Transcontinental Gas Pipe Line Company, LLC

Response to Technical Deficiency
Pennsylvania Department of Environmental Protection

Atlantic Sunrise Project

November 18, 2016

DEP Application No. E66-160, APS No. 878960
Clinton, Eaton, Falls, Monroe, Nicholson,
Northmoreland and Overfield Townships,
Wyoming County

Table 1
Transco's Responses to DEP July 29, 2016 Technical Deficiencies Letter

Technical Deficiency Number	Technical Deficiency Description	Response
1	Upon further evaluation by the Pennsylvania Department of Environmental Protection (PA DEP) and in accordance with the 25 Pennsylvania (PA) Code § 105.13(e), complete delineation of impacts to wetlands, streams and flood ways needs to be provided for the PA DEP 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. 25 PA Code § 105.13(e)(1)(i)(A) requires 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 flood ways present, nor does it adequately identify any unique characteristics of the wetlands, or the functions that they provide. As such, the remote 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)]*	Transco has provided an updated permit application package that will include changes made to the project (e.g., minor alignment and workspace modifications) and new field survey data collected since the original application was submitted on July 29, 2016. With this supplemental information, the updated application provides field-verified data for 96 percent of the project and for 100 percent of Wyoming County. Transco continues to coordinate with landowners to obtain survey access for the remaining four percent of the project area outside of Wyoming County, and will periodically file updated survey information for survey in the remaining counties as access is granted in these areas. Field verified data collected to date is included in Attachment L-5, Enclosure D, Section B, and the impacts are included in Attachment E-2 and the Impact Mapping is included in Attachment H-2. Transco appreciates the PA DEP's commitment to proceed with its review based on the substantial amount of field-verified information that is available at this time.

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2	Several flume crossings are shown in the Erosion and Sedimentation (E&S) Control Plan sheets along the length of the pipeline. Clarity, with the drawings, if the flume crossing is proposed in a regulated waterway. If the crossings are located within a regulated waterway, provide a detailed impact table for the resource crossing identifying all the impacts associated with this crossing. Revise all other application documents to reflect any additional impacts. *[25 PA Code §105.13(e)(1)(x)]*	The revised Application clarifies that proposed "Clean Water Crossings" are stormwater runoff conveyance / E&S Best Management Practices (BMP/BMPs), not flumed crossings of regulated waterways. The following note has been added to the Chapter 102 drawings: "Proposed clean water crossing shown herein are temporary stormwater runoff conveyance BMPs associated with the Chapter 102 ESCGP-2 application. No flows from regulated waterways are intended to be conveyed within these BMPs." The Revised Chapter 102 drawings are included in Attachment M.
3	Provide adequate provisions for shut-off in the event of break or rupture. Provide locations and description of how this action will be completed in the event rupture occurs. *[25 PA Code §105.301(9)]*	Attachment J (Project Overview, New Mainline Valves and Tie-In Assemblies) of the revised Application includes a description of the provisions for shut-off in the event of a pipeline rupture or break.

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)]*	The revised Application includes a County-specific summary of correspondence received from PFBC, PGC, PDCNR, and USFWS in Attachment G-1, which correlates with the Pennsylvania Natural Diversity Inventory (PNDI) review of the pipelines, access roads, and ancillary facilities. The summary also includes a discussion of any mitigation measures recommended or required. Transco has received final clearance letters from the PGC, PFBC, and PDCNR for the Project. The USFWS is consulting with the Federal Energy Regulatory Commission (FERC) regarding federally listed species; Transco expects resolution in fourth quarter 2016. Copies of the respective correspondence referenced in the summary are provided in Attachments G-2 through G-5. <u>Briar Creek PRM Site:</u> The PNDI receipt for the Briar Creek Permittee-Responsible Mitigation (PRM) Site indicated that no known impacts to threatened and endangered species and/or special concern species and resources are within the bounds of the proposed PRM Site. Therefore, it is understood that no further coordination is required with the jurisdictional agencies including the PGC, PDCNR, PFBC, and USFWS. The PNDI is provided in Attachment Q-2, Appendix E, Exhibit 1. <u>Towanda Creek PRM Site:</u> A PNDI review was completed for the Towanda Creek PRM Site. The PNDI receipt for the Towanda Creek PRM Site indicated that no further review is required by the PFBC, PGC, PDCNR, and USFWS. The PNDI is provided in Attachment Q-2, Appendix E, Exhibit 1.

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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), §105.14(b)(5)]*	The revised Application includes a summary of coordination with the PHMC for pipelines, access roads, and ancillary facilities within Attachment D-1, and copies of relevant clearance/approval letters identified within the above-mentioned summary within Attachment D-2. Briar Creek PRM Site: A copy of the PHMC clearance letter, dated May 8, 2015, for the Briar Creek PRM Site is provided in Attachment Q-2, Appendix E, Exhibit 2. Towanda Creek PRM Site: A copy of the PHMC clearance letter, dated May 8, 2015, for the Towanda Creek PRM Site is provided in Attachment Q-2, Appendix E, Exhibit 2.
6	Provide plans or a detail for the restoration of stream beds at open cut stream crossings. This should include replacement of native stream bed material. This should include replacement of native stream bed material and assurance that no significant changes in bed grade occur. *[25 PA Code §105.13(e)(1)(i)(G), §105.13(e)(1)(ix), §105.1, Mitigation §105.13(e)(1)(x), §105.15(a)(1), 105.14(b)(4), §105.16(d), §105.13(e)(1)(i)(G), §105.242(c)]*	The revised Application includes a typical detail for streambed restoration (see SBR Detail in the BMPs and Quantities Plan Set within Attachment M - provided under separate cover).
7	Explain how the final "restored" wetland elevations will be determined. *[§105.13(e)(1)(ix)]*	The revised Application (Attachment L-5, Section B1) has been updated to indicate that final wetland elevations will be determined using civil survey (sub-centimeter accuracy) data collected prior to construction.

