



Transcontinental Gas Pipe Line Company, LLC

Response to Technical Deficiency
Pennsylvania Department of Environmental Protection

Atlantic Sunrise Project

November 22, 2016

DEP Application No. E36-947, APS No. 880147
Conestoga, Drumore, Manor, Martic, Mount Joy,
Rapho, Pequea, Eden, East Donegal, and West
Hempfield Townships and Borough of Mount Joy,
Lancaster County

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

Technical Deficiency Number	Technical Deficiency Description	Response
1	<p>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. <i>[25 PA Code §105.13(e)]</i></p>	<p>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 91 percent of Lancaster County. Transco continues to coordinate with landowners to obtain survey access for the remaining four percent of the project area, including the no survey parcels in Lancaster County, and will periodically file updated survey information for survey in Lancaster County 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.</p> <p>For mitigation planning and Project design, remote sensed (RS) data is included in the impact table in Attachment E-3 and on the impact mapping in Attachment H-2.</p> <p>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.</p>

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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. Clarify, 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. <i>[25 PA Code §105.13(e)(1)(x)]</i>	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. <i>[25 PA Code §105.301(9)]</i>	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.

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4	<p>Provide agency clearance letters and copies of correspondence from the Pennsylvania Fish and Boat Commission (PFBC), Pennsylvania Game Commission (PGC), Pennsylvania Department of Conservation and Natural Resources (PDCNR), and U.S. Fish and Wildlife Service (USFWS) for the proposed pipeline, including no-access parcels, and the mitigation area, and identify any mitigation measures that are recommended or required. Please be advised that additional deficiencies may be generated pending responses from resource agencies. [25 PA Code §105.14(b)(4)]</p>	<p>The revised Application includes a County-specific summary of correspondence received from the 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.</p> <p><u>Hibred Farms PRM Site:</u> The PNDI receipt for the Hibred Farms Permittee-Responsible Mitigation (PRM) Site indicated that no known impacts to threatened and endangered species and/or special concern species and resources under jurisdiction of the PGC and PDCNR within the PRM Site; however, there may be potential impacts to threatened and endangered and/or special concern species and resources under the jurisdiction of the PFBC and USFWS within the PRM Site. The PFBC and USFWS correspondence is provided in Attachment Q-2, Appendix E.</p>

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5	<p>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)]</p>	<p>The revised Application includes a summary of coordination with the PHMC for the 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.</p> <p>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. Transco will survey, document, report, and request clearance for all inaccessible properties.</p> <p><u>Hibred Farms PRM Site:</u> In a letter dated May 17, 2016, the PHMC indicated that although historic buildings, structures, and/or archaeological resources may be located in or near the Project area, no effects on these resources are anticipated as a result of the Hibred Farms PRM Site activities. The final clearance letter is provided in Attachment Q-2, Appendix E.</p>
6	<p>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)]</p>	<p>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).</p>

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7	Explain how the final "restored" wetland elevations will be determined. <i>[25 PA Code §105.13(e)(1)(ix)]</i>	The revised Application (Attachment L-5, Enclosure D, 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.
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. <i>[25 PA Code §105.13(e)(1)(viii), §105.18a]</i>	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.

