	47.4	Gravel/Paved	Add gravel	Temporary	Residential Agricultural Land	Temporary access road needed for improved access to ROW during construction.	1.2
Lebanon	AR-LE-047	53.6	Gravel	Widen, add gravel, increase turn radius	Temporary	Transportation	Temporary access road needed for improved access to ROW during construction.	0.2
Lebanon	AR-LE-049	M-0199 0.1	Gravel	Add gravel	Temporary	Transportation	Temporary access road needed for improved access to ROW during construction.	0.9
Lebanon	AR-LE-050	54.1	Dirt and Gravel	Add gravel, trim trees, clear timber	Temporary	Upland Forest Open Land	Temporary access road needed for improved access to ROW during construction.	0.9
Lebanon	AR-LE-050.1.1	56.8	Vegetative	New	Permanent	Agricultural Land	Permanent Access Road to access proposed valve site.	<0.1
Lebanon	AR-LE-050.3	M-205 0.15	Gravel	Add gravel, trim trees	Temporary	Transportation Upland Forested	Temporary access road needed for improved access to ROW during construction.	2.5

**Table J-6
 Private Access Roads Associated with the Atlantic Sunrise Project Facilities^a**

County	Access Road ID	Milepost ^b	Existing Road Type	Modification Required/New	Use (Permanent or Temporary)	Existing Land Use	Justification	Limit of Disturbance (Acres)
Lebanon	AR-LE-052	M-230 0.72	Forest and Gravel	Clear timber, trim trees, add gravel	Permanent	Forest	Temporary access road needed for improved access to ROW during construction and to be kept by Operations after construction complete.	3.9
Lebanon	AR-LE-052.1	59.3	Dirt and Gravel	Add gravel, trim trees	Temporary	Transportation	Temporary access road needed for improved access to ROW during construction.	0.3
Lebanon	AR-LE-054	M-0176 0.2	Gravel and Dirt	Add gravel, trim trees	Temporary	Agricultural Land Open Land	Temporary access road needed for improved access to ROW during construction.	0.7
Lebanon	AR-LE-055	M-0200 0.5	Gravel	Add gravel	Permanent	Agricultural Land Residential Transportation	Temporary access road needed for improved access to ROW during construction and to be kept by Operations after construction complete.	1.4
Lebanon	AR-LE-056	60.9	Dirt/Gravel	Add gravel and water bars along road to break runoff velocity	Temporary	Agricultural Land Transportation Industrial/Commercial	Temporary access road needed for improved access to ROW during construction.	1.1
Lebanon	AR-LE-057	61.3	Dirt	Add gravel	Temporary	Agricultural Land Residential	Temporary access road needed for improved access to ROW during construction.	0.9
Lebanon	AR-LE-057.1	62.5	Gravel	None	Permanent	Residential	Required for access to rectifier and cathodic protection equipment.	0.8
Lebanon	AR-LE-059.1	62.5	Existing	Widen; add gravel ; trim trees	Temporary	Upland Forest	Temporary access road needed for improved access to ROW during construction.	0.1
Lebanon	AR-LE-060	63.7	Gravel	Add gravel, trim trees	Temporary	Agricultural Land Transportation Open Land Upland Forest	Temporary access road needed for improved access to ROW during construction.	1.2
Schuylkill	AR-SC-060.1.1	65.2	Vegetative	New	Temporary	Residential	Temporary access road needed for improved access to ROW during construction.	0.2
Schuylkill	AR-SC-060.2	65.2	Asphalt	Add gravel, trim trees	Temporary	Residential Transportation	Temporary access road needed for improved access to ROW during construction.	0.2
Schuylkill	AR-SC-060.3	65.1	Vegetative	Build new TAR across ag land, add gravel	Temporary	Agricultural Land Transportation	Prefer access to staging area.	0.1
Schuylkill	AR-SC-060.5	65.0	Gravel/Dirt/Vegetative	Add aggregate	Temporary	Agricultural Land	Required for access to CSA.	1.6
Schuylkill	AR-SC-061.1	M-0177 0.0	Dirt	Add gravel, trim trees	Temporary	Residential, Open Land, Upland Forest	Temporary access road needed for improved access to ROW during construction.	1.7