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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 (e.g., conventional bore, horizontal directional drill [HDD], micro-tunneling) addressing each resource crossing individually and explaining why trenchless installation methods are not appropriate. *[25 PA Code §105.13(e)(1)(vii), §105.18a]*	Attachment P-1, Appendix P-2 of the revised Application includes a revised alternatives analysis that incorporates a discussion of alternative crossing techniques for each resource crossing and whether a trenchless method is or is not appropriate.
9	The application states that topsoil will be segregated. Provide a revised Enclosure D of the Environmental Assessment that explains how the topsoil depth will be determined in the field. *[25 PA Code §105.15(a) §105.15(b), Environmental Assessment Form Instructions]*	The Transco Project-specific Wetland and Waterbody Construction and Mitigation Procedures (Attachment 18 of the Environmental Construction Plan [ECP]) and Agricultural and Construction Monitoring Plan (Attachment 6 of the ECP) indicate that the top 12 inches of topsoil from wetland and agricultural areas disturbed by trenching will be segregated from subsoil, except in areas where standing water is present, soils are saturated, or where shallow depth to bedrock conditions exist. These exceptions will be identified via visual assessment during grading and documented in the field with the Environmental and/or Agricultural Inspector. Immediately after backfilling is complete, the segregated topsoil will be restored to its original horizon location. Attachment L-5, Section B1 has also been revised to reflect this. Pipeline construction personnel are familiar with this FERC mandated practice and are knowledgeable of the visual differences between topsoil and subsoil (color, texture) in order to make the determination of topsoil depth that needs to be segregated.

10	Revise the application to provide a planting plan to re-establish woody vegetation within the temporary construction right-of-way (ROW) in riparian and wetland areas that are currently forested or dominated by woody species, as was previously proposed and implemented by Williams Transco on a similar project. *[25 PA Code §105.13(e)(1)(ix), §105.16(d)]*	The revised Application includes a Riparian Area Impact Assessment and Restoration Plan (Attachment L-5, Appendix L-2). Transco has determined that the proposed permanent conversion of forested riparian buffer to herbaceous riparian buffer affects a relatively small fraction of the overall riparian buffer for each affected watercourse and the larger watershed. In addition, the remaining herbaceous riparian vegetation will continue to provide beneficial functions related to water quality. Therefore, any potential changes in riparian area function will be minor and isolated to the 10-foot-wide maintenance corridor centered over the pipeline within the permanent easement and will not result in the degradation of the existing stream uses or associated water quality. However, as an additional re-establishment measure, Transco is proposing to voluntarily replant riparian forest buffers crossed by the Project. Replanting will occur within the regulated floodplain (Federal Emergency Management Agency [FEMA] mapped 100-year floodplain or 50-foot-wide floodway if no FEMA-mapped floodplain is present, whichever is greater). Transco is also proposing to replant in areas where Chapter 102 riparian buffer waivers are being requested. In all instances, replanting will occur in the construction workspace outside of the 10-foot-wide maintenance corridor over the pipeline. Transco will replant the 50-foot-wide permanent ROW by applying a riparian seed mix. Outside of the permanent ROW, to the edge of the construction workspace and within the regulated floodplain, Transco will reestablish the riparian buffer by planting trees and shrubs. During operation of the pipeline, Transco will maintain herbaceous cover within the 10-foot corridor centered over

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		the pipeline. Outside of the 10-foot corridor, maintenance will be limited to selective trimming and clearing of large trees (greater than 15 feet in height) within 15 feet of the pipeline. Transco is proposing compensatory off-site mitigation for Project-related impacts to palustrine forested (PFO) and palustrine scrub-shrub (PSS) wetlands, as detailed within the Mitigation Master Plan and Permittee Responsible Mitigation Plan, which are provided within Attachments Q-1 and Q-2 of the revised Application.

11	The functions and values provided by shrub species more closely match those provided by forested areas than are provided by emergent areas. Revise the plans to incorporate the replanting of woody species in forested/ scrub shrub areas in the permanent ROW. *[25* PA Code §105.13(e)(1)(ix)]	The revised Application includes a Riparian Area Impact Assessment and Restoration Plan (Attachment L-5 Appendix L-2). Transco has determined that the proposed permanent conversion of forested riparian buffer to herbaceous riparian buffer affects a relatively small fraction of the overall riparian buffer for each affected watercourse and the larger watershed. In addition, the remaining herbaceous riparian vegetation will continue to provide beneficial functions related to water quality. Therefore, any potential changes in riparian area function will be minor and isolated to the 10-foot-wide maintenance corridor centered over the pipeline within the permanent easement and will not result in the degradation of the existing stream uses or associated water quality. However, as an additional re-establishment measure, Transco is proposing to voluntarily replant riparian forest buffers crossed by the Project. Replanting will occur within the regulated floodplain (Federal Emergency Management Agency [FEMA] mapped 100-year floodplain or 50-foot-wide floodway if no FEMA-mapped floodplain is present, whichever is greater). Transco is also proposing to replant in areas where Chapter 102 riparian buffer waivers are being requested. In all instances, replanting will occur in the construction workspace outside of the 10-foot-wide maintenance corridor over the pipeline. Transco will replant the 50-foot-wide permanent ROW by applying a riparian seed mix. Outside of the permanent ROW, to the edge of the construction workspace and within the regulated floodplain, Transco will reestablish the riparian buffer by planting trees and shrubs. During operation of the pipeline, Transco will maintain herbaceous cover within the 10-foot corridor centered over

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12	Several streambank stabilization methods are proposed in the E&S Control Plans. Identify where each type of stabilization measure will be utilized. *[25 PA Code §105.21(a)(1)]*	The revised Application (Attachment L-5, Appendix L-3) includes a table that identifies each stream and which stream restoration detail is to be utilized on either bank.
13	Revise the alternatives analysis to show the 600-foot survey corridor and demonstrate that impacts to waters of the Commonwealth within the corridor have been minimized to the maximum extent practicable. The demonstration should address each crossing individually. *[25 PA Code §105.13(e)(1)(viii), §105.18(a)]*	The revised Application includes a revised alternatives analysis (Attachment P-1) demonstrating that impacts to waters of the Commonwealth have been minimized to the maximum extent practicable. Appendix P-1 documents measures to avoid and minimize impacts to each crossing individually.
14	The application incorrectly identifies watercourses as "waterbodies". Watercourses and bodies of water are defined differently under Chapter 105. Provide revised copies of all applicable documents. *[25 PA Code §105.21(a)(1)*]	The revised Application identifies bodies of water and watercourses as defined under Chapter 105.