<p>9</p>	<p>The following deficiencies relate to the proposed HDD. [25 PA Code §105.3(a)(4), §105.11(a), §105.13(e)(1)(i), §105.13(e)(1)(iii), §105.13(e)(1)(x), §105.14(b)(4), §105.301(1), §105.301(7), §105.301(5), §105.301(3), §105.151(1) and (3), §105.161(a)(3) and (4)]:</p> <ul style="list-style-type: none"> a. Provide plans and cross sections indicating pipe size, placement, and locations for all wetlands, streams, floodways and floodplains where the testing discharges are proposed. The cross sections should depict, at a minimum, the proposed structures, resource boundaries, stream bed and banks, water surface elevation. b. Provide a description and plans of how the water will be discharged, 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. c. Provide cross sections, profiles, and hydraulic analysis for piping placed in existing stream culverts and along and within stream channels. d. Identify on the plans the location of the proposed HDD electric guide wire, and provide an analysis to show that the wire will not present a hazard to river users. 	<ul style="list-style-type: none"> a. All proposed discharge locations will be submitted to PA DEP as part of a PAG-10 Discharge Permit NOI Application. . It is anticipated that this application will be submitted to the PA DEP in November2016. There is one outfall location, Outfall 017, which is proposed to be used in the vicinity of the HDD. The location of Outfall 017, and all other proposed discharge locations, hay bale discharge structure details, and the associated flow directions of the discharged water, have been incorporated into the existing Chapter 102 (Attachment M) and Chapter 105 (Attachment H-2) drawings. These drawings currently show the locations of all wetlands, streams, floodways, and floodplains where the testing discharges are proposed. b. Details of the hydrostatic test water discharge equipment and structures will be provided in the PA DEP PAG-10 National Pollutant Discharge Elimination System Permit NOI Application. The equipment and structures will only be in place as long as necessary to conduct the required tests and discharge the water. Hay bale discharge structures will be used according to BMPs. Details of the hay bale structures are included in BMPs and Quantities Plan Set within Attachment M - provided under separate cover). c. No piping to be used for discharge of hydrostatic test water will be placed in existing stream culverts or stream channels. Therefore, no hydraulic analysis or permitting were required (see Attachment L-5, Section D).
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		<p>d. Transco proposes to cross WW-T20-1001 (the Conestoga River) using an HDD. A tracking system is used to track the position of the drill head throughout the drill. This tracking system involves placing a wire along the ground surface, creating a magnetic field. Tracking wires will be weighted, allowing them to lie on the streambed, and out of range of boat traffic; and therefore, the Project will not obstruct use of WW-T20-1001. The location of guidewires is depicted on the Chapter 105 impact mapping in Attachment H-2.</p> <p>Transco prepared and submitted an Aids to Navigation (ATON) permit to the PFBC on October 4, 2016. The Aton approval will be provided to PA DEP upon receipt.</p>
10	<p>Public water supplies are located within in the vicinity of the proposed pipeline. The application states that there will not be any impacts the water supplies as a result of the pipeline. Provide the supporting documentation that led to this conclusion. Additionally, we recommend that you contact any public water supplier in order to help determine if your project will impact the public water supplier and subsequently provide documentation of interactions, through correspondence, with each supplier. Ensure all Public water supplies in the vicinity of the proposed pipeline are identified within the location map. Enclosed are instructions on how to utilize PA DEP's eMapPA to identify public water supplies in the vicinity of your project. <i>[25 PA Code §105.13 (e)(1)(ii)]</i></p>	<p>Transco identified potable and non-potable surface water intake structures in proximity to the Project in Lancaster County using eMapPA. Attachment L-5, Enclosure D, Items B2d and e of the revised Application have been updated to address public water supplies and includes a table of correspondence with the applicable Water Authorities and the Safe Harbor Corporation. The Pennsylvania Project Location Map (Attachment I-2) has been updated to include the identified surface water intake that is discussed in the revised Attachment L-5, Section B2d and e.</p>

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11	<p>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), <i>Environmental Assessment Form Instructions</i>]</p>	<p>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, Enclosure D, Section B1 has also been revised to reflect this.</p> <p>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.</p>

<p>12</p>	<p>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)]</p>	<p>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</p>
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		<p>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.</p> <p>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.</p>

<p>13</p>	<p>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)]</p>	<p>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</p>
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		<p>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.</p> <p>Transco is proposing compensatory off-site mitigation for Project-related impacts to PFO and 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.</p>
14	<p>Several streambank stabilization methods are proposed in the E&S Control Plans. Identify where each type of stabilization measure will be utilized. <i>[25 PA Code §105.21(a)(1)]</i></p>	<p>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.</p>
15	<p>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. <i>[25 PA Code §105.13(e)(1)(viii), §105.18(a)]</i></p>	<p>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.</p>
16	<p>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. <i>[25 PA Code §105.21(a)(1)]</i></p>	<p>The revised Application identifies bodies of water and watercourses as defined under Chapter 105.</p>

