Transcontinental Gas Pipe Line Company, LLC

Response to Technical Deficiency
Pennsylvania Department of Environmental Protection

Atlantic Sunrise Project

May 3, 2017

DEP Application No. No. E19-311, APS No. 878953
Cleveland, Greenwood, Franklin, Jackson, Montour, Mt. Pleasant, Orange, Hemlock, and Sugarloaf Townships, Columbia 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 the Chapter 105 Regulations, 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 floodways 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) was 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 Columbia 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 Depa1tment 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 final clearance letters for all agencies for the associated areas within the Swatara Creek PRM site. Provide clearance letters or PNDI receipt for all other agencies besides USFWS. 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, PDCNR, 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. 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.

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 obstruct 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.

4	Original comment #8: It appears that several waters of the Commonwealth could be crossed using trenchless installation methods. Provide a revised alterative 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. 25 Pa. Code §§ 105.12(e)(1)(viii), 105.18a. **One crossing for UNT to Roaring Creek was under investigation for conventional boring and two crossings of South Branch Roaring Creek and one crossing of Coles Creek were 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), 105.18a.**	An updated Trenchless Crossing Analysis is provided within **Attachment P, Appendix P-2**. This revised report includes analyses of one crossing of an UNT to Roaring Creek (WW-T04-11002), two (2) crossings of South Branch Roaring Creek (WW-T45-11001 and WW-T44-11001), and one (1) crossing of Coles Creek (WW-T02-15012). The following provides a brief summary of the status of each of the above-referenced stream analyses: **WW-T04-11002 (UNT to Roaring Creek)** Transco conducted soil borings for this crossing, which resulted in the determination that a conventional bore installation is feasible for this location. Additional workspace was developed and implemented for the purpose of utilizing the conventional bore method. **South Branch Roaring Creek (WW-T45-11001)** Geotechnical assessments have been completed for this crossing that was determined to have a feasible conceptual alignment to support an HDD; however, given the geotechnical conditions and an associated high risk of inadvertent returns, the HDD crossing is not feasible **South Branch Roaring Creek (WW-T44-11001)**

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		This crossing did not pass the Phase II assessment due to the landowner assessment (landowner not willing to accept workspace/route changes, proximity to residence) and increased impacts (10.43 more acres) that would be required for the HDD workspace and pullback stringing area, as well as the dry hole potential with the conceptual crossing design. Therefore, a geological assessment and further analysis is not being pursued. **Coles Creek (WW-T02-15012)** Due to a conventional bore length of 467 feet, this stream was not further considered for conventional bore. Geotechnical assessments have been completed for this crossing that was determined to have a feasible conceptual alignment to support an HDD. However, the HDD method of crossing Coles Creek presents a moderate risk of failure and moderate risk of inadvertent returns to the surface based on geotechnical investigations; therefore, Transco finds the HDD crossing to be not feasible.

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5	Original Comment #10: Public water supplies are located in the vicinity of the proposed pipeline. The application states that there will not be any impacts to 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 a 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 #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 the Department. 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 Columbia 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. The list provided to PFBC included one stream in Columbia County for water withdrawal activities. 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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7	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-T35-11001 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 and 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).

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8	Original comment #62: The pipeline is shown to parallel at least one hundred fifty feet (150') of the UNT to Fishing Creek (WW-T02-15004), generally within 10' of the stream. (The current cover of the stream is primarily Palustrine Forested (PFO)). a. Describe how construction of the pipeline will take place in close proximity to the stream so as to not result in a permanent impact to the stream. This location does not fit a typical stream crossing and may require specific detail. 25 Pa. Code § 105.13. b. As the streambanks will be maintained without their current forested vegetation, describe how stabilization of the stream will occur such that erosion is prevented. Severe erosion at this location has a higher potential to result in the loss of pipeline cover and in the exposure of the pipeline. 25 Pa. Code § 105.14. c. The UNT is a wild trout stream. Loss of PFO cover raises concerns of thermal impacts to the stream, especially since headwater streams are more susceptible to thermal impacts as a result of cover loss. Explain how this impact will be minimized. 25 Pa. Code § 105.14. **The response indicated that a route deviation at this location was under investigation at the time of the response. Adjust route to avoid paralleling the UNT to Fishing Creek (WW-T02-15004) or provide justification as to why a route adjustment is not feasible. Answer questions identified in original comment #62, if they remain applicable. Additionally, explain how the stream bank will be stabilized following construction and for the long-term if the pipeline is constructed to parallel the stream in close proximity to the stream bank 25 Pa. Code §§ 105.13(e)(1), 105.14(b)(4) and 105.314.**	The proposed pipeline route at this location has been amended to avoid the parallel installation along the UNT to Fishing Creek (WW-T02-15004). The revised application includes revised County-Specific Impact Mapping within **Attachment H-2** as drawing number 24-1601-70-09-A/0.92-01, as well as revised Resource-Specific Avoidance and Minimization Measures within **Attachment P, Appendix P-1**. Both of these attachments identify the new route that avoids parallel installation along WW-T02-15004.

