



Transcontinental Gas Pipe Line Company, LLC

Response to Technical Deficiency
Pennsylvania Department of Environmental Protection

Atlantic Sunrise Project

May 3, 2017

DEP Application No. E40-769, APS No. 878965
Dallas, Fairmont, Ross, Lake, Lehman, & Jenkins
Townships and Harvey's Lake Borough,
Luzerne County

Table 1
Transco's Responses to DEP February 24, 2017 Technical Deficiencies Letter

Technical Deficiency Number	Technical Deficiency Description	Response
1	<p>Original Comment #4: Provide agency clearance letters and copies of correspondence from the Pennsylvania Fish and Boat Commission, Pennsylvania Game Commission, Pennsylvania Department of Conservation and Natural Resources, and U.S. Fish and Wildlife Service for the proposed pipeline, including no-access parcels, and the mitigation area, and identify any mitigation measures that are recommended or required. Please be advised that additional deficiencies may be generated pending responses from resource agencies. 25 Pa Code § 105.14(b)(4).</p> <p>Provide clearance from USFWS for the Northern Long-Eared Bat and Indiana Bat. As PGC deferred comments on bat species to USFWS, clearance from USFWS will complete the clearance for PGC.</p> <p>Letters from jurisdictional agencies (PFBC, DCNR, PGC, and USFWS) were omitted from the November 2016 submission that had been included with the original 2015 submission. Include all letters from the jurisdictional agencies that identify the potential impacts to threatened/endangered species in addition to the clearance letters for each species. These letters are required in lieu of a PNDI search receipt due to the size of the project.</p>	<p>Attachment G-1 of the revised application provides an updated summary of the Project correspondence status for the Pennsylvania Department of Conservation and Natural Resources, Pennsylvania Fish & Boat Commission, Pennsylvania Game Commission, and United States Fish and Wildlife Service. Complete copies of correspondence with the above-referenced agencies are provided in Attachments G-2 through G-5, respectively.</p>

<p>2</p>	<p>Original Comment #5: Provide clearance or approval from the Pennsylvania Historical and Museum Commission (PHMC) for cultural, archeological, and historic resources for the proposed water obstructions and encroachments, mitigation area, and areas necessary to construct the water obstructions and encroachments. 25 Pa Code §§ 105.13(e)(1)(x), 105.14(b)(4), and 105.14(b)(5).</p> <p>Please provide correspondence from the PHMC identifying how the potential impact listed in Table D-3 as "BHP Key 862240 Nesbitt Rural Historic District" is being resolved.</p>	<p>The Project land requirements are currently 100% surveyed for archaeological and aboveground resources. An alternative route has been developed (identified as "Alternative 13") to avoid impacts for BHP Key 862240. Alternative 13 has been surveyed and incorporated into the preferred route; this alternative routing does not cross the boundaries of the Nesbitt Estate Rural Historic District and, therefore, avoids any Adverse Effect to this historic property. PHMC has completed review of both the December 2016 Addendum 4 and March 2017 Addendum 5 reports, which contained the results of survey work conducted on Alternative 13. The PHMC, in correspondence dated March 17, 2017 and April 25, 2017, concurred with the archaeological survey and results from Alternative 13, and have confirmed the analysis of the above ground resources associated with Alternative 13 in resource-specific form submittal responses. No further work is therefore requested by the PHMC for any cultural resources on Alternative 13 prior to construction.</p> <p>Prior to incorporating Alternative 13, an impact minimization plan was approved by the PHMC on April 6, 2017 regarding BHP Key 862236, the Pedrick Farm in Wyoming County. The impact minimization plan in this area was regarding effects to the dry-laid stone walls; the plan resulted in a determination of No Adverse Effect. A final report, Addendum 6, covering the last remaining portions of the Phase I survey will be submitted to the PHMC for review by the end of April 2017. With the 100% completion of the field survey, and receipt of overall Project No Effect determination from the PHMC pending their</p>
----------	---	---