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17	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. <i>[25 PA Code §105.21(a)(1)]</i>	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, Enclosure D, Section B1 in Table L(d)-3 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 properly install the pipe.
18	An Aids to Navigation (ATON) plan may be required for this project. Contact Thomas Burrell with the Pennsylvania PFBC at 717.705.7838 regarding ATON requirements, and provide a copy of the ATON approval to the PA DEP. <i>[25 PA Code §105.14(b)(2)]</i>	In coordination with Captain Burrell (PFBC), four locations in Lancaster County will require an ATON permit; which were submitted to the PFBC on October 04, 2016 (see Attachment L-5, Enclosure D, Section B4f).
19	The Joint Permit Application Plans shall be the final plans for construction. Remove the reference to "Preliminary/Draft" from all plan sheets. <i>[25 PA Code §105.13(e)(1)(i)(C)]</i>	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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20	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. <i>[25 PA Code §105.18a]</i>	The E&S Control Plans' detail associated with trench plugs, included within the Trench Plug Installation (TP) 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.
21	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. <i>[25 PA Code §105.13(e)(1)(vii), §105.18a]</i>	<p>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.</p> <p>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.</p> <p>See also response to Technical Deficiency 15.</p>

<p>22</p>	<p>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]</p>	<p>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.</p> <p>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.</p> <p>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:</p> <ul style="list-style-type: none"> • 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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		<p>on site in case of mechanical failure;</p> <ul style="list-style-type: none"> • 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. <p>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.</p>
23	<p>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. <i>[25 PA Code §105.161]</i></p>	<p>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 22.</p> <p>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.</p>

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24	In reviewing the plans, 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. Please review and revise accordingly. Some additional guidance is available within the PA E&S Control BMP Manual. <i>[25 PA Code §105.13(e)]</i>	The Chapter 105 impact drawings have been revised to include additional trench plugs and are included within Attachment H-2 of the revised Application.

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25	<p>Provide a detailed impact map identifying all the impacts associated with the following crossings. Revise all other application documents to reflect the additional impacts. [25 PA Code §105.13(e)(1)(x)]</p> <ul style="list-style-type: none"> a. Permanent Access Road AR-LA-020 crosses waterway W W-T25-2001, shown on the ES Plan 24-1600-70-28-A/LL113_9-AR-LA-020. b. Access Road AR-LA-023.1 crosses waterway WW-T32-2002, identified on the ES Plan Sheet 24-1600-70-28-A/LL113_9-AR-LA-023.1. c. Access Road AR-LA-030 is in the floodway and crosses waterway WW-T25-4002, identified on the ES Plan Sheet 24-1600-70-28-A/LL113_9-AR-LA-030 and shown on the Topographic Project Location Key Map 24-1600-70-14-A/0.001-01, Sheet 8 of 8. d. Access Road AR-LA-033.1 is in the floodway of regulated waters as identified on the ES Plan Sheet 24-1600-70-28-A/LL113_9-AR-LA-033.1. e. ES Drawing 24-1600-70-28-A/LL113_9, Sheet 16 -There appears to be a regulated waters crossing between Stations 920+39 and 921+00. f. ES Drawing 24-1600-70-28-A/LL113_9, Sheet 22 -Verify if there is a regulated water crossing at Station 1250+00. g. The Limit of Disturbance (LOD) is within the assumed 50 foot floodway of Streams WW-T24-3001A and WW-T24-3001B as shown on ES Drawings 24-1600-70-28-A/LL113_9, Sheet 32. h. ES Drawing 24-1600-70-28-A/L113_9, Sheet 33 -Verify if there is a regulated water crossing at Station 1877+00. 	<p>Detailed impact maps for the indicated crossings have been included with the revised Application (Attachment H-2). The other impact drawings (maps) have been revised to include additional information, as requested.</p> <ul style="list-style-type: none"> a. Impact map 24-1600-70-09-A/AR-LA-020-01 depicts the impact to the waterway WW-T25-2001 due to Permanent Access Road AR-LA-020. b. Access Road AR-LA-023.1 has been removed from the project. c. Impact map 24-1600-70-09-A/AR-LA-030-01 depicts the impact to the waterway WW-T25-4002 due to Access Road AR-LA-030. Access Road AR-LA-030 is shown on Topographic Project Location Key Map 24-1600-70-14-A/0.00-01, Sheet 9 of 9. d. Impact map 24-1600-70-09-A/AR-LE-033.1-01 depicts the impact to the floodway of WW-RS-4003 due to Access Road AR-LE-033.1. e. No regulated features were delineated at this location. f. No regulated features were delineated at this location. g. Impact map 24-1600-70-09-A/34.74-01 depict floodway impact of stream WW-T24-3001 and WW-T24-3001A. Stream WW-T24-3001B no longer impacted. h. No regulated features were delineated at this location.

