



Transcontinental Gas Pipe Line Company, LLC

Response to Technical Deficiency
Pennsylvania Department of Environmental Protection

Atlantic Sunrise Project

May 2, 2017

DEP Application No. E49-336, APS No. 878980
East Cameron, Coal and Ralpho Townships,
Northumberland 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 # 1: Upon further evaluation by the Department and in accordance with 25 Pa. Code§ 105.13(e), complete delineation of impacts to wetlands, streams and floodways needs to be provided for the Department to perform the required environmental review of the application and make a proper permit decision. The impacts to wetlands, streams and flood ways cannot be based on remote sensing. The Chapter 105 Regulations, 25 Pa. Code § 105.13(e)(1)(i)(A), require a complete demarcation of the floodplains and regulated waters of this Commonwealth on the site. This requirement will not be waived under the Chapter 105 Regulations, 25 Pa. Code§ 105.13(k) as remote sensing or national wetland inventory data alone may not identify all wetlands, streams and floodways present, nor does it adequately identify any unique characteristics of the wetlands, or the functions that they provide. As such, the remotely sensed impacts will require in-field verification, and all relevant portions of the application will need to be revised prior to making a permit decision. 25 Pa. Code § 105.13(e).</p> <p>The Department's review of proposed project water obstruction and encroachment activities in regulated waters of this Commonwealth (e.g., floodways, watercourses and wetlands) were based on remote sensing, which failed to allow for an evaluation of individual and cumulative adverse effects . Identification by remote sensing neither provided a concise demarcation of regulated waters nor identification of unique regulated waters characteristics or functions for the Department to evaluate whether any impact posed a potential adverse effect on life, health, safety, welfare, property or the environment. Deficiency Response 1 states that 100% of Northumberland County has been field-verified and Deficiency Response 27 States that 96 percent of Northumberland County has been Field-Verified. Provide information that clarifies this discrepancy. 25 Pa. Code § 105.13 (e)(1)(A through G).</p>	<p>100 percent of the Project footprint has been field delineated. Impacts for Northumberland County are included within Attachment E-2 (PA DEP Impact Tables) and Attachment L-5, Appendix 1, (Comprehensive Environmental Evaluation) for the entire Project. New and revised information is provided as bold, italicized text, while avoided impacts are shown as bold, strikethrough text. The new field delineated features that are impacted by the Project are included within the County-Specific Impact Mapping in Attachment H-2.</p>

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2	<p>Original Comment #4: Provide agency clearance letters and copies of correspondence from the Pennsylvania Fish and Boat Commission (PFBC), Pennsylvania Game Commission (PGC), Pennsylvania Department of Conservation and Natural Resources (PDCNR), and U.S. Fish and Wildlife Service (USFWS) 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 final clearance letters for all agencies for the associated areas with the Swatara Creek PRM site. Provide clearance letters or PNDI receipts for all other agencies besides USFWS. 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 these species to USFWS, clearance from USFWS will complete the clearance for PGC. 25 Pa. Code § 105.14(b)(4).</p> <p>Letters from jurisdictional agencies (PFBC, DCNR, PGC, and USFWS) that had been included with the original 2015 submission were omitted from the November 2016 submission. Please 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. 25 Pa. Code § 105.14(b)(4).</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>Complete copies of correspondence with the Pennsylvania Department of Conservation and Natural Resources, Pennsylvania Fish & Boat Commission, Pennsylvania Game Commission, and United States Fish and Wildlife Service regarding the Swatara Creek Permittee Responsible Mitigation Site are provided within Appendix E of the Swatara Creek Permittee Responsible Mitigation Plan, which is included as Attachment Q-2 of the revised application.</p>