**Table J-6
 Private Access Roads Associated with the Atlantic Sunrise Project Facilities^a**

County	Access Road ID	Milepost ^b	Existing Road Type	Modification Required/New	Use (Permanent or Temporary)	Existing Land Use	Justification	Limit of Disturbance (Acres)
Schuylkill	AR-SC-063	67.7	Gravel	Trim trees, re-work drain ditch, add gravel	Permanent	Residential Agricultural Land	Permanent access road to access proposed valve site and temporary access road needed for improved access to ROW during construction.	0.4
Schuylkill	AR-SC-064	69.5	Forest	Clear 5 or 6 trees, widen entrance, add gravel	Temporary	Upland Forest	Temporary access road needed for improved access to ROW during construction.	2.3
Schuylkill	AR-SC-064.1	M-0181 0.0	Dirt/Gravel	Widen; add gravel	Permanent	Transportation Upland Forest	Temporary access road needed for improved access to ROW during construction and to be kept by Operations after construction complete.	<0.1
Schuylkill	AR-SC-065	M-0181 0.3	Asphalt/Forest	Trim trees, add gravel	Temporary	Residential, Transportation, Upland Forest	Temporary access road needed for access near road crossing.	1.1
Schuylkill	AR-SC-067.1	73.41	Gravel/Vegetative	Trim trees, add gravel	Temporary	Transportation Upland Forest	Required for access to ROW.	1.8
Schuylkill	AR-SC-067.2	73.4	Vegetative	New	Temporary	Transportation Upland Forest	Required for access to ROW.	0.6
Schuylkill	AR-SC-068	73.9	Gravel	Last 300 ft. is new road-add 300 ft. gravel	Temporary	Industrial /Commercial Open Space Transportation Upland Forest	Temporary access road needed for access near railroad crossing.	12.2
Schuylkill	AR-SC-069	75.0	Gravel	Add gravel	Temporary	Transportation Upland Forest	Temporary access road needed for access near road crossing.	1.1
Schuylkill	AR-SC-070	M-0316 0.7	Gravel	No modifications or improvements needed	Permanent	Upland Forest Open Land	Temporary access road needed for improved access to ROW during construction and to be kept by Operations after construction complete.	6.1
Schuylkill	AR-SC-071	78.0	Gravel	Widen entrance, widen turn, add gravel	Temporary	Agricultural Land Transportation	Temporary access road needed for access to potential water source and to creek crossing.	3.0
Schuylkill	AR-SC-072	M-0213 0.25	Forest	Clear trees, grade, add gravel	Temporary	Upland Forest Open Land Transportation	Temporary access road needed for improved access to ROW in forested area.	13.0
Schuylkill	AR-SC-073	79.9	Gravel/Dirt	Install 2 culverts, add gravel, divert drainage	Temporary	Agricultural Land Open Land	Temporary access road needed for improved access to ROW during construction.	2.6
Schuylkill	AR-SC-073.5	80.8	Vegetative	New	Permanent	Transportation Agricultural Land	Required for access to MLV.	<0.1