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15	The application states that blasting may be required to install the proposed pipeline. Clarify if blasting will be necessary in or along waters of the Commonwealth, and identify where it will be proposed. Please be advised that a blasting permit from the PFBC may be needed. *[25 PA Code §105.21(a)(1)]*	Transco anticipates the use of blasting in bodies of water or watercourses; however, Transco will not know for certain until construction activities commence. Watercourses with a higher potential for blasting are those with shallow depth to bedrock, as presented in Attachment L-5, Section B1 in Table L(d)-2 of the revised Application. Transco's construction contractor will be required to demonstrate that blasting is necessary by first attempting to remove bedrock material using mechanical means, such as a hydraulic ram or splitter, rock trenching machine, or rock saw Transco has submitted an Application for use of Explosives in Commonwealth Waters to the PFBC for each proposed stream crossing in the event that blasting of bedrock is required to properly install the pipe.
16	An Aids to Navigation (ATON) plan may be required for this project. Contact Thomas Burrell with the PFBC at 717.705.7838 regarding ATON requirements, and provide a copy of the ATON approval to DEP. *[25 PA Code §105.14(b)(2)]*	In coordination with Captain Burrell (PFBC), three locations in Wyoming County will require an ATON permit; which were submitted to the PFBC on October 4th and 10th, 2016 (see Attachment L-5, Enclosure D, Section B4f).
17	The Joint Permit Application Plans shall be the final plans for construction. Remove the reference to "Preliminary/Draft" from all plan sheets. *[25 PA Code §105.13(e)(1)(i)(C)]*	The revised Application includes an updated set of drawings (with stationing) (Attachment H-2) and removes the inadvertent reference of "Preliminary/Draft".

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18	Installation of trench plugs as depicted in the profile view on the E&S Control Plans is likely to result in adverse impacts to the hydrology of waters of the Commonwealth. Provide a revised detail showing the trench plug continuing to the bottom of the trench instead of the top of the bedding material. *[25 PA Code §105.18a]*	The E&S Control Plans' detail associated with trench plugs, included within the Trench Plug (TP) Installation typical detail located in the BMPs and Quantities Plan set as Attachment M (provided under separate cover) in the revised Application, has been revised to depict the trench plugs continuing to the bottom of the trench.
19	The application states in numerous locations that the criteria used during routing surveys included "minimizing effects at any single wetland crossing to 1 acre or less whenever practicable". The PA DEP is unable to determine why the 1 acre threshold was utilized when Chapter 105 regulations require minimizing impacts to wetlands to the maximum extent practicable. Revise the application to demonstrate that the routings avoid and minimize wetland impacts to the maximum extent practicable. Transco should assess the applicability of this deficiency to the other counties that are part of this project. *[25 PA Code §105.13(e)(1)(vii), §105.18a]*	The revised Application (Attachment L-5) clarifies that the routing process was designed to minimize Project-related impacts on all streams and wetlands, regardless of the extent of Project-related impacts. The revised Application (Attachment P-1, Appendix P-1) includes a revised alternatives analysis demonstrating that impacts to each crossing of waters of the Commonwealth within the 600-foot wide routing corridor have been minimized to the maximum extent practicable. See also response to Technical Deficiency 13.

20	According to the Hydrologic & Hydraulic (H&H) Calculations for Waterbody Crossings, 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 §105.16]*	Stream crossings are to be performed during low flow conditions with oversight from an environmental inspector. Storm event weather forecasts will be monitored prior to and during the stream crossing. This note has been added to the Notes Sheet on the Water Obstruction and Encroachment Permit Impact Maps in Attachment H-2. The contractor will be required to maintain an adequate number of pumps on-site to facilitate an unanticipated increase in stream flow. County specific H&H reports are provided for the Project. The reports specify the various crossing methods used, including flume, dam and pump, dry open cut, conventional bore and HDD. The reports also indicate the required time to complete each of the various types of crossings. Details of each crossing type are provided in Appendix A of each report. The crossing methods have been revised on a waterbody by waterbody basis considering the flow characteristics of the waterbody (which are provided in the tables in each H&H Report Appendix B, included as Appendix M of this revised Application). Crossing methods have been chosen (and/or updated) such that, at a minimum, normal flow is safely conveyed past the construction workspace. Additionally, further details and requirements regarding crossing stabilization have been added. For example, Section 1.2 of the H&H Report specifies that Contractors are required to meet the following performance criteria for dam and pump type crossings: • Sufficient pumps to maintain 1.5 times the flow present in the stream at the time of construction; • At least one back up pump available

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		on site in case of mechanical failure; • Dams constructed with materials that prevent sediment and other pollutants from entering the waterbody (e.g. sandbags or clean gravel with plastic liner); • Streambed scour prevented at pump discharge; and • Dam and pumps shall be monitored to ensure proper operation throughout the waterbody crossing. The stream flow information provided in H&H Report Appendix B (included as Appendix M of this revised Application) will be utilized along with actual site conditions and forecasted weather at the time of construction.
21	The H&H report, Peak Flow Calculations depict culvert pipe diameter and number of culvert pipes for some crossings but not all. Some crossings state "Cross When No Storm Forecasted" in the Flume Diameter and Number of Pipes columns. Provide crossing types and sizing data for these crossings. *[25 PA Code §105.161]*	Stream crossings are to be performed during low flow conditions with oversight from an environmental inspector. Storm event weather forecasts will be monitored prior to and during the stream crossing. Many of the stream crossings have been adjusted to reflect a dam and pump method (Attachment E-2). See also response to Technical Deficiency 20. The H&H reports (included as Appendix M of this revised Application) have been updated to provide size and number of flume pipes for each flume type crossing. A crossing table is provided in H&H Report Appendix B, included as Appendix M of this revised Application.