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3	<p>Original Comment #8: It appears that several waters of the Commonwealth could be crossed using trenchless installation methods. Provide a revised alternatives analysis that incorporates a discussion of alternative crossing techniques (conventional bore, Horizontal Directional Drilling (HDD), micro-tunneling, etc.) addressing each resource crossing individually and explaining why trenchless installation methods are not appropriate.</p> <p>Final determination and crossing method is required prior to permit approval for the South Branch of Roaring Creek Crossing, WW-T47-11002. 25 Pa. Code § 105.13(e).</p> <p>The crossing of South Branch Roaring Creek was still under investigation for HDD at the time of the comment response. Provide information concerning the outcome of the investigation and justification for the feasibility of the crossing. 25 Pa. Code §§ 105.13(e)(1)(viii) and 105.18a.</p>	<p>An updated Trenchless Crossing Analysis is provided within Attachment P, Appendix P-2. This revised report includes an analysis of the South Branch of Roaring Creek (WW-T47-11002).</p> <p>In summary, the South Branch of Roaring Creek did not pass the Phase III assessment due to the landowner impacts and increased agricultural impacts that would be required for the HDD workspace and pullback stringing area, as well as the dry hole and inadvertent return potential with the conceptual crossing design. Therefore, this stream is no longer being considered for conventional bore or HDD and the dam and pump crossing method will be utilized.</p>
4	<p>Original Comment #18: 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 DEP. 25 Pa. Code § 105.14.</p> <p>The Department's review for evaluating impact to navigable public waterways found PFBC approvals of Aids to Navigation (ATON) plans at Northumberland County locations are forthcoming.</p> <p>Please provide the PFBC Aids to Navigation (ATON) plan and approval for inclusion with your Joint Permit application materials. 25 Pa. Code § 105.14(b)(2).</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 did not include any new stream crossings in Northumberland 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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5	<p>Original Comment# 22: According to the Hydrologic and Hydraulic Calculations for Waterbody Crossings (H&H) several waterbody crossings are to be crossed by a dam and pump method. Many of these crossings have excessive Peak Flows that could not be managed by pumping. Detail how these crossings will be stable and how the waterbodies will be successfully passed through or around the work area. Provide tables in the plan drawings depicting pump sizing and rate information to be used by contractors.</p> <p>Using impact WW-T47-11002 as an example, if a Dam and Pump method is chosen, provide supporting data that shows that this be will be a feasible method of crossing. Many of the crossings are in watersheds that have excessive flows during normal or low flow conditions, which may precede use of dam and pump methods. Explain why a Flume type method was not considered. 25 Pa. Code §§ 105.13 and 105.14.</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 Attachment H-2 (Chapter 105 Impact Drawings) and a discussion of crossing methods is included in Attachment L-5 (Proposed Impacts).</p>
6	<p>Original Comment# 48: Access roads AR-N0-075, AR-N0-078, and AR-N0-083 are shown to cross streams. Confirm that there are existing structures at the stream crossings and that the structures will not need to be replaced. Provide details and impacts for any crossings that will need new structures or replacement of existing structures.</p> <p>Temporary bridges as noted in the response document for this comment will need authorization through the Chapter 105 Regulations authorization. 25 Pa. Code § 105.13(a).</p>	<p>AR-N0-078 and AR-N0-083 have been removed from the project. The existing culverts along AR-NO-075 have been field reviewed and are in adequate condition to accommodate the anticipated construction traffic. Timber matting will be installed over the existing culverts to distribute the traffic loads evenly and protect the existing culvert during use of the access road.</p>

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7	<p>In accordance with 25 Pa. Code § 105.13(e)(l)(x), and to ensure that all potential impacts to regulated waters are evaluated and approved under applicable Chapter 105 Regulations criteria, provide a revised Attachment H-2 that includes primary, secondary and even tertiary pipeline installation methods (e.g., Cofferdam Stream Crossing (CD), Dam and Pump Stream Crossing(DPX), Flume Stream Crossing (FX), etc.), temporary construction crossing methods (e.g., BEC, MAT.!, MAT.3. etc.), and streambank restorative methods (e.g., RSS, SBR, etc.). Additionally, provide to the Department a 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.</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. The secondary crossing method for all crossings within Lebanon County would utilize the same workspace as the primary crossing method. There are no tertiary crossing methods proposed for the Project.</p>
8	<p>The Soil Erosion and Sedimentation Control Plan/Site Restoration Plan drawings do not have labels noting the method of crossing and site restoration for each watercourse, wetland or waterbody crossing. Provide updated plans to avoid any potential conflicts during construction. 25 Pa. Code § 105.13(e).</p>	<p>The revised application includes updated Soil Erosion & Sediment Control Plans within Attachment M, which include the crossing and streambank stabilization methods for each stream crossing and the wetland crossing method for each watercourse, wetland, or waterbody 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>