**Table J-6
 Private Access Roads Associated with the Atlantic Sunrise Project Facilities^a**

County	Access Road ID	Milepost ^b	Existing Road Type	Modification Required/New	Use (Permanent or Temporary)	Existing Land Use	Justification	Limit of Disturbance (Acres)
Northumberland	AR-NO-075	83.2	Forest	Improve entrance from south, erosion control needed at stream	Permanent	Upland Forest Transportation	Permanent access road needed for access near creek crossing and potential test water source.	13.7
Northumberland	AR-NO-076	85.3	Gravel/Forest	Slight blade work	Permanent	Upland Forest Open Land Transportation	Permanent access road needed for improved access in long forested area.	12.0
Northumberland	AR-NO-076.1	85.3	Gravel	Add Aggregate	Temporary	Transportation	Required for access to ROW.	7.3
Northumberland	AR-NO-077	M-0240 0.2	Asphalt	Trim trees to access bore pit north of Hwy. 901.	Temporary	Residential Transportation Upland Forest	Temporary access road needed to get to location of bore pit on north side of Hwy. 901.	1.5
Northumberland	AR-NO-078.1	M-0240 0.2	Gravel	None	Temporary	Industrial/ Commercial Upland Forest	Required for access to ROW.	3.0
Northumberland	AR-NO-079	86.5	Dirt/Gravel	Grade out gravel stockpile	Permanent	Industrial/Commercial	Temporary access road needed for improved access to ROW during construction and to be kept by Operations after construction complete.	0.4
Northumberland	AR-O-81.1	M-235 0.4	Gravel/Forest	Trim trees, grade	Temporary	Open Land Transportation Industrial/Commercial	Temporary access road needed to load/unload equipment North of Hwy. 61.	1.8
Northumberland	AR-NO-082	M-235 0.9	Forest/Dirt	Clear trees, grade, add gravel	Temporary	Upland Forest Industrial/Commercial	Temporary access road needed for improved access in long forested area.	4.8
Northumberland	AR-NO-082.1	88.2	Gravel	None	Temporary	Transportation Industrial/Commercial Upland Forest	Required for access to ROW.	4.2
Northumberland	AR-NO-084	89.1	Mining/Dirt	Replace culvert, entrance from North only	Permanent	Upland Forest Transportation	Temporary access road needed for improved access to ROW during construction and to be kept by Operations after construction complete.	2.2
Northumberland	AR-CO-085.13	M-0167 0.0	Vegetative	New	Permanent	Agricultural Land	Permanent Access Road to access proposed valve site.	<0.1
Columbia	AR-CO-091	95.7	Paved/Dirt	Add gravel	Temporary	Residential Agricultural Land Transportation Open Land	Temporary access road needed for improved access to ROW during construction.	2.5

**Table J-6
 Private Access Roads Associated with the Atlantic Sunrise Project Facilities^a**

County	Access Road ID	Milepost ^b	Existing Road Type	Modification Required/New	Use (Permanent or Temporary)	Existing Land Use	Justification	Limit of Disturbance (Acres)
Columbia	AR-CO-093	99.1	Gravel/Dirt	Add gravel	Temporary	Agricultural Land Residential Transportation	Temporary access to geo-technical bore holes and to potential hydrotest water source.	2.1
Columbia	AR-CO-095.4	101.8	Dirt	None	Temporary	Industrial/Commercial	Required for access to rectifier and cathodic protection equipment.	<0.1
Columbia	AR-CO-095.1.1.3	M-0423 0.4	Vegetative	New	Permanent	Transportation	Permanent Access Road needed for proposed valve site.	<0.1
Columbia	AR-CO-094.1.2	M-0423 1.2	Gravel	None	Temporary	Transportation	Temporary access road to ROW during construction.	1.0
Columbia	AR-CO-94.1.3	M-0423 1.46	Gravel/Dirt	None	Temporary	Transportation	Gain access to HDD entry location	0.3
Columbia	AR-CO-096.1	M-0423 2.9	Gravel/Dirt	None	Temporary	Transportation	Gain access to HDD entry location	0.7
Columbia	AR-CO-099	106.9	Gravel/Dirt	Trim trees, add gravel	Temporary	Residential,	Temporary access road needed for improved access to ROW near road crossing.	0.2
Columbia	AR-CO-096.2	M-0423 3.0	Gravel/Dirt	Widen; Add gravel	Temporary	Transportation	Temporary access road to ROW during construction.	0.8
Columbia	AR-CO-097.1	M-0423 3.6	Gravel/Dirt	Widen; Add gravel	Temporary	Transportation	Temporary access road to ROW during construction.	0.6
Columbia	AR-CO-097.2	M-0423 3.9	Grass	New	Temporary	Transportation	Temporary access road to ROW during construction.	<0.1
Columbia	AR-CO-097.3	M-0423 3.9	Dirt/Grass	New	Temporary	Transportation	Temporary access road to ROW during construction.	0.1
Columbia	AR-CO-098.1	M-0423 4.7	Gravel	Widen; Add gravel	Temporary	Transportation	Temporary access road to ROW during construction.	0.3
Columbia	AR-CO-098.2	M-0423 4.8	Gravel/Grass	Add gravel over second half through grass	Temporary	Transportation	Temporary access road to ROW during construction.	1.2
Columbia	AR-CO-100	108.5	Paved/Dirt	Add gravel	Temporary	Residential Agricultural Land Transportation Upland Forest	Temporary access road needed for improved access to ROW during construction.	2.6
Columbia	AR-CO-101	108.9	Gravel/Dirt	Widen entrance, move mailboxes, increase turn radius, add gravel	Temporary	Residential Agricultural Land Transportation	Temporary access road needed for improved access to ROW during construction.	0.9
Columbia	AR-CO-102	109.7	Gravel	Add gravel	Temporary	Transportation Agricultural Land	Temporary access road needed for improved access to ROW during construction.	0.4