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9	Original comments #109-116: Concerning the Briar Creek mitigation site. **In the comment response, it was stated that Swatara Creek in Schuylkill County will be used as the mitigation site for impacts occurring in Columbia County. Therefore, only information concerning Swatara Creek was provided in the application. The Briar Creek mitigation site, however, will be authorized for the project in the Columbia County permit due to the physical location of the mitigation site. Therefore, information for the Briar Creek mitigation site should be included with the Columbia County application. Ensure that all original comments associated with the Briar Creek mitigation site have been addressed along with any additional comments included as part of the review of the Luzerne and Wyoming County applications. 25 Pa. Code § 105.13(e)(1)(ix).**	All original technical deficiency comments associated with the Briar Creek permittee responsible mitigation site have been addressed along with any additional comments included as part of the review of the Luzerne and Wyoming County applications 25 Pa. Code 105.13(e)(1)(ix). Copies of the Briar Creek mitigation site Mitigation Master Plan and Permittee-Responsible Mitigation Plans, as submitted with the Luzerne County Chapter 105 application have been included with the Columbia County Chapter 105 application within **Attachments Q-1 and Q-2, respectively**.

10	In accordance with 25 Pa. Code§ 105.13(e)(1)(x) and to ensure all potential impacts to regulated waters are evaluated and approved under applicable Chapter 105 Regulations, provide 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 the 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. There are no tertiary crossing methods proposed for the Project. The Chapter 105 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 for the Susquehanna River and Little Fishing Creek HDDs. The secondary crossing method for all other crossings other than the Susquehanna River and Little Fishing Creek HDDs within Columbia County would utilize the same workspace as the primary crossing method. 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. 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.

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11	The Soil Erosion and Sedimentation Control Plan/Site Restoration Plan drawings do not have labels noting the methods 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).	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	The Department's review of attachment O-1 found project municipal notifications had been sent to Cleveland, Greenwood, Franklin, Jackson, Montour, Mt. Pleasant, Orange, Hemlock, and Sugarloaf 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.

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13	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 appears USGS StreamSTATS likely was used as the hydrologic method to address the Chapter 105 Regulations criteria related to 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 utilize 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.
14	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**).

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15	Correctly identify the FEMA detailed Floodway and Floodplain Boundaries. Several locations in the Impact Maps have two boundaries that are labeled as FEMA Floodway Boundary vs FEMA Floodway and Floodplain boundaries. 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.
16	CS-HDD-C0-180 involves several impacts to waters of the Commonwealth. This area is located in the route change and the survey has not been completed. Detail how this alignment differs from the original alignment and how this has minimized the impacts to the waters of the Commonwealth. The plans detail fill placed in a small tributary to support HDD operations. Provided detailed analysis that explains how this is minimization of impacts. 25 Pa. Code § 105.13, §105.14(b)(7).	The revised application includes revisions to the workspace associated with the Little Fishing Creek HDD, in which the limit of disturbance is adjusted five-feet back from the top of bank of stream WW-T70-12011. **Attachment H-2** provides the revised County Specific Impact Mapping, which shows the revised limits of disturbance at the HDD location on drawing number 24-1600-70-09-A/M-0423-3.00-01. Additionally, **Attachment M** includes the revised limits of disturbance and associated best management practices for this HDD workspace. Finally, limit of disturbance modifications associated with these resources are documented within **Attachment P, Appendix P-1**.