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9	<p>The Department's review of Attachment O-1 found project municipal notifications had been sent to East Cameron, Coal and Ralpho Townships. Where project water obstruction and encroachment activities are being proposed in floodway areas delineated on FEMA maps (i.e., National Flood Insurance Program maps), provide the Department with revisions that include return correspondence from those affected municipalities commenting on their evaluation of a provided floodplain management analysis and whether that analysis is consistent with their respective floodplain management codes or ordinances. 25 Pa. Code § 105.13(e)(1)(vii).</p>	<p>As indicated within the PADEP's email correspondence on March 27, 2017, no further municipal correspondence is required, as long as the original notifications have been made. Please refer to Attachment O-1 for the original notifications, as well as proof of delivery.</p>
10	<p>The Department's review of Attachment M, Hydrologic and Hydraulic Calculations for Waterbody found a few watercourses where water obstructions (i.e., culverts, cofferdams, bridges, etc.) were being proposed where the drainage area was less than one (1)-square mile. It seemed USGS Stream STATS likely was used as a hydrologic method to address the Chapter 105 Regulations criteria related to hydrologic and hydrologic analysis. USGS Stream STATS is only an accepted hydrologic method to use for water obstruction design in drainage areas that are over one (1) -square mile. Provide the Department with revised water obstruction designs (i.e., culverts, cofferdams, bridges, etc.) that utilize acceptable hydrologic and hydraulic methodologies, where the watercourse drainage is less than one (1)-square mile and USGS Stream STATS was used. 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>
11	<p>The proposed temporary equipment crossing does not have any measures to prevent sediment from falling off the sides of the equipment crossing into the stream. Please provide a one-foot (1 ') high side rail that will also be wrapped by the geo-textile. 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 Attachment M. This plan set is also provided in the back of the County Specific Impact Mapping (Attachment H-2).</p>

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12	<p>Correctly identify the FEMA detailed Floodway and Floodplain Boundaries. Several locations in the Impact Maps two boundaries are labeled as FEMA Floodway Boundary (v. FEMA Floodway and Floodplain boundaries). 25 Pa. Code § 105.13(e)(1)(i).</p>	<p>In cases where multiple streams occur on the same drawing, the Impact Maps in Attachment H-2 of the revised application have been updated to include labels identifying the steam associated with each floodway line. In such cases, general notes have also been added explaining how various floodway lines were merged and impacts calculated. In addition, any extraneous floodway lines have been removed from the Impact Maps.</p>
13	<p>Section O-1 in the Joint Permit Application contains floodplain analysis and consistency letters sent out to Coal Township, East Cameron Township, and Ralpho Township. There are no response letters found in this section. Provide response letters for all municipalities affected. 25 Pa. Code § 105.13(e)(vi).</p>	<p>As indicated within the PADEP’s email correspondence on March 27, 2017, no further municipal correspondence is required, as long as the original notifications have been made. Please refer to Attachment O-1 for the original notifications, as well as proof of delivery.</p>
14	<p>Impact WW-T58-11001A details roughly twelve (12) cubic yards of temporary fill in the inlet of a Penn DOT Stream Crossing Structure and an additional 3,000 cubic yards of associated fill in the floodway of the same stream. Provide concurrence from Penn DOT that this fill will not threaten the hydraulic capacity and safety of the structure. Also detail the need for the fill provided that the current DOT structure has guide rail limiting the use of the structure. 25 Pa. Code § 105.151.</p>	<p>No earth moving disturbance are proposed within the floodway for AR-NO-082 and AR-NO-082.1. The only proposed improvement within the floodway is placing timber matting over the existing culvert on AR-NO-082.1 to distribute construction loads evenly over the existing culvert. The Chapter 105 Impact Table (Attachment E-2) in the Chapter 105 permit set has been revised to remove the temporary fill within the floodway.</p> <p>In addition, drawing number 24-1600-70-09-A/AR-NO-082-1-01 within Attachment H-2 has been revised to exclude any temporary or permanent floodway impacts.</p>