**Table J-6
 Private Access Roads Associated with the Atlantic Sunrise Project Facilities^a**

County	Access Road ID	Milepost ^b	Existing Road Type	Modification Required/New	Use (Permanent or Temporary)	Existing Land Use	Justification	Limit of Disturbance (Acres)
Columbia	AR-CO-102.1	112.4	Vegetative	New	Permanent	Transportation	Required for station access.	<0.1
Columbia	AR-CO-103	116.1	Gravel/Dirt	Trim few overhanging trees, add gravel	Temporary	Agricultural Land Open Land Transportation Upland Forest	Temporary access road needed for improved access to ROW during construction.	2.3
Columbia	AR-CO-106	120.5	Dirt	Move power pole, trim trees, add gravel	Temporary	Upland Forest Open Land Agricultural Land	Temporary access road needed for improved access to ROW during construction.	1.2
Columbia	AR-CO-106.2	123.2	Gravel/Dirt/Vegetative	Add aggregate	Temporary	Open Land	Required for access to ROW.	0.3
Columbia	AR-CO-106.3	123.2	Vegetative	New	Temporary	Open Land	Required for access to ROW.	0.3
Columbia	AR-CO-109	125.0	Vegetative	Grade and add gravel	Temporary	Transportation	Temporary access road needed for improved access to ROW during construction and access to CSA.	<0.1
Columbia	AR-CO-106.1	125.1	None	Add gravel	Permanent	Open Land	Permanent access road needed for valve site.	0.8
Columbia	AR-CO-107.1	125.2	Forest/Dirt	Clear timber, grade and add gravel	Temporary	Upland Forest	Temporary access road needed for improved access to ROW during construction.	<0.1
CPL SOUTH SUBTOTAL								156.0
CPL NORTH, CPL SOUTH, AND ASSOCIATED FACILITIES TOTAL								188.4

Notes:

^a This Table has been replaced in its entirety.

^b Where route modifications have been incorporated into the proposed route, new mileposts (MPs) have been developed. The new MPs are identified by inclusion of the associated route modification number (M-####) preceding the MP value.

Key:

- PAR = Permanent access road
- TAR = Temporary access road
- ROW = right-of-way

NEW ABOVEGROUND FACILITIES

New aboveground facilities for the Project include:

- Two new compressor stations;
- Two new meter stations;
- Three new regulator stations; and
- Ancillary facilities such as MLVs, communication facilities, and pig launchers and receivers along the CPL North, CPL South, Chapman Loop, and Unity Loop.

Table J-7 provides a summary, by location, of the new aboveground facilities, which are also shown on the Project Location Maps (Attachment I). There are no impacts to regulated resources as a result of the compressor stations, meter stations, new regulator stations, and ancillary facilities.

**Table J-7
 Summary of New Aboveground Facilities for the Atlantic Sunrise Project**

Facility	Horsepower	Municipality	County
Compressor Station 605	30,000	Clinton Township	Wyoming
Compressor Station 610	40,000	Orange Township	Columbia
Zick Meter Station	N/A	Lenox Township	Susquehanna
Springville Meter Station	N/A	Northmoreland Township	Wyoming
North Diamond Regulator Station	N/A	Lehman Township	Luzerne
West Diamond Regulator Station	N/A	Sugarloaf Township / Jackson Township	Columbia
River Road Regulator Station	N/A	Drumore Township	Lancaster
Key: CPL = Central Penn Line L = Leidy Line system milepost N/A = Not applicable			

New Compressor Stations

Transco proposes to construct two new electric compressor stations:

- Compressor Station 605 in Wyoming County, Pennsylvania – two 15,000 horsepower electric motor-driven compressors; and,

- Compressor Station 610 in Columbia County, Pennsylvania – two 20,000-horsepower electric motor-driven compressors.