Technical Deficiency Number	Technical Deficiency Description	Response
		<p>receipt and review of Addendum 6, a MOA for the Project does not appear to be necessary to complete Section 106 consultation.</p> <p>An updated status summary of the coordination with the PHMC is contained within Attachment D-1 and copies of the respective correspondence are included within Attachment D-2.</p> <p>Finally, Unanticipated Discovery Plans for construction in Pennsylvania have been previously approved by the PHMC and submitted to the Federal Energy Regulatory Commission (FERC). Copies of the “Pennsylvania Unanticipated Cultural and Human Remains Discovery Plans” and “Unanticipated Discovery Plan for Paleontological Resources Plan” are included as Attachments 4 and 5 within the Environmental Construction Plan, as provided within Attachment M of the revised application.</p>
3	<p>Original Comment #12: Several streambank stabilization methods are proposed in the Erosion and Sedimentation Control Plans. Identify where each type of stabilization measure will be utilized. 25 Pa Code § 105.21(a)(1).</p> <p>The stream bank restoration plan has been provided within Attachment L-5, Appendix L-3. The associated stream bank restoration methodology has not been identified on the E&S Control Plans. Please provide the type of stream bank restoration on the E&S Control Plans.</p>	<p>Stream bank stabilization method and location are provided within the revised application as Attachment L-5, Appendix L-3, as well as within the revised County-Specific Impact Mapping (Attachment H-2) and Erosion and Sediment Control Plans (Attachment M).</p>

Technical Deficiency Number	Technical Deficiency Description	Response
4	<p>Original Comment #16: An Aids to Navigation (ATON) plan may be required for this project. Contact Thomas Burrell with the Pennsylvania Fish and Boat Commission at 717.705.7838 regarding ATON requirements, and provide a copy of the ATON approval to the Department. 25 Pa Code § 105.14(b)(2).</p> <p>The Department's review for evaluating impact to navigable public waterways found Pennsylvania Fish and Boat Commission (PFBC) approvals of ATON plans at two locations in Luzerne County are forthcoming.</p> <p>Please provide the PFBC ATON plans and approvals for inclusion with your Joint Permit application materials.</p>	<p>A copy of the ATON plans submitted for the Project, as well as the respective PFBC approval letter, dated January 20, 2017, are included as Attachment L-5, Appendix L-4 within the revised application.</p> <p>Transco is currently coordinating with the PFBC for their review of the list of new stream crossings. The list of new stream crossings was submitted to the PFBC on April 26, 2017 for their review and determination of additional ATONs. The list provided to PFBC included one stream crossing in Luzerne County. Should additional ATONs be required for the revised Project footprint, Transco will provide the revised ATON application(s) and PFBC approval upon receipt.</p>
5	<p>Original Comment #24: There are inconsistencies between the stream length noted between the Plan maps and the "Impact Table for Individual Permit Application". Please check all stream crossing lengths on the Plan maps with the Impact Table for Individual Permit Application for consistency. 25 Pa Code §§ 105.13(e)(1)(i)(c) and 105.13(e)(1)(iii).</p> <p>There are inconsistencies with respect to the stream lengths between the Impact Table for Individual Permit Application and the County Specific Mapping in Appendix H-2. Please revise accordingly.</p>	<p>The noted inconsistencies were the result of stream lengths being reported differently between the Chapter 105 Impact Table (Attachment E-2) and County-Specific Impact Mapping (Attachments H-2 and H-3). The County Specific Impact Mapping has been updated to show temporary and permanent stream impact lengths, which matches the information in the Chapter 105 Impact Tables. Please note that the County-Specific Impact Mapping also includes the total stream impact length, which is the sum of the temporary and permanent impact lengths.</p>