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22	In reviewing the plans (profile view), trench plugs are indicated to be installed at wetland/upland interfaces. Additional trench plugs may be necessary along the length of the crossing due to length and/or slope to maintain hydrology throughout the wetland for Impact numbers 18, 38, 39, 48, 67, 68, 69, 70, 81, 82, 85, 86, 133, 134, 140, 141, 159, and 160. Please review and revise accordingly. Some additional guidance is available within the PA E&S Control BMP Manual. *[25 PA Code §105.13(e)]*	The Chapter 105 impact drawings have been revised to include additional trench plugs and are included within Attachment H-2 of the revised Application.
23	Provide a detailed site specific pollution prevention and control plan that addresses potential inadvertent returns as well as hazardous and non-hazardous chemical releases. *[25 PA Code §105.21(a)(3)]*	The HDD Contingency Plan in Attachment 3 of the ECP of the revised Application (Attachment M - provided under separate cover) addresses inadvertent returns. The Spill Plan for Oil and Hazardous Materials is included as Attachment 9 of the ECP, which is provided within Attachment M of the revised Application.
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), §105.13(e)(1)(iii)]*	The revised Application has been thoroughly reviewed to ensure that the stream length noted in the plan maps (Attachment H-2) and the impact tables (Attachment E-2) are consistent.
25	Reductions of Limits of Disturbance in regulated waters could result in reduced impacts. It is recommended that the regulated waters of the project be re-evaluated and construction limits be reduced where possible to eliminate or reduce project impacts. Provide those developed changes within the re-submission (e.g., W-T08-18001, W-T05-18002C, W-T95-19006A, WW-T14-20004, W-T28-20001). *[25 PA Code §105.14]*	Transco has re-evaluated each individual crossing and modified or reduced the construction limits wherever possible to eliminate or reduce impacts. Modifications to the construction limits for each individual crossing are provided in Attachment P-1, Appendix P-1 of the revised Application.
26	The stream and wetland boundaries on several impact sheets overlap. Provide revised impact sheets with the wetland and stream boundaries clearly delineated. *[25 PA Code §105.13(e)(1)(i)(A)]*	The revised Application (Attachment H-2) includes drawings that do not have overlapping resource area boundaries. The revised Chapter 105 impact maps have been revised to include a heavier line type to show the interface between differing wetland classifications.

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27	Section 6 of the PRM Plan indicates that impacts to palustrine scrub shrub (PSS) wetlands are temporary because the areas will be allowed to revert to PSS wetlands. The application further states that a 10-foot ROW will be maintained as frequently as once annually. Provide documentation to support the claim that scrub shrub wetlands will establish with such frequent mowing and further clarify in the application if vegetative maintenance will involve herbicides. *[25 PA Code §105.18a, §105.2l(a)(1)]*	Transco is providing off-site compensatory mitigation for temporal conversion of PSS wetlands to palustrine emergent wetlands within a 10-foot wide operation and maintenance corridor centered over the pipeline within the permanent easement. The Mitigation Master Plan and PRM Plan are provided as Attachments Q-1 and Q-2 within the revised Application.
28	"An analysis of whether the wetland is exceptional value as classified in 25 PA Code § 105.17" is required as part of the impacts analysis. Please provide this analysis and provide supporting data for all impacted wetlands. *[25 PA Code §105.13(e)(l}(x)(B)]*	Transco has identified wetlands of exceptional value located within the limits of disturbance associated with the Project through coordination with the PFBC regarding trout water classifications, and through PNDI review of the Project by the PDCNR, PFBC, PGC, and USFWS. All temporary and permanent impacts to wetlands of exceptional value are included within the Chapter 105 impact tables, which are provided within Attachment E-2 of the revised Application. Transco also conducted a trenchless crossing analysis of these wetland resources which is included within the Alternatives Analysis portion of the revised Application (Attachment P-1, Appendix P-2).
29	Explain why construction ROWs in wetlands exceed the maximum width of 75 feet as recommended by the FERC. *[25 PA Code §105.18(a)]*	Transco has re-evaluated each individual wetland crossing and reduced the construction workspace width to 75 feet wherever possible, consistent with the FERC Procedures. Modifications to the construction limits for each individual wetland crossing are provided in Attachment P-1, Appendix P-1 of the revised Application. Appendix P-1 includes justifications for any wetland crossings where workspace reduction to 75 feet was not possible.

30	As discussed in the April 28, 2014 response letter from the USFWS, annual ryegrass is discouraged due to its tendency to compete with native species. Revise all applicable sections of the application to propose alternative to annual ryegrass, such as cereal oats or grain rye. *[25 PA Code §105.13(e)(1)(ix)]*	For the pipeline construction ROW and ancillary facilities, Transco proposes to utilize either winter wheat or annual ryegrass as a nurse crop on the ROW from January 1 through May 15 and August 15 through December 31. During the summer months (May 15 through August 15), it is recommended that browntop millet be utilized as the nurse crop. The use of cereal (winter) rye is highly discouraged due to the allopathic effects it could have on the establishment of the permanent crop. It is recommended that annual rye be planted at a nurse rate of 4 pounds per acre and winter wheat at a rate of 10 pounds per acre, individually. Browntop millet should be seeded at a rate of 5 pounds per acre. The seed mixes proposed for the Project are included within the BMPs and Quantities Plan Set, included within Attachment M of the revised Application. Within the PRM sites, the use of annual ryegrass is proposed as a cover crop will be at a rate of no more than 6 to 10 pounds per acre. Transco acknowledges that the recommended industry seeding rate of 60 pounds per acre is excessive and can lead to competition with native species; however, at one sixth the recommended rate, the risk of reseeding issues and potential problems with Variety Not Specified mixes becomes significantly lowered. As such, Transco maintains annual ryegrass to be an acceptable cover crop at the lower 6 to 10 pounds per acre rate of application. This species develops a substantial root system that not only stabilizes soil quickly, but also allows for compaction to be broken up after the post-construction traffic has subsided. Use of annual ryegrass provides additional benefits as