Transco will construct an on-site potable water well and septic system at both compressor station sites. Each proposed compressor station will include an access road to provide year-round access and a parking area. The launcher/receiver assemblies will include a gravel base, site access, chain-link fence enclosures for security purposes, and identification and emergency signage. All new compressor stations and compressor station expansions have been sited such that there will be no impacts to regulated resources.

New Meter Stations, Regulator Stations, Tie-In Assemblies, and Pig Launchers and Receivers

Transco proposes to construct two new meter stations and three new regulator stations with interconnecting piping along the proposed CPL North and CPL South pipelines. The table below provides a summary of the design specifications for the proposed meter stations and regulator stations. All new meter stations, regulatory stations, tie-in assemblies and pig launchers and receivers have been sited such that there will be no impacts to regulated resources.

**Table J-8
 Summary of Proposed Meter Stations and Regulator Stations for the
 Atlantic Sunrise Project**

Facility	Milepost	Municipality	County
Zick Meter Station with pig launcher and receiver	CPL North 57.3	Lenox Township	Susquehanna
Springville Meter Station	CPL North 31.5	Northmoreland Township	Wyoming
North Diamond Regulator Station	L92.7	Lehman Township	Luzerne
West Diamond Regulator Station with pig launcher and receiver	L114.0	Jackson Township / Sugarloaf Township	Columbia
River Road Regulator Station with pig receiver	Transco Mainline 1683.3	Drumore Township	Lancaster

New Mainline Valves and Tie-In Assemblies

MLVs are installed along natural gas pipelines as a means to isolate gas flows along sections of a pipeline. Transco will install new MLV assemblies at 22 locations along the Project pipelines. All MLVs will have remote-control functionality. Installation of MLVs will primarily occur within the proposed pipeline construction and permanent ROWs. Table J-9 provides locations and other information for the new MLV assemblies and tie-in locations associated with the Project. All new mainline valves have been sited such that there will be no impacts to regulated resources.

Transco will install two tie-in assemblies and MLVs as part of the Chapman Loop, which will include a pig launcher at MP L188.9 and a pig receiver at MP L186.0. The tie-in assemblies will transfer gas between the existing Leidy Line system and the Chapman Loop. Transco will install one tie-in assembly and MLV as part of the Unity Loop, which will include the relocation of the existing MLV and pig launcher from MP L128.9 to MP L120.3. The tie-in assemblies will transfer gas between the existing Leidy Line system and the Unity Loop.

Transco's system conditions are constantly monitored by Transco's Gas Control group in Houston. Information is transmitted from field locations to Gas Control via Transco's Supervisory Control and Data Acquisition (SCADA) system. Such information includes system pressures, as well as any alarms that may be generated from facility PLCs (programmable logic controllers). Each mainline valve facility on the Central Penn Line (CPL) will similarly have the capability to transmit information to Transco's Gas Control, where Controllers can interpret and respond to conditions accordingly.

Each CPL mainline valve facility will be equipped with a PLC that performs rate of drop and low line pressure monitoring. For rate of drop, the PLC monitors the change in pipeline pressure over time, and generates an alarm to Gas Control if a drop in pressure is identified. As previously noted, these alarms are then sent back to Gas Control via Transco's SCADA system. These two alarms are particularly helpful in highlighting locations where a line break may have occurred.

The CPL mainline valve sites will also be capable of receiving a valve closure command remotely. Therefore, if Gas Control suspects that a line break has occurred, they have

the capability to send a ‘Close’ command through SCADA to the local PLC, which in-turn sends a signal to a solenoid on mainline valve, giving the closure command. Gas Control can thus isolate two sequential mainline valves in a matter of minutes to isolate a segment of the pipeline. This remote capability greatly reduces response time. The valves also have local controls, allowing operations personnel to close them directly if they are on-site.

Gas Control will simultaneously be coordinating with local operations personnel if an alarm is received. If a valve setting is closed remotely by Gas Control, that valve will not be reopened unless local operations personnel have verified that the pipeline is safe to return to operation. If a line break has occurred, Gas Control and local operations personnel will coordinate response activities with first responders.

If a line break occurs, operations personnel also have the capability to blow down an isolated segment, which allows for a controlled release of pressure. This can be critical for reducing the volume of gas that may otherwise be released through a line break. These blow down stacks are located within mainline valve facilities, one on each side of the valve.