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17	Regarding CS-HTA-CO-Roaring Creek, it appears that there will be an excess amount of cut removed for the storage facility. The southern end of the pad is at roughly 2 feet of fill and the northern end of the pad is in roughly 8.5 feet of cut. Explain where the fill will be stored or where it will be removed to and describe how this process will be restored to its pre-existing grades and drainage patterns as noted on sheet 2 of 2, 24-1600-70-28-A/LL113 _9. 25 Pa. Code § 105.13.	The Project no longer includes this hydrostatic test location; therefore, the County-Specific Impact Mapping (**Attachment H-2**) and Soil Erosion & Sediment Control Plan (**Attachment M**) do not include this location within the revised application.
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. The 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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19	Attachment H-2 County specific impact mapping, details impacts to WW-T70-12011, WW-T70- 12006, W-T70-120 10A-1 and W-T70-120 10A-2 for the pipeline trench construction installation. The mapping does not detail the actual impacts shown in the plan drawings with respect to the operations and impacts required for the Hydraulic Directional Drill workspace. Provide detailed descriptions of how these resources will either be protected or restored from impacts associated with the drilling activities. 25 Pa. Code §§ 105.13 and 105.14(b)(7).	The workspace for the proposed HDD crossing of Interstate 81 has been modified to reduce impacts to streams and wetlands to the maximum extent practicable. Specifically, the workspace for the HDD entry has been reduced to avoid impacting stream WW-T71-12011. Impacts to stream WW-T70-12006 will be associated with water withdrawal activities and placement of Hydrostatic water withdrawal equipment will have no earth disturbance and is temporary in nature. Wetlands W-T70-12010A-1 and W-T70-12010A-2 are in the HDD entry workspace and impacts to these resources are unavoidable. Timber mats will be installed across these wetlands to facilitate equipment crossings. The wetlands will be restored to their original topography and seeded with a wetland vegetation mixture after construction. Please note that surface impacts to wetland W-T70-12008, stream WW-T70-12010A, and waterbody WB-T70-12008 will be completely avoided as a result of the HDD installation. County-Specific Impact Maps are included in **Attachment H-2**.

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20	It appears that there may be a structure located in Hemlock Township between stations 5645+00 - 5650+00 that will be impacted by the Pipeline. This area also appears to be remotely sensed. Confirmation is needed to ensure the line alignment is accurate on the drawings and a realignment will not be necessary. 25 Pa. Code § 105.13.	The section of the proposed Project between stations 5645+00 to 5650+00 has been field delineated, which confirmed the presence of a temporary greenhouse structure within the proposed construction right-of-way. A re-route is not planned for this location as the structure will be removed prior to construction.

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21	Confirm that any of the bore activities located at station 5820+00 will not impact stream WW T06-13002 and station 6505+00 will not impact stream WW-T17-14003. Detail how the streams will be protected during those activities. 25 Pa. Code § 105.14(b)(4).	Stream WW-T06-13002 (Drawing number 24-1600-70-09-A/110.20-01) will not will not be included in the conventional bore associated with the road crossing, and will be crossed via dam and pump method. Staging equipment for the conventional bore will be placed north of the road. In addition erosion and sediment controls will be installed for the stream crossing, as shown on dwg. Stream WW-T17-14003 (Drawing number 24-1600-70-09-A/123.20-01) will not will not be included in the conventional bore associated with the road crossing, and will be crossed via dam and pump method. The receiving pit for the road bore will be located outside of the top of bank and stream bank integrity will be maintained during road boring activities. This stream is also being crossed by existing access road AR-CO-106.2, which is does not include any proposed improvements or modifications. The existing culvert on this access road will be protected with the installation of timber matting.

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22	The minor route revisions associated with the June 2015 route showed several areas of improvement. Although it appears that there were more temporary impacts to streams and wetlands, overall the permanent impacts to streams and wetlands, overall the permanent impacts to other resources were avoided. Provide documentation that the entire route has been assessed to determine the best possible route has been selected. Provide data in the resubmission to support the findings. 25 Pa. Code §§ 105.13 and 105.14(b).	The revised application includes 100% field survey coverage and temporary and permanent impacts to streams and wetlands have been updated accordingly. As documented in **Attachment P, Appendix P-1**, Transco evaluated each proposed stream and wetland crossing and made adjustments to the limits of disturbance and/or route to avoid and minimize impacts to aquatic resources to the maximum extent practicable.
23	It appears that the Contractor Staging Area CS-CSA-CO-4-002.1 sediment basin is situated in a wetland. Drainage patterns and signatures on aerial mapping indicate that there may be wetland features in this area. Since the basin will be saturated in a deep cut, water infiltration would be expected into the basin, thus changing the design characteristics. Provide site investigation details that determine the area in question is not a wetland or detail how the sediment basin and contractor staging area will be revised if wetlands are present. 25 Pa. Code §§ 105.13, 105.14(b) and 105.17.	Contractor Staging Area CS-CSA-CO-4-002.1 was resurveyed on March 29, 2017. Although upland drainages and swales were identified, the survey confirmed the absence of wetlands and streams within the workspace. Upland datasheets and photographs were collected at two locations to document the staging area as upland, and are provided in the revised Wetland Delineation Report within **Attachment L-2**.