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		well. By following a low seeding rate per acre application, annual ryegrass allows sunlight to reach the soil surface, aiding in a reduced saturation time and a quicker warming period, thereby enhancing water infiltration and water-holding capacity. Other benefits to using this one genotype species is that it matures at a uniform rate, which supports the burndown of the stand in preparation for the restoration seeding. It is a common misconception that annual ryegrass is hard to kill; however, the Variety Not Specified seed proves to be more difficult to maintain and manage due to the varying rates of maturity within each bag. Lastly, annual ryegrass will germinate and grow in wetter conditions than many other cover crops species, making it an important stabilization cover crop for wetland restoration projects. Seeding specifications for the PRM sites are included within the PRM sites' plans, as Attachment Q-2, Appendix G, of the revised Application.

31	Provide plans and cross sections indicating pipe size, placement, and locations for all wetlands, streams, flood ways and floodplains where the proposed water withdrawal piping is to be installed. The cross sections should depict, at a minimum, the proposed structures, resource boundaries, stream bed and banks, and water surface elevations. Provide a description and plans of how the water will be withdrawn, the methods to be utilized, what equipment and structures are proposed to be placed and utilized in waters of the Commonwealth, the length of time which obstructions will remain in place, and other details. Provide a cross sections, profiles, and hydraulic analysis for piping placed in existing stream culverts and along and within stream channels. *[25 PA Code §105.13(e)(1)]*	All water withdrawals will be completed in compliance with the Susquehanna River Basin Commission (SRBC) docket or a metering plan that is approved by the SRBC. Two water withdrawal sites are planned for Wyoming County: (1) Susquehanna River and (2) Tunkhannock Creek. The SRBC approved the docket for the Susquehanna River water withdrawal location on September 8, 2016. Because of the expected low withdrawal rates for Tunkhannock Creek (i.e., below SRBC docket thresholds), a docket is not required for this water source. Allowable withdrawal rates and a metering plan were developed for the water source in conjunction with the SRBC. The location of the water withdrawal equipment relative to wetlands, streams, floodways, and floodplains are captured within the revised Application (see Attachment H-2). Water withdrawals from Susquehanna River and Tunkhannock Creek will be completed in compliance with the SRBC docket and metering plan and Tunkhannock Creek metering plan, respectively. The SRBC docket and metering plans provide details regarding the methods to be used to withdraw water. The equipment will remain in place only as long as is necessary to complete the water withdrawals. All equipment will be overland and temporary. The intake structure and piping will be located in the floodway. The pump and other equipment will be kept out of the floodway (see Attachment L-5, Enclosure D, Section D). No piping will be placed in existing stream culverts. Cross sections, profiles, and hydraulic analysis of piping to be placed in stream channels were completed for the SRBC docket

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		and metering plan, respectively. This information is provided in Attachment L-5. Appendix L-4 and Appendix L-5 of the revised Application.
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 E&S Control Plans. *[25 PA Code §105.13(g)]*	The plan view drawings (Attachment H-2) have been revised to include a single construction crossing method that is the least impactful and most practical. These methods are reflected in the revised Application. The erosion and sediment control BMPs are shown on the E&S Control Plans (Attachment M - provided under separate cover).
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); 2. Wetland Equipment Crossing (WEC); and 3. 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)]*	The plan view drawings (Attachment H-2) have been revised to include a single construction crossing method that is the least impactful and most practical. These methods are reflected in the revised Application.

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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. Coffer Dam 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 (HOD); 7. Bored Waterbody Crossing (WBX.l); 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)]*	The plan view drawings (Attachment H-2) have been revised to include a single construction crossing method that is the least impactful and most practical. These methods are reflected in the revised Application.
35	The project description indicates that there is a portion of the transmission line that will be 30 inches in diameter. However, the description mentions the right-of-way and construction techniques for a 42 inch diameter pipe. Please revise accordingly for consistency. *[25 PA Code §105.13(e)]*	The Project description (Attachment J) has been revised to remove the 42-inch-diameter pipe in the construction techniques section.
36	The Impact Table for Individual Permit Application indicates that there will be a wet open-cut waterbody crossing of Stream WW-T24-19001. However, there are not any stream identifications of Stream WW-T24-19001 on the E&S Control Plans. Please clearly show this stream crossing on the E&S Control Plans. *[25 PA Code §105.13(e)]*	The E&S Control Plans have been revised to depict the crossing of stream WW-T24-19001 (see Attachment M - provided under separate cover). Stream WW-T24-19001 will be crossed using the dry-crossing, flume construction technique.
37	It appears that a wet open-cut crossing has been proposed for the utility crossing of an UNT to the Susquehanna River (WW-T24- 19001). The PA DEP is opposed to a wet open-cut crossing when other feasible crossing options are available. This crossing method appears to pose adverse impacts to the aquatic resources. Please revise your alternative analysis to provide other crossing methods that will not pose adverse impacts to the stream and aquatic resources. *[25 PA Code §105.13(g), §102.14(b)(12)]*	The crossing method for WW-T24-19001 has been revised to a flume crossing, as indicated in new impact numbers 113 and 114 within Attachment E-2 of the revised Application.