Technical Deficiency Number	Technical Deficiency Description	Response
6	<p>Original Comment #32: Each of the temporary equipment stream crossings shown on the plan view drawings reference numerous typical details for various methods that the contractor may utilize to construct the crossings. The methods include 1. Bridge Equipment Crossing (BEC); 2. Flume Stream Crossing (FX); 3. Wet Minor Waterbody Crossing (MWC); 4. Temporary Stream Crossing Multiple Pipes (TSC.2); 5. Timber Matting Air Bridge (MAT.3); 6. Wet Intermediate Waterbody Crossing (IWC); and 7. Clean Water Crossing (CWC). The Stream impacts vary for each method. Please choose a single method that is both practical and has the least impact on the stream and floodway. Revise the plans and other applicable components of the application appropriately. Please show the proposed erosion and sediment control BMPs on the Erosion and Sediment Control Plans. 25 Pa Code § 105.13(g).</p> <p>The application has been revised to identify the type of temporary equipment stream crossing in attachment H-2; however, the proposed crossing type is not identified on the associated Soil Erosion and Sediment Control Plan/Site Restoration Plan. Please identify the method of crossing being proposed on the Soil Erosion and Sediment Control Plan/Site Restoration Plan.</p>	<p>The revised application includes updated Soil Erosion & Sediment Control Plans within Attachment M, which include the temporary stream crossing methods for each stream resource. This information may be found on the E&S Detail or Detail Group band located on each of the plan views.</p> <p>Additionally, the stream and wetland crossing methods and streambank stabilization method are included within the County-Specific Resource Impact Mapping in Attachment H-2.</p>
7	<p>Original Comment #33: Each of the temporary equipment wetland crossings shown on the plan view drawings reference numerous typical details for various methods that the contractor may utilize to construct the crossings. The methods include 1. Timber Matting in Wetlands (MAT.I); and 2. Wetland Equipment Crossing (WEC). The Wetland impacts vary for each method. Please choose a single method that is both practical and has the least impact on the wetland. Revise the plans and other applicable components of the application appropriately. 25 Pa Code § 105.13(g).</p> <p>The application has been revised to identify the type of temporary equipment wetland crossing in attachment H-2; however, the proposed crossing type is not identified on the associated Soil Erosion and Sediment Control Plan/Site Restoration Plan. Please identify the method of crossing being proposed on the Soil Erosion and Sediment Control Plan/Site Restoration Plan.</p>	<p>The revised application includes updated Soil Erosion & Sediment Control Plans within Attachment M, which include the wetland crossing method for each wetland resource. This information may be found on the E&S Detail or Detail Group band located on each of the plan views.</p> <p>Additionally, the wetland crossing methods and streambank stabilization method are included within the County-Specific Resource Impact Mapping in Attachment H-2.</p>

Technical Deficiency Number	Technical Deficiency Description	Response
8	<p>Original Comment #34: Each of the utility crossings shown on the plan view drawings reference numerous typical details for various methods that the contractor may utilize to construct the crossings. The methods include 1. Cofferdam Stream Crossing (CD); 2. Dam and Pump Stream Crossing (DPX); 3. Flume Stream Crossing (FX); 4. Wet Intermediate Waterbody Crossing (IWC); 5. Wet Minor Waterbody Crossing (MWC); 6. Horizontal Directional Drill (HDD); 7. Bored Waterbody Crossing (WBX.I); 8. Unsaturated Wetland Installation Procedure (WCC.1); 9. Saturated Wetland Installation Procedure (WCC.2); and 10. Inundated Wetland Installation Procedure (WCC.3). The stream impacts vary for each method. Please choose a single method that is both practical and has the least impact on the stream and floodway. Revise the plans and other applicable components of the application appropriately. 25 Pa Code § 105.13(g).</p> <p>The application has been revised to identify the proposed utility crossing design in attachment H-2; however, the proposed crossing type is not identified on the Soil Erosion and Sediment Control Plan/Site Restoration Plan. Please identify the method of crossing proposed on the Soil Erosion and Sediment Control Plan/Site Restoration Plan.</p>	<p>The revised application includes updated Soil Erosion & Sediment Control Plans within Attachment M, which includes the crossing method for each resource. This information may be found on the E&S Detail or Detail Group band located on each of the plan views.</p> <p>Additionally, the stream and wetland crossing methods are included within the County-Specific Resource Impact Mapping in Attachment H-2.</p>
9	<p>The proposed temporary equipment crossing design does not include any measure to prevent sediment from falling off the sides of the equipment crossing into waters of the Commonwealth. Please modify the temporary equipment crossing design to insure that appropriate measures are proposed to address this concern. Please note that modifying the design to provide for the installation of a 1-foot high side rail that will also be wrapped with an appropriate geo-textile fabric would be an acceptable design modification. 25 Pa Code § 105.13(g).</p>	<p>The revised application now includes a revised Bridge Equipment Crossing (BEC) typical detail, which includes one-foot high side rails. Please refer to the BEC detail included within the Best Management Practices and Quantities Plan Set, as provided in Attachment M. This plan set is also provided in the back of the County Specific Impact Mapping (Attachment H-2).</p>