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24	It appears that the Contractor Staging Area CS-CSA-CO-4-003 west corner is located in a wetland. Drainage patterns and signatures on aerial mapping indicate that there may be wetland features in this area. Provide site investigation details that determine the area in question is not a wetland or detail how the sediment basin and contractor staging area will be revised if wetlands are present. 25 Pa. Code §§ 105.13, 105.14(b) and 105.17.	Contractor Staging Area CS-CSA-CO-4-003 was resurveyed on March 30, 2017. Wetlands W-T85-12001A (PEM) and W-T85-12001B (PSS) were identified and delineated in the area. Wetland datasheets and photographs were collected for these resources, which are provided in the revised Wetland Delineation Report within **Attachment L-2**. The workspace for this Contractor Staging Area was subsequently modified to avoid impacts to these wetlands. Please refer to the Erosion and Sediment Control Plans included within **Attachment M** of the revised application for the plan views and BMPs associated with this staging area.

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25	For CN-CSA-CO-1-001, on drawing F-AS-CPLN-A-01, sheet 137C, it states that the survey has not been completed. However, the Erosion and Sedimentation drawings show resources in the area of this contractor staging area. In addition, aerial images show several potential wet areas in and around this contractor staging area. Verify that resources have been delineated within the staging area and provide the location of the resources in the vicinity of the staging area. 25 Pa. Code § 105.13(e)(1)(i)(A).	The ID for this Contractor Staging Area has changed to CN-CSA-CO-4-009. The staging area was originally surveyed on June 30, 2015 and wetland W-T48-14001 (PEM) was delineated. Following the 2015 survey, the staging area was modified to remove all workspace from the wetland and the wetland was not depicted on Project drawings. The staging area was resurveyed on March 29, 2017 and the wetland boundary for W-T48-14001 was confirmed as accurate. In addition to confirming the 2015 delineation, the field team further documented the remainder of the staging area as upland. Corresponding data sheets and photographs of the upland area are provided within the Wetland Delineation Report, which is included as **Attachment L-2** of the revised application.

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26	In the re-submission, stream names for resources WW-T02-15008, WW-T91015004, and WW-T02-15009 were changes from UNTs to Coles creek to UNTs to Fishing Creek. Both WW-T91-15004 and WW-T02-15009 should be identified as UNTs to Coles Creek. Designations as CWF, MNF and Wild Trout Wates are correct. WW_t02-15008 is located on the saddle between watersheds. The flow direction indicated in Attachment H-2 indicates that it is most likely an UNT to East Branch Fishing Creek which is HQ-CWF and MF. It is also a wild trout water. 25 Pa. Code § 105.13(e)(1).	The stream names and trout water classifications for streams WW-T91-15004 and WW-T02-15009 have been updated within the Chapter 105 Impact Table (**Attachment E-2)**. Additionally, stream WW-T02-15008 has been updated to be identified as UNT to East Branch Fishing Creek with a Chapter 93 designation of HQ-CWF, MF and a trout water classification as a wild trout water within **Attachment E-2**.
27	Plan drawings provided in H-1 need to be updated to be consistent with H-2. 25 Pa. Code § 105.13(e)(1).	**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.**

Technical Deficiency Number	Technical Deficiency Description	Response
28	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 § 105.20(a).	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.

Technical Deficiency Number	Technical Deficiency Description	Response
29	Activities proposed as mitigation for environmental impacts will be a permit requirement if included as part of your Joint Application submittal. Provide the Department with revisions ensuring all references to voluntary mitigation efforts as found in Attachment L and any other areas are removed throughout your revised 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**).