Technical Deficiency Number	Technical Deficiency Description	Response
38	In the table titled "Impact Table for Individual Permit Application", please revise for the following items: *[25 PA Code §105.13(e)]* a. Under the column Resource Name, please include the stream identifier (i.e., WW-T34-7001 for impact 1) for both stream and floodway impacts. b. Under the column Plan sheet, there are several impacts where the plan sheet number is not provided; also, please provide the drawing number from the individual impacts plans. c. Under the Waterbody crossing method, please revise to include wetlands and reference construction detail sheet.	The Chapter 105 impact tables (Attachment E-2) have been revised to include the following information: a. The Resource Name column has been revised to include the field identification of the stream within the stream and floodway names. b. Plan sheet numbers have been provided for all impacts within the Chapter 105 impact table. c. The revised Application includes an updated Chapter 105 impact table (Attachment E-2), which includes correct references to the Chapter 105 impact drawings.
39	In response to comment #1, please revise all applicable tables, wetland delineation report/data sheets, environmental assessment discussions, tables and mitigation plans to reflect all proposed impacts. *[25 PA Code §105.13(e)]*	The revised Application provides field-verified data for 100 percent of Wyoming County, and all applicable tables, wetland delineation report/data sheets, environmental assessment discussions, tables and mitigation plans have been updated to reflect all proposed impacts. The revised Application includes impacts evaluated from additional survey to date, for the entirety of the Project within Wyoming County. There are no mitigation site impacts in Wyoming County. The PRM Plans are provided as Attachment Q-2.

Technical Deficiency Number	Technical Deficiency Description	Response
40	In Enclosure D, Section B4a and b, the report states "some wildlife species that rely on forested habitats may be negatively affected by the loss of forest". Please provide further discussion on these impacts and a determination if the impacts are or will be adverse. If a conclusion of the impacts is not adverse, please provide an analysis to support your conclusions. *[25 PA Code §105.14(b)(12)]*	Attachment L-5, (Enclosure D), Sections B4a and b has been updated to include further discussion of wildlife impacts from the loss of forest. Refer to the response for Technical Deficiency 4.

41	Please provide a revision to the environmental assessment addressing all points found at 25 PA Code § 105.18a(a),(b) by providing additional information or footnoting the already provided information.	The EA (Attachment L-5) has been as per 25 PA Code § 105.18a(a),(b). The following references provide the information required under Section 105.18a. Permitting of structures and activities in wetlands (a) Exceptional Value Wetlands (1) See Attachment L-5, Section B1 (2) See Attachment P-1 (3) See Attachment P-1 (4) See Attachment L-5, Section B3 (5) See Attachment L-5, Section B2 and Section B3 (6) See Attachment L-5, Section D (7) See Attachment L-5, Section B-1 and Attachments Q-1 and Q-2. (b) Other Wetlands (1) See Attachment L-5, Section B1 i) See Attachment E-2 and H-2. ii) See Attachment L-2 iii) See Attachments G-1 through G-5, L-2, L-5, Q-1, and Q-2. iv) See Attachment G (2) See Attachment P-1 and Attachment L-5, Section D (3) See Attachment P-1 (i) See Attachment P-1 (ii) See Attachment P-1 (A) See Attachment P-1 (B) See Attachment P-1 (4) See Attachment L-5, Section B2 and Section B3 (5) See Attachment L-5, Section B2 and Section B3 (6) See Attachment L-5, Section D (7) See Attachment L-5, Section B-1 and Attachments Q-1 and Q-2.

Technical Deficiency Number	Technical Deficiency Description	Response
42	Revise Enclosures C&D to assess the condition of, and impacts to forested and scrub shrub riparian areas and the habitat, water quality, and other impacts on watercourses for each watercourse crossing. In general, the DEP recommends evaluating the riparian areas from the top of bank landward 100ft, and if the area utilized is less than 100ft justification should be given as to why. The application should be revised to replant the vegetation lost in both permanent and temporary ROW and workspaces. Alternatively, where it cannot be replaced and provided permanent protection, provide details on why it cannot be replaced and provide compensatory mitigation for the impacts and discuss the impacts to the watercourses in the Environmental Assessment, including water quality impacts. *[25 PA Code §105.13(e)(1)(x) & §105.14(b)(4) & §105.14(b)(11) & §105.14(b)(l2) & §105.14(b)(14) & §105.15a) & §105.15(a)(1) & §105.15(b) & §105.16(d) & DEPs Riparian Forest Buffer Guidance, Document# 394-5600-001] [Sweeney, B.W., and Newbold, J.B., Streamside Forest Buffer Width Needed to Protect Stream Water Quality, Habitat, and Organisms; A Literature Review, Journal of the American Water Resources Association, Volume 50, No. 3., 2014]* a. To aid in evaluating the condition of and change in condition to watercourses and wetlands, the PA DEP recommends utilizing the Draft Pennsylvania Riverine Condition Level 2 Rapid Assessment Protocol and the Draft Pennsylvania Wetland Condition Level 2 Rapid Assessment Protocol. This protocol is not for identifying the functions and values of the resources, but rather is utilized to assess the current and proposed conditions of the resources utilizing current environmental principles. While the Protocols arc not final, the DEP encourages their use. *[25 PA Code §105.14(a) & §105.14(b)(4) & 105.14(b)(13) & §105.14(b)(12) & §105.15(a) & §105.15(a)(1) & §105.15(b) & §105.18a(a)(1) & §105.13(e)(1)(x)]*	Enclosures C and D (Attachments L-4 and L-5) of the revised Application include an evaluation of the existing condition of and impacts to forested and scrub shrub riparian areas. A Riparian Area Impact Assessment and Restoration Plan for the Project area in Wyoming County is provided in Attachment L-5, Appendix L-2. Refer to the responses to technical deficiencies 10 and 11.

Technical Deficiency Number	Technical Deficiency Description	Response
43	Enclosure D, Item B2d and e of the Environmental Assessment states that "the project is not expected to impact any potable water intakes or public water supplies which rely on groundwater resources." However, there is no reference to public water supplies utilizing surface water intakes. Please revise your Enclosure D to address any public water supplies impacting surface water resources. *[25 PA Code §105.13(e)(1)(x)]*	Transco identified potable and non-potable surface water intake structures in proximity to the Project in Wyoming County using eMapPA. Enclosure D (Attachment L-5), Items B2d and e of the revised Application has been updated to address public water supplies.