Technical Deficiency Number	Technical Deficiency Description	Response
10	<p>It appears that USGS StreamSTATS was utilized for the hydrologic calculations to determine the peak flows for the temporary dam and pump to install the pipeline across streams within Luzerne County. USGS StreamSTATS is accurate for drainage areas that are over 1 square mile. There appears to be several drainage areas for the streams that will be crossed within Luzerne County that are under the 1 square mile drainage area minimum; therefore, USGS StreamSTATS cannot be used to determine the peak flows to size the proposed dam and pumping systems to dewater the construction area to install the proposed natural gas pipeline. Please provide an acceptable hydrologic method to determine the peak flows. 25 Pa Code § 105.161(b).</p>	<p>USGS StreamSTATS has been used only to delineate these drainage areas under one (1) square mile; however, the H&H report in Attachment M has been updated with calculations using HydroCAD SCS as the primary method for drainage areas less than one (1) square mile.</p>

Technical Deficiency Number	Technical Deficiency Description	Response
11	<p>To ensure that all potential impacts to regulated waters are evaluated and approved under applicable Chapter 105 regulatory criteria, the Department seeks a revised Attachment H- 2 that includes primary, secondary and even tertiary pipeline installation methods (e.g., CD, DPX, FX, etc.), temporary construction crossing methods (e.g., BEC, MAT.1, MAT.3. etc.), and streambank restorative methods (e.g., RSS, SBR, etc.). The Department further seeks revision of each Attachment H-2 impact table to report worst case scenario regulated waters impact should the secondary or tertiary method need to be implemented. 25 Pa Code § 105.13(e)(1)(x).</p>	<p>The Chapter 105 Impact Mapping in Attachment H-2 of the revised application includes changes identifying the primary and secondary crossing methods, as well as streambank stabilization methods, for each watercourse crossing. There are no tertiary crossing methods proposed for the Project.</p> <p>The PA DEP Impact Table included in Attachment E-2, identifies the primary crossing method “worst case” impacts in the event a secondary crossing method with an increased LOD is utilized in lieu of either of the two HDDs within Luzerne County. The secondary crossing method for all other crossings other than the HDD method within Luzerne County would utilize the same workspace as the primary crossing method.</p> <p>The Impact Mapping in Attachment H-2 of the revised application, identifies the impacts for both the primary and secondary crossing methods for all streams.</p> <p>Should a secondary crossing method be implemented for the HDD, the revised application now includes Attachment H-3, which includes the County Specific Impact Mapping for contingency crossings associated with the HDD.</p>

Technical Deficiency Number	Technical Deficiency Description	Response
12	<p>The hydraulic calculations for the flume crossings only provide the Water Surface Profile Plot for a Culvert. Please provide the HY-8 Report identifying the water surface elevations for the existing and proposed conditions, overtopping characteristics, etc. 25 Pa Code § 105.161(d).</p>	<p>The H&H report in Attachment M has been updated to reflect pipeline crossing methods using peak and average daily flow rates. HY-8 modeling analysis with water surface elevations is included in the H&H report in Attachment M for flume crossings (FX).</p>
13	<p>Impacts 343 and 344 of the Impact Table for Individual Permit Application indicate that there are permanent impacts to stream WW-T33-17001, UNT to Huntsville Creek and permanent impacts to the floodway of that stream for an access road AR-LU-013.1-01.</p> <p>The Post Construction Stormwater Management Plans and Narrative indicate that there is only one permanent access road, which is different than what the Chapter 105 application states. The permanent access road within the Chapter 102 application is AR-LU-007.1. Please correct this discrepancy between the Chapter 105 and the Chapter 102 applications with regards to which access road will be permanent; which access road will be temporary; and if there will be any temporary and/or permanent impacts to waters of the Commonwealth.</p> <p>Should there be a permanent access road proposed please provide all corresponding hydrologic or hydraulic calculations for any type of permanent access road to cross waters of the Commonwealth. 25 Pa Code § 105.13(f)(1)(i).</p>	<p>There are four (4) permanent access roads in Luzerne County; three of which do not have any impacts to Waters of the Commonwealth:</p> <ul style="list-style-type: none"> • AR-LU-007.1; • AR-LU-009.1; and, • AR-LU-011. <p>AR-LU-013.1-01 is a permanent access road and is shown on the Chapter 105 Location maps and on drawing.24-1601-70-09-A/21.25-01 within Attachment H-2. Please note that no changes to grades within the floodway or the existing culvert are proposed as part of the work associated with AR-LU-013.1 or the North Diamond Facility.</p> <p>In the Erosion and Sediment Control Plan sets within Attachment M, the plans and narratives for AR-LU-013.1 are included with the North Diamond plans and narratives. The plans and narratives for the remaining three (3) access roads are included in the access road plans and narratives. Tables have been added to the access road plans clarifying that some access roads are included with the facility or pipeline plans.</p>