The following table provides the mainline valve locations for CPL.

Table J-9
 Summary of New Mainline Valves, Tie-In Assemblies, and Design Specification for the Atlantic Sunrise Project

Facility	Milepost	Municipality	County
CPL North			
CN-MLV-01	M-0115 0.0	Sugarloaf Township	Columbia
CN-MLV-02	6.7	Fairmount Township	Luzerne
CN-MLV-03	21.2	Lehman Township	Luzerne
Alt CN-MLV-04	35.3	Falls Township	Wyoming
CN-MLV-04	35.8	Falls Township	Wyoming
CN-MLV-05	44.9M- 0063 0.1	Clinton Township	Wyoming
CN-MLV-06	57.3M- 0119 0.0	Lenox Township	Susquehanna

**Table J-9
 Summary of New Mainline Valves, Tie-In Assemblies, and Design Specification for the Atlantic Sunrise Project**

Facility	Milepost	Municipality	County
CPL South			
CS-MLV-01	<u>M-0352</u> 0.0	Drumore Township	Lancaster
CS-MLV-02	8.3	Conestoga Township	Lancaster
CS-MLV-03	M-0185	Manor Township	Lancaster
	0.40		
CS-MLV-04	<u>M-0209</u> 0.523.7	West Hempfield Township	Lancaster
CS-MLV-05	29.67	Rapho Township	Lancaster
CS-MLV-06	<u>42.73-3</u>	South Annville Township	Lebanon
CS-MLV-07	56.8	Union Township	Lebanon
CS-MLV-08	67.7	Pine Grove Township	Schuylkill
CS-MLV-09	80.58	Eldred Township	Schuylkill
CS-MLV-10	M-0167 0.0	Ralpho Township	Northumberland
CS-MLV-11	<u>M-0423</u> 0.4102.5	Montour Township	Columbia
CS-MLV-12	<u>112.5M-</u> <u>0360 0.2</u>	Orange Township	Columbia
CS-MLV-13	<u>M-0353</u> 0.1125.2	Sugarloaf Township	Columbia
Chapman Loop			
LFC-MLV-01 <u>Chapman-east tie-in assembly</u>	L186.0	Chapman Township	Clinton
LFC-MLV-02 <u>Chapman-west tie-in assembly</u>	L188.59	Chapman Township	Clinton
Unity Loop			
LFU-MLV-01 <u>Unity-east tie-in-assembly</u>	L120.43	Jordan Township	Lycoming
<u>Relocate Pig Trap</u>	<u>L128.9</u>	<u>Penn Township</u>	<u>Lycoming</u>
Key: ANSI = American National Standards Institute CPL = Central Penn Line L = Leidy Line system milepost			

Communication Facilities

New aboveground facilities for the Project will include means for communication, which will include **129** tower locations within the Project footprint. All communication towers will be free-standing (no guy wires). The table below provides a summary of the communication towers that

are proposed as part of the new aboveground facilities for the Project. There will be no impacts to regulated resources as a result of the placement of communication facilities for the Project.

Table J-10
Communication Facilities Associated with the Atlantic Sunrise Project for the Atlantic Sunrise Project

Facility	Tower Height (feet)	County
Compressor Stations		
Compressor Station 605/CN-MLV-05	190	Wyoming
Compressor Station 610/CS-MLV-12	190	Columbia
Compressor Station 520	100 ¹	Lycoming
Meter and Regulator Stations		
West Diamond Regulator Station/CN-MLV-01	40	Columbia
North Diamond Regulator Station/CN-MLV-03	90	Luzerne
Zick Meter Station/CN-MLV-06	190	Susquehanna
River Road Regulator Station/CS-MLV-01	120	Lancaster
Mainline Valves		
CPL North - CN-MLV-02	90	Luzerne
Chapman Loop - LFC-MLV-01	90	Clinton
Chapman Loop - LFC-MLV-02	90	Clinton
CPL South - CS-MLV-08	90	Schuylkill
CPL South - CS-MLV-09	90	Schuylkill
Notes:		
¹ The existing communication tower at Compressor Station 520 will be replaced with a free-standing tower. Key: CPL = Central Penn Line		

MODIFICATIONS TO EXISTING ABOVEGROUND FACILITIES

Modifications to Existing Compressor Stations

Proposed modifications to existing aboveground facilities along the Project include additional compression and related modifications to two existing compressor stations. The table provides a summary, by location, of the two existing compressor stations that are proposed for modification. The Project Location Maps (Attachment I) identify the locations of the existing compressor stations.