44	Specific to the PRM Plan *[25 PA Code §105.13(e)(1)(ix), §105.20a, 105.21(a)(1)]*: a. Please provide a discussion on how the PRM Plan will establish and provide for impacted functions and values along the pipeline ROW. b. While the Department understands that RES will implement and conduct monitoring and maintenance of the mitigation area on the Transcontinental Gas Pipe Line Company's behalf, Williams Transco, as the permittee, will ultimately be responsible for the establishment of the mitigation area. Revise the mitigation plan report to clearly reflect this.	a. The United States Army Corps of Engineers *Highway Methodology Workbook Supplement: Wetland Functions and Values* (Supplement, 1993) was used to evaluate the functions and values of the wetlands at the impact site and the PRM sites. The Supplement is a qualitative approach to describing the physical characteristics of and identifying the functions and values exhibited by a wetland. The *Wetland Function-Value Evaluation Form* in the Supplement was completed at the PRM Sites in order to capture the existing or pre-restoration conditions at the PRM Sites as well as the anticipated ecological lift the site will experience as a result of the restoration activities. The baseline conditions of the existing wetlands at the PRM Sites already represent a functional uplift with respect to the functions and values as compared to the impacted wetlands for which the PRM Sites will be providing mitigation. The functional uplift will further be improved through the proposed restoration efforts. The wetland functions and values assessments performed at the Project impact locations and the PRM Sites indicate that the mitigation site, once restored, will compensate for and replace the functions and values impacted as a result of the Project by providing improved wildlife habitat, flood flow alteration, and nutrient removal/retention (the top three functions and values lost as a result of Project construction) at comparatively high levels (see Attachment Q-1).

		Towanda Creek PRM Site: Currently, the existing condition of the land within the proposed Towanda Creek PRM Site exists in a degraded state. Environmental resources including wetlands and waters within the PRM Site are currently surrounded by active agricultural land and continue to be degraded by the surrounding landscape uses. Over time, agricultural practices have filled in and disconnected hydrology to historic headwater wetland areas. Existing vegetation includes non-native Eurasian pasture grasses and invasive multiflora rose (*Rosa multiflora*). Based on the USACE Supplement methodology for identifying wetland functions and values, the wetlands within the PRM Site are currently collectively suitable for eight functions and values (Attachment Q-2, Appendix F: Wetland Functions and Values Assessment Forms). Given the current degraded state of the aquatic resources on-site, only four of the eight collective suitable functions and values (including groundwater recharge/discharge, flood flow alteration, sediment/toxicant retention, and wildlife habitat) are considered principal functions across the larger system. Post restoration, it is anticipated that the wetlands within the PRM Site will be collectively suitable for nine functions and values, of which six will be performing at principal levels (these include the four that were assessed as being principal prior to restoration activities, in addition to nutrient removal and sediment/shoreline stabilization). As such, the PRM Site will exhibit an ecological uplift that will not only

		enhance the existing principal functions and values, but will also provide additional principal functions and values. Ecological functionality is therefore expected to improve considerably as a result of the proposed restoration efforts. Farming activities such as yearly discing and associated soil erosion have caused soil to slump off of steeper convex hill slope areas into the toe of slope concave areas where the eroded sediment has settled out. Grading in the proposed wetland re-establishment areas will remove this accumulated soil from the relatively flat valley bottom back towards the concave toe of slopes, re-establishing grades consistent with the grades of the existing wetland resources. This should ensure that the re-established headwaters' depressional wetlands have adequate hydrology while also optimizing storm water infiltration and storage in this headwaters system, improving the groundwater recharge/discharge and floodflow alteration functions. Over time as the re-established wetlands mature into a forested state, they will restore additional sediment/toxicant retention, nutrient removal, and sediment stabilization functionality to the system. The on-site stream will be planted with live stakes to provide stream bank stabilization and vegetative enhancement, further improving sediment/toxicant removal and sediment stabilization function to on-site aquatic resources as the live stakes develop into mature trees. Removing invasive and non-native vegetation and re-planting the PRM Site

		with a native-community will increase the vegetative diversity and density of the PRM Site, enhancing the quality and quantity of wildlife habitat available within the PRM Site. Native plantings and seeding proposed across the entire PRM Site will improve the effectiveness of the wetlands and reduce flood damage by improving water retention for prolonged periods following precipitation events and gradually releasing floodwaters. Increased vegetative diversity, and density will facilitate the retention of greater volumes of water, sediment, nutrients and pathogens than under normal or average rainfall conditions, supporting additional stability and buffering capacity of the wetland ecological system. Post restoration, the PRM Site wetlands will be significantly more effective in nutrient removal/retention/transformation as they will be better able to trap nutrients from surface runoff and process them into other forms or trophic levels. Enhancement plantings will include larger trees and shrubs, which will more effectively withstand larger flood events and erosive stresses. The post-restoration wetland system will exhibit a diverse plant community structure and will offer a greater and wider range of usable products for wildlife, improving production export functionality. Although the PRM Site is located on private land and will not likely be accessible to the public, Towanda Creek is classified as a trout-stocked migratory fishery, with a portion of the creek upstream of the PRM Site designated as approved trout waters. The PRM Site therefore plays an important role

		in the greater ecological system and watershed. Transco's subcontractor evaluated the functions and values of the pre- and post-restoration functions and values of the PRM Site, and applied a ratio-based methodology to ensure that the PRM Site will provide sufficient acreages of mitigation to meet the functional replacement needs of the Project. The wetland functions and values assessments performed at the Project impact locations and the Towanda PRM Site indicate that the mitigation site, once restored, will replace the primary functions and values impacted as a result of the Project by providing improved wildlife habitat, flood flow alteration, and nutrient removal at high levels. In addition to replacing the impacted functions and values, the Towanda Creek PRM Site will provide three additional functions and values – groundwater recharge/discharge, sediment/toxicant removal, and sediment/shoreline stabilization. Briar Creek PRM Site: Currently, the existing condition of the land within the proposed Briar Creek PRM Site exists in a degraded state. Environmental resources including wetlands and waters within the Briar Creek PRM Site are currently surrounded by active agricultural land and continue to be degraded by the surrounding landscape uses. The majority of the Briar Creek PRM Site is heavily colonized by invasive and/or non-native species including reed canary grass (*Phalaris arundinacea*) Japanese stiltgrass (*Microstegium vimineum*), multiflora rose