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26	<p>Provide a Topographical Project Location Key Map for the following access roads and contractor staging area. Revise all other application documents to reflect any additional impacts. [25 PA Code §105.13(e)(1)(x)]</p> <ul style="list-style-type: none"> a. Access Road AR-LA-026.2.1, shown on ES Drawing 24-1600-70-28-A/LL113_9-AR- LA-026.2.1. b. Access Road AR-LA-026.4, shown on ES Drawing 24-1600-70-28-A/LL113_9-AR-LA- 026.4. c. Access Road AR-LA-023.2 and Contractor Staging Area L-1-006.3, shown on ES Drawing 24-1600-70-28-A/LL113_9-AR-LA-023.2: d. Access Road AR-LA-029.3, shown on ES Drawing 24-1600-70-28-A/LL113_9-AR-LA-029.3. 	<p>A Topographical Project Location Key Map (Attachment H-2) has been included with the revised Application. Other Application documents have been revised to reflect additional impacts, as requested.</p> <ul style="list-style-type: none"> a. Access Road AR-LA-026.2.1 is shown on Topographical Project Location Key Map 24-1600-70-14-A/0.00-01, sheet 7 of 9. b. Access Road AR-LA-026.4 is shown on Topographical Project Location Key Map 24-1600-70-14-A/0.00-01, sheet 8 of 9. c. Access Road AR-LA-026.2.1 is shown on Topographical Project Location Key Map 24-1600-70-14-A/0.00-01, sheet 7 of 9. d. Access Road AR-LA-026.4 is shown on Topographical Project Location Key Map 24-1600-70-14-A/0.00-01, sheet 8 of 9.

