



Transcontinental Gas Pipe Line Company, LLC

Response to Technical Deficiency  
Pennsylvania Department of Environmental Protection

Atlantic Sunrise Project

May 2, 2017

DEP Application No. E54-360, APS No. 878962  
Pine Grove, Tremont, Frailey, Porter, Hegin, and  
Eldred Townships,  
Schuylkill County

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

<b>Technical Deficiency Number</b>	<b>Technical Deficiency Description</b>	<b>Response</b>
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><b>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.</b></p> <p><b>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.</b></p> <p><b>In addition, please provide final clearance letters for all agencies for the associated areas with the Swatara Creek PRM site. Provide Clearance letters or PNDI receipt for all other agencies besides USFWS. § 105.14(b)(4)</b></p>	<p><b>Attachment G-1</b> of the revised application provides an updated summary of the Project correspondence status for the Pennsylvania Department of Conservation and Natural Resources, Pennsylvania Fish &amp; Boat Commission, Pennsylvania Game Commission, and United States Fish and Wildlife Service. Complete copies of correspondence with the above-referenced agencies are provided in <b>Attachments G-2 through G-5</b>, respectively.</p> <p>Complete copies of correspondence with the Pennsylvania Department of Conservation and Natural Resources, Pennsylvania Fish &amp; Boat Commission, Pennsylvania Game Commission, and United States Fish and Wildlife Service regarding the Swatara Creek Permittee Responsible Mitigation Site are provided within <b>Appendix E of the Swatara Creek Permittee Responsible Mitigation Plan</b>, which is included as <b>Attachment Q-2</b> of the revised application.</p>

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2	<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><b>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&amp;S Control Plans. Please provide the type of stream bank restoration on the E&amp;S Control Plans.</b></p>	<p>Streambank stabilization method and location are provided within <b>Attachment L-5, Appendix L-3</b> of the revised application. In addition, the revised application includes updated Soil Erosion &amp; Sediment Control Plans within <b>Attachment M</b>, which includes and streambank stabilization methods for each stream crossing. This information may be found on the E&amp;S Detail or Detail Group band located on each of the plan views.</p>
3	<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><b>The Department's review for evaluating impact to navigable public waterways found Pennsylvania Fish and Boat Commission (PFBC) approvals of ATON plans at three locations in Schuylkill County are forthcoming.</b></p> <p><b>Please provide the PFBC ATON plans and approvals for inclusion with your Joint Permit application materials.</b></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 <b>Attachment L-5, Appendix L-6</b> 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. This list provided to PFBC included two stream crossings in Schuylkill 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>

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4	<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><b>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.</b></p>	<p>The noted inconsistencies were the result of stream lengths being reported differently between the Impact Table and County Specific Mapping. The County Specific Impact Mapping, provided in <b>Attachments H-2 and H-3</b> of the revised application, has been updated to show temporary and permanent stream impact lengths, which matches the information in the Chapter 105 Impact Tables in <b>Attachment E-2</b>. 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>
5	<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><b>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.</b></p>	<p>The revised application includes updated Soil Erosion &amp; Sediment Control Plans within <b>Attachment M</b>, which include the temporary stream crossing methods for each stream resource. This information may be found on the E&amp;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 <b>Attachment H-2</b>.</p>

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6	<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.1); 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><b>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.</b></p>	<p>The revised application includes updated Soil Erosion &amp; Sediment Control Plans within <b>Attachment M</b>, which include the wetland crossing method for each wetland resource. This information may be found on the E&amp;S Detail or Detail Group band located on each of the plan views.</p> <p>Additionally, the wetland crossing methods are included within the County-Specific Resource Impact Mapping in <b>Attachment H-2</b>.</p>

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7	<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.1); 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><b>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.</b></p>	<p>The revised application includes updated Soil Erosion &amp; Sediment Control Plans within <b>Attachment M</b>, which includes the crossing method for each resource. This information may be found on the E&amp;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 <b>Attachment H-2</b>.</p>
8	<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 included 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 <b>Attachment M</b>. This plan set is also provided in the back of the County Specific Impact Mapping (<b>Attachment H-2</b>).</p>

