Transcontinental Gas Pipe Line Company, LLC

Response to Technical Deficiency
Pennsylvania Department of Environmental Protection

Atlantic Sunrise Project

May 3, 2017

DEP Application No. E38-195, APS No. 880147
Cold Springs, East Hanover, North Annville, South Annville, South Londonderry, Swatara, North Lebanon and Union Townships, Lebanon County

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

Technical Deficiency Number	Technical Deficiency Description	Response
1	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, require a complete demarcation of the floodplains and regulated waters of this Commonwealth on the site. This requirement will not be waived under 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). **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. 25 Pa. Code § 105.13(e)(1)(A through G).**	100 percent of the Project footprint has been field delineated. Impacts for Lancaster 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**.

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2	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). **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).** **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).**	**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.

3	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). **November 22, 2016 technical deficiency response states that, "Transco is coordinating with PHMC and FERC to develop a Memorandum of Agreement (MOA) to address Section 106 compliance and will include procedures for assessing impacts for inaccessible properties, and protocols for handling chance finds." Please provide the status of this MOA and any impact assessments conducted or planned for any inaccessible properties.**	The Project land requirements are currently 100% surveyed for archaeological and aboveground resources. With the 100% completion of the field survey, and receipt of overall Project No Effect determination from the PHMC pending their receipt and review of Addendum 6 in April 2017, a MOA for the Project does not appear to be necessary to complete Section 106 consultation. A final report, Addendum 6, covering the last remaining portions of the Phase I survey was submitted to the PHMC for review on April 21, 2017. 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**. 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.

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4	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 alterative 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. 25 Pa. Code §§ 105.13(e)(1)(viii) and 105.18. **One UNT to Little Conewago Creek was under investigation for conventional boring 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.**	An updated Trenchless Crossing Analysis is provided within **Attachment P, Appendix P-2**. This revised report includes an analysis of an UNT to Little Conewago Creek (WW-T13-4004). In summary, the results of a geotechnical assessment on this stream indicated that the subsurface conditions are conducive to a successful bore, and that there are adequate resources available to complete the crossing. Thus, Transco has adopted the conventional bore crossing method for this crossing, and removed the previously proposed crossing method of dam-and-pump.

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5	Original Comment #10: Public water supplies are located within in the vicinity of the proposed pipeline. The application states that there will not be any impacts the water supplies as a result of the pipeline. Provide the supporting documentation that led to this conclusion. Additionally, we recommend that you contact any public water supplier in order to help determine if your project will impact the public water supplier and subsequently provide documentation of interactions, through correspondence, with each supplier. Ensure all public water supplies in the vicinity of the proposed pipeline are identified within the location map. Enclosed are instructions on how to utilize the Department's eMapPA to identify public water supplies in the vicinity of your project. 25 Pa. Code §§ 105.13(e)(1)(ii), 105.13(e)(1)(x) and 105.14(b)(5). **The Department's review of Attachment H-2 found that neither project location maps nor site plans identified specific watercourses or watershed boundaries where instream and downstream users could be affected by proposed pipeline water obstruction and encroachment activities. To evaluate whether any proposed pipeline water obstruction and encroachment poses an impact to public water supply, the Department requests that those identified instream and downstream users reported in Attachment L, and any unidentified users, be included on revised Attachment H-2 project location maps. 25 Pa. Code §§ 105.13(e)(1)(ii) and 105.14(b)(5).**	All of the public water supply sources identified from the PADEP file review are located outside of the proposed Project footprint and beyond the limits of the detailed. Chapter 105 Impact Drawings. Therefore, in response to this technical deficiency, the revised application includes the location of public water supplies on the Topographical Project Location Key Maps (see **Attachment H-2)**. In addition, Transco prepared Notification Plans through consultation with the public water supplier operators which contain measures to be implemented in the event of a spill during construction. A summary of Transco's consultation with the public water supply operators is provided in **Attachment L-5**.

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6	Original Comment # 14: 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. Confirm that the stream bank stabilization methods are found in the revised application under (Attachment L-5, Appendix L-3) (v. the November response of (Attachment L-4, Appendix L-5)). 25 Pa. Code § 105.21(a)(1).	Streambank stabilization method and location are provided within **Attachment L-5, Appendix L-3** of the revised application. In addition, the revised application includes updated Soil Erosion & Sediment Control Plans within **Attachment M**, which includes and streambank stabilization methods for each stream crossing. This information may be found on the E&S Detail or Detail Group band located on each of the plan views.
7	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. **The Department's review for evaluating impact to navigable public waterways found PFBC approvals of an Aids to Navigation plans at Lebanon County locations are forthcoming.** **Please provide the PFBC Aids to Navigation plan and approval for inclusion with your Joint Permit application materials. 25 Pa. Code § 105.14(b)(2).**	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-6** within the revised application. 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. No new stream crossings are located in Lebanon County. Should additional ATONs be required for the revised Project footprint, Transco will provide the revised ATON application(s) and PFBC approval upon receipt.

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8	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. 25 Pa. Code § 105.161. **Using impact WW-T32-6001 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 preclude use of dam and pump methods. Explain why a Flume type method was not considered. 25 Pa. Code § 105.13, § 105.14.**	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). 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).