		(*Rosa multiflora*), and oriental bittersweet (*Celastrus orbiculatus*). In the uplands surrounding the Briar Creek PRM Site, invasive and/or non-native species threatening the site include garlic-mustard (*Alliaria petiolata*), multiflora rose, border privet (*Ligustrum obtusifolium*), and reed canary grass. By following the USACE Supplement for identifying wetland functions and values, it was determined that the complex of hydrologically connected wetlands identified within the PRM Site are currently *collectively* suitable for eight functions and values (Appendix F: Wetland Function and Values Assessment Forms). Given the current degraded state of the wetland complex and its immediate surroundings, only six of the eight *collective* suitable functions and values (of which include flood flow alteration, fish and shellfish habitat, sediment/toxicant retention, sediment stabilization, and wildlife habitat) are considered principal functions across the larger wetland complex. Post restoration, it is anticipated that the wetlands within PRM Site will be collectively suitable for eleven functions and values, of which eight of those will be performing at principal levels (these include the six that are principal prior to restoration activities, in addition to the following: nutrient removal, production export, and uniqueness/heritage). As such, PRM Site will exhibit an ecological uplift that will not only enhance the existing principal functions and values, but will also allow the wetland to exhibit additional

		principal functions and values. Current functionality is expected to improve considerably as a result of restoration efforts. Removing invasive and non-native vegetation and re-planting the PRM Site with a native-community will increase the vegetative diversity and density of the PRM Site. This restoration activity proposed for the PRM Site will most notably enhance the quality and quantity of wildlife habitat available within the PRM Site. Native plantings and seeding proposed across the entire PRM Site will improve the effectiveness of the wetland in reducing flood damage by increasing water retentions for prolonged periods following precipitations events and the gradual release of floodwaters. Increased vegetative diversity, including plant community structure, and density will be able to retain higher volumes of water than under normal or average rainfall conditions, supporting additional stability of the wetland ecological system and its buffering characteristics, and thereby providing social and economic value related to erosion and flood prone areas. Sources of excess sediment exist surrounding the wetland, and with the proposed restoration activities, this wetland will be better capable of reduces or preventing degradation of water quality as it will act as a trap for sediments, toxicants and/or pathogens in runoff in runoff water. Post-restoration, wetlands at the PRM Site will become significantly more effective for nutrient removal/retention/transformation as they will be better able to trap nutrients in runoff

		water and process then into other forms or trophic levels. The enhancement and establishment of improved vegetative density and diversity will be enable the wetland to utilize the nutrients. Enhancement of the wetland and riparian habitats surrounding the waters within the PRM Site will improve the effectiveness as a streambank stabilizer, complete with large trees and shrubs that post-restoration, will be more effectively able to withstand larger flood events or erosive incidents. Post restoration, the wetland will exhibit a higher degree of plant community structure, density and diversity, and will offer greater usable products for living organism, thereby improving production export functionality. Although the PRM Site is located on private land and will likely not be accessible to the public, the PRM Site is associated with special value streams (naturally reproducing trout streams, trout stocked streams) and thereby plays an important role in the ecological system of the areas. (See Attachment Q-1.) b. As stated in *Section 1.0: Introduction* of the PRM Plan, *"Transco's subcontractor will be responsible for implementation of the PRM Plan in addition to meeting performance standards, monitoring and long-term management of the property as described in 33 CFR §332.3(i).* The Permittee will remain responsible for legal duties and responsibilities associated with wetland mitigation as necessary in accordance with PADEP Chapter 105 Rules and Regulations regarding wetland replacement criteria guidelines and 33 CFR §332." These legal duties and

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		responsibilities include establishment of the mitigation area.

Lancaster County TD Number 58	It appears that many of the stream crossings can be accessed from both banks, thereby eliminating the need for temporary road crossings and limiting impacts to the watercourses. Revise the alternatives analysis to explain why each proposed temporary road crossing is necessary. *[25 PA Code §105.13(e)(1)(viii)]*	While many of the streams could be accessed from both banks, this is not practical for the linear and sequential nature of pipeline construction. The bridge equipment crossings are essential for safe and efficient stream crossing installations. The bridge equipment crossings are necessary to install the prefabricated pipe segments for each stream crossing, as backhoes and side boom pipe-layers traverse the equipment bridges to safely and efficiently lower in the prefabricated pipe segment. The prefabricated pipe segment is typically covered with concrete coating and set-on concrete weights to provide for negative buoyancy after installation. These weights and coatings are extremely heavy, and would be out of reach for the equipment to install them safely without the use of the bridge equipment crossings. The prefabricated pipe segments cannot be drug into place from either side, as this would damage the protective coating. Coating damage can lead to accelerated corrosion and the potential for leaks to develop. Furthermore, the bridge equipment crossings are necessary to maintain a contiguous pipeline construction corridor. If the construction equipment had to turn around ("move-around") at each stream crossing, larger additional workspaces and impacts would be required to facilitate bi-directional traffic. Typically, move-around workspaces are approximately 100' wide X 200' long, adjacent to the pipeline temporary workspace needed for the stream crossing. This would result in additional impacts to forested areas and/or agricultural lands. Additionally, equipment move-arounds require each piece of equipment to be loaded onto trailers and

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		trucked around from one road crossing to the next. This results in extended road use and subsequent damages as well as increased road traffic, creating additional hazards to public road users and creating slow traffic conditions as each piece of equipment is loaded and unloaded from the road. A typical drawing depicting the additional temporary workspace for equipment turnaround is attached to this Technical Deficiency response for reference.