<p>27</p>	<p>Provide an Impact Map for the following items. Revise all other application documents to reflect the additional impacts. [25 PA Code §105.13(e)(1)(x)]</p> <ul style="list-style-type: none"> a. The culvert replacement at Stream W W-TI 0-004, shown on ES Drawing 24-1600-70-28-A/LL113_9, Sheet 4 of 34. b. For Stream WW-RS-001, shown on ES, shown on ES Drawing 24-1600-70-28- A/LL113_9 sheet 5 of 34. c. For Stream WW-RS-1002, shown on ES Drawing 24-1600-70-28-A/LL113_9, Sheet 9 of 34. d. For Stream WW-RS-1001 and Wetland W-RS-1003, shown on ES Drawing 24-1600-70- 28-A/LL113_9, Sheet 11 of 34. e. For Stream WW-RS-T49-1001, shown on ES Drawing 24-1600-70-28-A/LL113_9, Sheet 12 of 34. f. For Stream WW-RS-1009, shown on ES Drawing 24-1600-70-28-A/LL113_9, Sheet 13 of 34. g. For Stream WW-RS-1005, shown on ES Drawing 24-1600-70-28-A/LL113_9, Sheet 14 of 34. h. For Stream WW-RS-2002, shown on ES Drawing 24-1600-70-28-A/LL113_9, Sheet 20 of 34. i. For Wetlands W-RS-2001 and W-RS-2001A, shown on ES Drawing 24-1600-70-28- A/LL113_9, Sheet 21 of 34. j. For Stream WW-RS-T49-2001 shown on ES Drawing 24-1600-70-28-A/LL113_9, Sheet 22 of 34. 	<p>Detailed impact maps for the indicated locations are included with the revised Application (Attachment H-2). The other impact drawings (maps) have been revised to include additional information, as requested.</p> <ul style="list-style-type: none"> a. Impact map 24-1600-70-09-A/M-0184-0.85-01 depicts the impact to stream WW-T10-004. General Note No. 3 on this Impact Map describe the culvert replacement information. b. Stream WW-RS-001 has been field delineated with revised stream ID WW-T62-001. Impact map 24-1600-70-09-A/5.34-01 depicts the impact to stream WW-T62-001. c. The proposed CPLS alignment has been relocated due to MOC 405. This relocation results in avoiding impacts to stream WW-RS-1002. Therefore, an impact map for stream WW-RS-1002 has not been provided. d. Impact map 24-1600-70-09-A/11.11-01 depicts the impact to stream WW-RS-1001 and wetland W-RS-1003. e. Stream ID WW-RS-T49-1001 has been revised to WW-T49-1001 based on field survey of this feature. Impact map 24-1600-70-09-A/M-0248-0.16-01 depicts the impact to stream WW-T49-1001. f. Impact map 24-1600-70-09-A/M-0248-0.33-01 depicts the impact to stream WW-RS-1009. g. Stream WW-RS-1005 does not cross the proposed CPLS workspace. This stream turns into stream WW-T36-1007 before being impacted by the proposed CPLS workspace. Impact
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Technical Deficiency Number	Technical Deficiency Description	Response
		<p>map 24-1600-70-09-A/14.64-01 depicts the impact to stream WW-T36-1007.</p> <p>h. Impact map 24-1600-70-09-A/21.77-01 depicts the impact to stream WW-RS-2002.</p> <p>i. Wetland W-RS-2001 is not present at this location. Wetland W-RS-2001A and W-RS-2001C was updated to one wetland, W-RS-2001C-2. Limits of Disturbance have been modified to eliminate impacts to Wetland W-RS-2001C-2; therefore, an impact map for this wetland is not provided.</p> <p>j. Stream WW-RS-T49-2001 has been revised to WW-T49-2001 based on field survey of this feature. Impact map 24-1600-70-09-A/M-0209-0.30-01 depicts the impact to stream WW-T49-2001.</p>