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9	<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 Schuylkill 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 Schuylkill 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&amp;H report in <b>Attachment M</b> has been updated with calculations using HydroCAD SCS as the primary method for drainage areas less than one (1) square mile.</p>
10	<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. I, 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 <b>Attachment H-2</b> of the revised application includes changes identifying the primary and secondary crossing methods, as well as streambank stabilization methods, for each watercourse crossing. The secondary crossing method for all crossings within Schuylkill County would utilize the same workspace as the primary crossing method. There are no tertiary crossing methods proposed for the Project.</p>

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11	<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>Peak flow rates for streams are incorporated into most pipeline stream crossings utilizing a dam and pump (DPX) or flume crossing method (FX), with the exceptions being larger streams with excessive peak flow rates will be crossed during low-flow conditions using average daily flow as the flow rate. The primary stream crossing methods, either a dam and pump (DPX) or a flume crossing (FX), were selected based on peak flow and average daily flow rate. During construction, in the event low flow conditions are not achievable for DPX and FX, a secondary method may be employed using the cofferdam crossing (CD). Crossing methods are identified in <b>Attachment H-2</b> (Chapter 105 Impact Drawings) and a discussion of crossing methods is included in <b>Attachment L-5</b> (Proposed Impacts).</p> <p>The H&amp;H report in <b>Attachment M</b> 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&amp;H report in <b>Attachment M</b> for flume crossings (FX).</p>
12	<p>Revised Impact Numbers 44 and 45 are missing the resource number associated with the floodway impact. Please provide accordingly. 25 Pa Code § 105.13(f)(4).</p>	<p>The revised application includes an updated Chapter 105 Impact Table as <b>Attachment E-2</b>, which includes the resource identification as Floodway to an Unnamed Tributary to Swatara Creek (WW-T18-7007) for Revised Impact Numbers 45 and 46 (Previous Impact Numbers 44 and 45).</p>



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13	<p>The Permittee Responsible Mitigation Plan for the Swatara Creek Mitigation Site describes activities such as plugging existing ditches and minor regrading which appears to be in existing wetlands. In addition, it appears that crossing the existing wetlands will be necessary to access uplands. The Design Plan (Erosion and Sedimentation Control Plan) does not show all the details of the plugging and regrading of the ditch nor site access to the uplands (in the rear of the site) proposed for reestablishment. Please revise the plans to show all work proposed in the mitigation area including work in existing wetlands. 25 Pa Code § 105.13(e)(1)(ix).</p>	<p>The permanent wetland impact associated with the ditch plug at the Swatara Creek Restoration site is included in the aquatic impact tables for Schuylkill County. The wetland crossing to access the southern portion of the restoration site for the restoration work will occur over the ditch plug, and as such there are no additional temporary wetland impacts at the site. Details for the ditch are included Sheet 4 – Cross Section and Construction Details of the Erosion and Sediment Control Plans for Atlantic Sunrise Project at the Swatara Creek Restoration Site Plan Set (Plan Set, Dated April 26, 2017), which is part of the Swatara Creek Permittee Responsible Mitigation Plan provided in <b>Attachment Q-2</b> of the revised application. A zoomed in view showing the detailed grading related to the ditch plug has been added to Sheet 3 – E&amp;S Site Plan of the plan set.</p>
14	<p>Please provide the approval letter for the Erosion and Sedimentation Control Plan for the Swatara Creek Mitigation Site. 25 Pa Code § 105.13(e)(1)(ix).</p>	<p>The approval letter for the Erosion and Sediment Control Plan for the Swatara Creek Mitigation Site has been included in the updated Permittee Responsible Mitigation Plan (<b>Attachment Q-2</b>) for the Atlantic Sunrise Project Swatara Creek Mitigation Site.</p>