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15	The hydraulic calculations for the flume crossings only provide the Water Surface Profile Plot for Culvert. Please provide the HY-8 Report providing the water surface elevations for the existing and proposed conditions, overtopping characteristics, etc. 25 Pa. Code § 105.161(d).	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).
16	The plans found in Attachment H-2 for impact WW-T47-11002 detail a "Dam and Pump" method of crossing. The narrative details that this crossing is being considered for a HDD method of crossing and Peak Flow Calculations table found in the H&H report does not provide a method of crossing. Given the discrepancies within the submitted documents provide detailed information that explains the method of crossing. 25 Pa. Code § 105.13.	Attachment M of the revised application includes revised H&H calculations to reflect the primary crossing method proposed for WW-T47-11002 as a dam and pump.
17	Plan drawings provided in H-1 need to be updated to be consistent with H-2. 25 Pa. Code § 105.13(e)(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 .

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18	<p>Please reference the Department's "Design Criteria for Wetlands Replacement" regarding mitigation area monitoring, frequency, and inspection report content. Wetland replacement areas must be monitored for a period of not less than five years with inspections conducted at a minimum of twice per year for the first three years and once per year thereafter. Please revise your application materials as needed to ensure all mitigation areas associated with your project, including wetland and riparian replanting, wetland enhancement, and wetland restoration areas meet these criteria. 25 Pa. Code § 105.20a(b).</p>	<p>The revised application includes revised versions of the Mitigation Master Plan (Attachment Q-1) and Swatara Creek Permittee Responsible Mitigation Plan (Attachment Q-2), both of which include reference to the PADEP's "Design Criteria for Wetlands Replacement", as well as the incorporation of monitoring period requirements specified therein.</p> <p>Monitoring of on-site restoration will be in accordance with Transco's Project-specific Wetland and Waterbody Crossing Construction and Mitigation Procedures as previously-provided within the Attachment 18 of the Environmental Construction Plan (Attachment M).</p> <p>As indicated in an email from the PADEP on March 27, 2017, monitoring of on-site replanting of riparian forest buffers beyond what was stated within the previous version of the application and included in the Riparian Area Impact Assessment and Restoration Plans, provided as Attachment L-5, Appendix L-2, will not be required by the PADEP.</p>
19	<p>There are inconsistencies in Enclosure D of the Environmental Assessment in Attachment L. Page 32 of 62 states that there are no time of year restrictions for wild trout in Northumberland County. In addition, page 38 of 62 states that there are no wild trout streams in Northumberland County. These statements are incorrect, as South Branch Roaring Creek is a Class A wild trout stream. In-stream work restrictions apply for South Branch Roaring Creek and its Unnamed Tributaries from December 1 through April 1. The impact table correctly identifies South Branch Roaring Creek as Class A wild trout. 25 Pa. Code § 105.13(e)(x).</p>	<p>The revised application includes an updated Attachment L-5, which correctly identifies the trout classification of South Branch Roaring Creek as Class A Wild Trout, and includes the respective time of year restriction associated with this classification.</p>

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20	<p>Activities proposed as mitigation for environmental impacts will be a permit requirement if included as part of your Joint Application submittal. Please remove all references to voluntary mitigation efforts as found in Attachment L and any other areas throughout your application. 25 Pa. Code § 105.13(e)(1)(ix).</p>	<p>The revised application, including Transco's Riparian Area Impact Assessment and Restoration Plans provided as Attachment L-5, Appendix L-2, has been updated to remove references to "voluntary replantings". Transco further notes that riparian replantings are being proposed as a reestablishment measure.</p> <p>Proposed mitigation for Project-related impacts is defined within the "Compensatory Mitigation for Wetland Impacts" section of Attachment L-5 and is being conducted via off-site compensatory wetland mitigation. Additional detail is provided within the Mitigation Master Plan (Attachment Q-1) and Permittee Responsible Mitigation Plan (Attachment Q-2).</p>