<p>28</p>	<p>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 applicable to eliminated or reduce project impacts. It appears that the following impacts can be avoided or reduced for the following locations. It is shown to be possible for several other resource crossings. Revise the plans, incorporate these alternatives to avoid or limit the impacts or provide justifications for why the avoidance or reduction cannot be performed at these locations. [25 PA Code §105.13(e)(1)(viii)] §105.13 (e)(1)(x)], §105.21(a)(1)]</p> <ul style="list-style-type: none"> a. Impact Map 24-1600-70-20-A/M-0147-0.58-01, Wetland W-T3 1-001B - can be avoided by reducing the LOD. b. Impact Map 24-1600-70-09-A/7.15-01, Stream WW-T10-100 - can be reduced by reducing the LOD, as is shown to be possible through Wetland W-T110-101 and Stream WW-T10-004. c. Impact Map 24-1600-70-09-A/8.20-01, Stream WW-T31-003 - can be avoided by reducing the 100 foot LOD width to 90 feet or 75 feet. d. Impact Map 24-1600-70-20-A/07.47-01, Wetland W-T20-002 - can be avoided by reducing the 100 foot LOD width to 90 feet or 75 feet, and Wetland T20-002 - can be avoided by shifting the pipeline to the northeast. e. Impact Map 24-1600-70-09-A/07.47-01, Sheet 1 of 3, Stream WW-T20-002 -can be reduced by limiting the ROW to 75 feet. f. Impact Map 24-1600-70-09-A/8.20-01, Stream WW-T35-1001 - can be reduced by moving the pipeline to the south. g. Stream WW-T35-1001 -can be avoided by reducing the 100 foot LOD width to 90 feet or 75 feet. h. Impact Map 24-1600-70-09-A/9.59-01, Stream WW-T10-1001 - could be reduced by shifting the proposed pipeline route to the southwest. The impact can be avoided by reducing the 100 foot LOD width to 90 feet or 75 feet. i. Impact Map 24-1600-70-09-A/9.96-01, Stream WW-T10-1002 - can be avoided by reducing the 100 foot LOD width to 90 feet or 75 feet. j. Impact Map 24-1600-70-09-A/9.96-01, Stream WW-T10-1003 - can be avoided by reducing the 100 foot LOD width to 90 feet or 75 feet 	<p>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. In locations where LOD reductions were not feasible, Transco has provided justifications within the aforementioned Attachment.</p> <p>Responses to each request in technical deficiency #28 are also provided below.</p> <ul style="list-style-type: none"> a. LOD has been modified to eliminate impacts to this wetland. b. LOD has been reduced to 90' to minimize impacts to WW-T10-100. c. The full LOD is needed at this crossing due to a steep and rocky slope west of the stream, adjacent open cut road crossing, and the feature being a navigable water requiring Aids To Navigation (ATON). d. LOD has been modified to eliminate impacts to this wetland. e. LOD has been modified to eliminate impacts to this stream. f. This stream is no longer impacted based on a route adjustment. g. This stream is no longer impacted based on a route adjustment. h. This stream is no longer impacted based on a route adjustment.
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	<p>k. Impact Map 24-1600-70-09-A/10.88-01, Stream WW-T35-1002 - can be avoided by reducing the 100 foot LOD width to 90 feet or 75 feet.</p> <p>l. Impact Map 24-1600-70-09-A/9.96-01, Stream WW-T10-1002 -- can be avoided by reducing the 100 foot LOD width to 90 feet or 75 feet.</p> <p>m. Impact Map 24-1600-70-09-A/9.96-01, Stream WW-T10-1003 -- can be avoided by reducing the 100 foot LOD width to 90 feet or 75 feet.</p> <p>n. Impact Map 24-1600-70-09-A/10.88-01, Stream WW-T35-1002 - can be avoided by reducing the 100 foot LOD width to 90 feet or 75 feet.</p> <p>o. Impact Map 24-1600-70-09-A/13.88-01, Stream WW-T36-1006, - could be minimized by reducing the LOD from the center of the pipeline.