Technical Deficiency Number	Technical Deficiency Description	Response
14	Please provide hydraulic calculations for the flume crossing of WW-T93-160001. 25 Pa Code § 105.161(d).	Hydraulic calculations have been provided in the H&H calculations in Attachment M , which includes a flume crossing of WW-T-93-160001.
15	Revised Impact Number 119 is missing the resource number associated with the floodway impact. Please provide accordingly. 25 Pa Code § 105.13(f)(4).	The revised application includes an updated Chapter 105 Impact Table within Attachment E-2 , which provides the watercourse identification as UNT to Huntington Creek (WW-T63-16003A) for the referenced floodway. Please refer to Revised Impact Number 117 within Attachment E-2 .
16	Impact #125 is not labeled on Appendix H-1. Please label accordingly. 25 Pa Code § 105.13(f)(1)(i).	Attachment H-1 of the revised application includes updated FERC Alignment Sheets which match the workspaces and resources presented within the County Specific Impact Mapping in Attachments H-2 and H-3 , as well as the Soil Erosion & Sediment Control Plans in Attachment M . These updates address the labelling issue for previous Impact #125 (stream WW-T65-16001, Unnamed Tributary to Huntington Creek), which is now identified as Revised Impact Number 119 within the Chapter 105 Impact Table (Attachment E-2).

Technical Deficiency Number	Technical Deficiency Description	Response
17	<p>Impacts Numbers 132, 133, 303 and 304 do not have any floodway impacts associated with the stream crossing. Please provide justification as to why there would not be a floodway associated with the stream crossing and why the floodway would not be impacted by the proposed pipeline crossing. 25 Pa Code § 105.13(f)(1)(i).</p>	<p>No impacts are shown for Revised Impact Numbers 127 and 128 (old Impact numbers 132 and 133), UNT to Huntington Creek (WW-T03-16002A), because the floodway overlaps that of UNT to Huntington Creek (WW-T03-16002) and have been merged to form one floodway. The impacts to WW-T03-16002A are included with those for WW-T03-16002.</p> <p>No impacts are shown for Revised Impact Numbers 284 and 285 (old Impact numbers 303 and 304), UNT to Leonard Creek (WW-T17-18001) because the mapped 100-year FEMA floodway is contained entirely within the top of bank for the stream.</p>
18	<p>For Impacts that have been avoided since the original submission, please remove these impacts from the Impact Table for Individual Permit Application (strike-through impacts). 25 Pa Code § 105.13(f)(1)(i).</p>	<p>All “strike-through” impacts representing impacts that have been avoided since the original submission have been removed from the Chapter 105 Impact Table in Attachment E-2 of the revised application for Luzerne County.</p>

Technical Deficiency Number	Technical Deficiency Description	Response
19	<p>Comments have been received regarding alternative routing of the pipeline around the Nesbitt Property. A copy of the comments are attached. Please evaluate these comments and provide analysis on the feasibility of the alternative. 25 Pa Code § 105.13(e)(1)(viii).</p>	<p>The Project has incorporated Alternative 13 as the preferred route, which has resulted in the avoidance of the Nesbitt property and the wetlands and watercourses contained therein. Please refer to Section 7.14 within Attachment P-1 for the Alternative 13 analysis, as well as the Resource-Specific Avoidance and Minimization Measures included within Attachment P, Appendix P-1 for documentation of the resources on the Nesbitt property that have been avoided due to the inclusion of Alternative 13 as the preferred alignment.</p> <p>As a result of incorporating Alternative 13, the revised application includes updates throughout to account for the deletion of the Nesbitt property impacts and the inclusion of the impacts associated with the preferred route. Please refer to the updates contained within the Chapter 105 Impact Table (Attachment E-2), County-Specific Impact Mapping (Attachments H-2 and H-3), Environmental Assessment (Attachment L), Erosion and Sediment Control Plan (Attachment M), and Alternatives Analysis (Attachment P) for the mapping, correspondence and analysis of the preferred route.</p>