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9	Original Comment #39: ES Plan Drawing 24-1600-70-28-A/LLI 13.9 Sheet 15 of 28- It appears that the temporary construction Right-of-Way (ROW) will encroach upon the floodways of Streams WW-T1 and WWT 14-5007B. Revise the Chapter 105 permit application to include this impact and explain why the impact is necessary. 25 Pa. Code § 105.21(a)(1). **According to Sheet 15 of 28 the pipeline and ROW cross stream WW-T14-5007A which would indicate that there are floodway impacts associated with this crossing. The impacts table only labels crossing WW-T14-5007 and does not label WW-T14-5007A, WW-T14- 5007B. Correct the plans and impacts table to reflect correct features and impacts as found in this location. 25 Pa. Code§ 105.21(a)(1).**	The pipeline ROW will not impact streams WW-T14-5007A and WW-T14-5007B, or their floodways. The plans and impact tables have been revised accordingly. Please refer to drawing number 15 of 28 within the Erosion and Sediment Control Plans (**Attachment M**) for the extent of the floodway boundaries.
10	In accordance with 25 Pa. Code§ 105.13(e)(l)(x), and to ensure all potential impacts to regulated waters are evaluated and approved under applicable Chapter 105 Regulations criteria, the Department seeks a revised Attachment H-2 that includes primary, secondary and even tertiary pipeline installation methods (e.g., Coffer Dam Stream Crossing (CD), Dam and Pump Stream Crossing (DPX), Flume Stream Crossing (FX)), temporary construction crossing methods (e.g., BEC, MAT.1, MAT.3), and streambank restorative methods (e.g., RSS, SBR). Additionally, provide the Department with 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.	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.

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11	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. Proved updated plans to avoid any potential conflicts during construction. 25 Pa. Code § 105.13(e).	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 wetland resource. This information may be found on the E&S Detail or Detail Group band located on each of the plan views. Additionally, the stream and wetland crossing methods and streambank stabilization method are included within the County-Specific Resource Impact Mapping in **Attachment H-2**.
12	According to Attachment "C" of there-submission, the Act 14 notification for Cold Spring Township was not included. This item is required for completeness and issuance of the permit authorization. 25 Pa. Code §§ 105.13 and 105.13a.	Transco provided notification to Lebanon County but was unable to provide Act 14 notification to Cold Spring Township, since this township does not appear to have any government officials / board or administrative office. Please refer to **Attachment C-1** for the Act Notification Letter to Lebanon County, and **Attachment C-2** for the proof of delivery to Lebanon County.

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13	The Department's review of attachment O-1 found project municipal notifications had been sent to East Hanover, South Annville, South Londonderry, and Union 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).	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.
14	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-square mile. It seemed USGS StreamSTATS likely was used as a hydrologic method to address the Chapter I 05 Regulations criteria related hydrologic and hydrologic analysis. USGS StreamSTATS is only an accepted hydrologic method to use for water obstruction design in drainage areas that are over one-square mile. Provide the Department with revised water obstruction designs (i.e., culverts, cofferdams, bridges, etc.) that utilized acceptable hydrologic and hydraulic methodologies, where the watercourse drainage is less than one-square mile and USGS StreamSTATS was used. 25 Pa. Code § 105.161(b).	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.

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15	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 high side rail that will also be wrapped by the geo-textile. 25 Pa. Code § 105.13(g).	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**).
16	Attachment L-5, APP 4 provides details for Hydrostatic testing intake structures. Provide existing grade and finish grade elevations on the crossing sections Figure B-3. Additionally, provide identifiers that match the hydrotest plans to the permit impacts mapping found in attachment H-2. 25 Pa. Code § 105.13(e)(1)(i)(G).	Revised Hydrotest Plans and Metering Plans are provided within **Attachment L-5, Appendices 4 and 5**, respectively. These plans have been revised match the County Specific Impact Mapping within **Attachment H-2** and the Erosion and Sediment Control Plans within **Attachment M**.
17	Correctly identify the FEMA detailed Floodway and Floodplain Boundaries. At several locations in the Impact Maps two boundaries are labeled as FEMA Floodway Boundary as noted on Sheet 1 of 4 for impact WW-T14-5006A. 25 Pa. Code § 105.13(e)(1)(i).	In cases where multiple streams occur on the same drawing, the County-Specific Impact Maps in **Attachment H-2** of the revised application have been updated to include labels identifying the stream 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 County-Specific Impact Mapping.

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18	The hydraulic calculations for the flume crossings only provides 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).
19	Plan drawings provided in Attachment 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.**
20	Drawing F-AS-CPLS-A-01, Sheet 83 of 332 provided in Attachment H-1 shows impact to wetland W-T13-4001 and the floodway to WW-T13-4001. In Attachment P-1, it is stated that the alignment was shifted to avoid the resources and the associated impacts were removed from the impact table. The updated H-1 drawings should demonstrate that these resources have been avoided. 25 Pa. Code § 105.13(e)(1)(i).	The FERC Alignment Sheets provided within **Attachment H-1** have been updated and no longer show impacts to W-T13-4001 or the floodway to WW-T13-4001.

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21	Drawings 24-1600-70-20-A/55.48-01 and 55.49-01 depict the crossing of W-T30-6001 and WW-T30-6004. The drawing shows both a ten foot (10') Limit of Disturbance (LOD) reduction and a twenty-five foot (25') reduction on opposing ends of the LOD, resulting in a fifty foot (50') LOD across the resources. Confirm that the LOD is feasible for construction when a seventy-five foot (75') minimum LOD was highlighted throughout the permit application for safety and constructability. 25 Pa. Code § 105.13(e)(1)(i).	Stream W-T30-6001 and wetland WW-T30-6004 are associated with the Fisher Avenue bore crossing. The proposed 50-foot-wide ROW is required for access to the bore pits on both sides of the crossing. W-T30-6001 and WW-T30-6004 will be crossed using a wetland equipment crossing and bridge equipment crossing, respectively. The proposed LOD is sufficient in this location to accommodate the bore crossings.

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22	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).	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. 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**). 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.

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23	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).	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. 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**).