Table J-11
Summary of Modified Existing Compressor Stations for the Atlantic Sunrise Project

Facility	Facility Type	Modifications	Municipality	County
Compressor Station 520	Upgrade existing compressor station	One new Solar Mars 100S – 16,000-hp gas turbine.	Mifflin Township	Lycoming
Compressor Station 517	Upgrade existing compressor station	One new Solar Mars 100S – 16,000-hp gas turbine	Benton Township	Columbia
Key: hp = horsepower				

Modifications to Existing Meter/Regulator Stations

Transco will modify the existing Puddlefield Meter Station in Wyoming County, Pennsylvania for shared use of the existing flare system, communication tower, and additional piping between the Puddlefield Meter Station and the adjacent new Springville Meter Station. No impacts to regulated resources will occur as a result of the modifications.

PROJECT DESCRIPTION – COLUMBIA COUNTY

The portion of the pipeline alignment within Columbia County includes the convergence of the Central Penn Line - North (CPLN) and the Central Penn Line - South (CPLS). Within Columbia County, CPLN is a 30-inch diameter pipeline which will be constructed in a 90-foot construction right-of-way for a length of 5.0 miles in Sugarloaf Township. CPLS is a 42-inch diameter pipeline which will be constructed in a 100-foot construction ROW for a length of **22.134.3** miles in Cleveland, Ralpho, Franklin, Montour, Hemlock, Mount Pleasant, Orange, Greenwood, Jackson, and Sugarloaf Townships. All temporary workspace areas will be allowed to revert to pre-construction land use following completion of the Project. Only access roads which are permanent will be maintained, as all other access roads and contractor/staging areas will be returned to pre-construction conditions.

Table J-12
Summary of Atlantic Sunrise Project Facilities within Columbia County

Facility Type	Miles / Number
42-inch diameter pipeline	34.34 miles
30-inch diameter pipeline	5.0
New Compressor Station	1
New Regulator Station	1

Facility Type	Miles / Number
Existing Compressor Station modification	1
Mainline Valve Tie-ins	4
Contractor Yards	12
Staging Areas	1814
Temporary Access Roads	1822
Permanent Access Roads	353

Impacts to Regulated Resources

Impacts as a result of construction of the pipeline are expected to be temporary in nature. No impacts to regulated areas associated with construction of the aboveground facilities or permanent access roads are anticipated. The physical placement of the pipeline and the routine vegetation maintenance (operation) qualify as a permanent impacts under the Department’s regulations. Total earth disturbance in Columbia County is expected to be approximately ~~682.47~~~~682.11~~ acres.

Project impacts are summarized in Table J-13 below and discussed in more detail in Attachment L. Temporary impacts to regulated areas are associated with the temporary workspace as well as the portion of the permanent ROW where vegetation maintenance will not occur on an annual basis. Permanent impacts to regulated areas are associated with the 10-foot corridor centered on the pipeline through waterbodies, floodways and PEM/PSS wetlands where vegetation will be maintained in an herbaceous state as well as the 30-foot corridor through PFO wetlands where trees will not be allowed to regrow. Temporary and permanent impacts have been calculated for each respective regulated area and are independent calculations as the different regulated areas do not overlap.

Table J-13
Summary of Impacts Associated with the Atlantic Sunrise Project Within Columbia County

Impact Type	Temporary Impact Total (acres)	Permanent Impact Total (acres)
Perennial Stream	2.09783.1892	0.47570.4728
Ephemeral and Intermittent Stream	0.95596724	0.10790.0839
Floodway	35.799236.4245	2.88362.5732
PEM Wetlands	4.63934.0942	0.84450.3841

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PSS Wetlands	0.64361920	0.05070.0218
PFO Wetlands	0.65141.0528	0.45150.4235
PUB Wetlands	0.17540554	0.01880.0083

Appendix P-1 to Attachment P includes Table J-14 lists each ATWS proposed for the Project within Columbia County, including site-specific justification for each ATWS, and lists the associated land uses.