</p> <p>p. Impact Map 24-1600-70-20-A/7.10-01, Wetland W-T110-100 can be avoided by reducing the LOD to 55 feet from the proposed pipe, as is shown to be possible through Wetland W-T10-101. Wetland W-T10-101A could be reduced by limiting the temporary construction right-of-way (ROW) to 75 feet as is proposed at stream crossing WW-T10- 004 and W-T10-100 and W-T10-101A could be reduced or eliminated by moving the proposed pipeline location to the east.</p> <p>q. Impact Map 24-1600-70-09-A/08.00-01, Sheet 1 of 2, Stream WW-T31-002A - can be avoided by shifting the pipeline to the southwest.</p> <p>r. Impact Map 24-1600-70-09-A/10.43-01, Stream WW-T36-1003 - can be avoided by further reducing the LOD.</p> <p>s. Impact Map 24-1600-70-09-A/10.88-01 permanent impacts to the watercourse could be reduced by shifting the proposed pipeline to the north or south.</p> <p>t. Impact Map 24-1600-70-09-A/11.00-01, Stream WW-T35-1002A - the north-eastern impact can be avoided by further reducing the LOD.</p> <p>u. Impact Map 24-1600-70-20-A/13.60-01, Wetland W-T36-1002 - the north-eastern impact can be avoided by revising the LOD.</p> <p>v. Impact Map 24-1600-70-09-A/13.62-01, Stream WW-T93-1001 and Stream WW-T92- 1002 - could be minimized by reducing the LOD from the center of the pipeline or by shifting the pipeline to the southeast.</p>	<p>i. This stream is no longer impacted based on a route adjustment.</p> <p>j. LOD has been reduced to 90' to minimize impacts to WW-T10-1003. Further LOD reduction would not result in avoidance of impacts to this stream.</p> <p>k. LOD has been reduced to 90' to minimize impacts to WW-T35-1002. Further LOD reduction would not result in avoidance of impacts to this stream.</p> <p>l. This stream is no longer impacted based on a route adjustment.</p> <p>m. LOD has been reduced to 90' to minimize impacts to WW-T10-1003. Further LOD reduction would not result in avoidance of impacts to this stream.</p> <p>n. LOD has been reduced to 90' to minimize impacts to WW-T35-1002. Further LOD reduction would not result in avoidance of impacts to this stream.</p> <p>o. LOD has been reduced to 90' to minimize impacts to WW-T36-1006.</p> <p>p. LOD has been modified to eliminate impacts to wetland W-T10-100. LOD reduced to 90' to minimize impacts to W-T10-101. Further LOD reduction was not possible due to adjacent stream and road crossings, and steep topography on both sides of the wetland. The pipeline route was not shifted east to avoid wetland W-T10-101 as the current route follows an existing overhead transmission line ROW, and deviating from this ROW would</p>
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	<p>w. Impact Map 24-1600-70-09-A/13.62-01, Stream WW-T93-1001 and Stream WW-T92-1002 - could be reduced by shifting the proposed pipeline to the south.</p> <p>x. Impact Map 24-1600-70-09-A/13.70-01, Stream WW-T36-1004, - could be minimized by reducing the LOD from the center of the pipeline.</p> <p>y. Impact Map 24-1600-70-20-A/13.72-01, Wetland W-T36-1003A and Wetland W-T36- 1003C - could be minimized by reducing the LOD from the center of the pipeline.</p> <p>z. Impact Map 24-1600-70-20-A/14.26-01, Wetland W-T36-1004 - could be minimized by relocating the pipeline to the northeast.</p> <p>aa. Impact Map 24-1600-70-20-A/14.26-02, Wetland W-T36-1004-1 and Wetland W-T36-1004-2 - could be minimized by reducing the LOD from the center of the pipeline. Wetland W-T36-1004-1 and Wetland W-T36-1004-2 - could be minimized by relocating the pipeline to the south.</p> <p>bb. Impact Map 24-1600-70-09-A/14.64-01, Stream WW-T36-1007 - could be minimized by reducing the LOD from the center of the pipeline.</p> <p>cc. Impact Map 24-1600-70-09-A/15.33-01, Stream WW-T20-1005 - could be minimized by reducing the LOD from the center of the pipeline. Stream WW-T20-1005 - could be minimized by relocating the pipeline to the northeast or southwest.</p> <p>dd. Impact Map 24-1600-70-09-A/17.01-01, Stream WW-T24-1001 - could be minimized by reducing the LOD from the center of the pipeline.</p> <p>ee. Impact Map 24-1600-70-09-A/18.10-01, Stream WW-T I 1-2001 - could be minimized by reducing the LOD from the center of the pipeline.</p> <p>ff. Impact Map 24-1600-70-09-A/18.85-01, Stream WW-T II-2002 - could be minimized by reducing the LOD from the center of the pipeline, or by relocating the pipeline to the east. Stream WW-T I 1-2002 - could be minimized by relocating the pipeline to the northeast.</p> <p>gg. Impact Map 24-1600-70-20-A/19.97-01, Wetland W-T32-2004 - could be minimized by relocating the pipeline to the east.</p> <p>hh. Impact Map 24-1600-70-09-A/20.01-01, Stream WW-T24-2001 - could be minimized by reducing the LOD from the center of the pipeline.</p>	<p>result in establishment of a new corridor through the riparian forest buffer of stream WW-T10-100.</p> <p>q. The pipeline route was not shifted southwest to avoid stream WW-T31-002A as this would require construction through a braided section of stream WW-T31-002, resulting in increased impacts to that stream.</p> <p>r. This stream is not impacted by the proposed alignment.</p> <p>s. The pipeline was routed in this location to follow the edge of an agricultural field and avoid impacting the riparian forest buffer of stream WW-T35-1002. Impacts would not be reduced by shifting the pipeline north; shifting the pipeline south would impact a tributary to this stream.</p> <p>t. LOD has been reduced to 75' to minimize impacts to WW-T35-1002A.</p> <p>u. LOD has been reduced to 75' to minimize impacts to W-T36-1002. The wetland extends beyond the limits of the routing corridor; therefore, further LOD reduction would not avoid impacts.</p> <p>v. LOD has been modified to eliminate impacts to stream WW-T93-1001. LOD has been reduced to 90' to minimize impacts to WW-T92-1002.</p> <p>w. LOD has been modified to eliminate impacts to stream WW-T93-1001. The pipeline was routed to avoid crossing stream WW-T92-1002 with the trench line, and to keep this stream outside of the permanent ROW.</p>
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	<ul style="list-style-type: none"> ii. Impact Map 24-1600-70-09-A/20.81-01, Stream WW-TI0-2005 - could be minimized by reducing the LOD from the center of the pipeline. jj. Impact Map 24-1600-70-20-A/21.11-01, Wetland W-T32-2001 - could be minimized by relocating the pipeline to the north. kk. Impact Map 24-1600-70-09-A/21.14-01, Stream WW-T32-2002 - could be minimized by further reducing the LOD from the center of the pipeline. ll. Impact Map 24-1600-70-09-A/22.37-01, Stream WW-TI0-2004 - could be minimized by reducing the LOD from the center of the pipeline. mm. Impact Map 24-1600-70-09-A/23.02-01, Stream WW-TI 0-2002 - could be minimized by reducing the LOD from the center of the pipeline. nn. Impact Map 24-1600-70-09-A/23.61-01, Stream WW-T42-2004 - could be minimized by reducing the LOD from the center of the pipeline. oo. Impact Map 24-1600-70-09-A/23.90-01, Stream WW-T42-2003 - could be minimized by reducing the LOD from the center of the pipeline. pp. Impact Map 24-1600-70-09-A/30.13-01, Stream WW-T31-3.003 - could be minimized by reducing the LOD from the center of the pipeline. qq. Impact Map 24-1600-70-20-A/30.40-01, Wetland W-T31-3003 - could be minimized by reducing the LOD from the center of the pipeline. rr. Impact Map 24-1600-70-09-A/30.40-01, Stream WW-T31-3003 - could be minimized by reducing the LOD from the center of the pipeline. ss. Impact Map 24-1600-70-09-A/30.63-01, Stream WWT31-3009 - could be minimized by reducing the LOD from the center of the pipeline. tt. Impact Map 24-1600-70-20-A/31.18-01, Wetland W-T31-3006 - the northern wetland impacts could be minimized by further reducing the LOD. uu. Impact Map 24-1600-70-09-A/31.59-01, Stream WW-T31-3007 - could be minimized by further reducing the eastern boundary of the LOD. vv. Impact Maps 24-1600-70-09-A/32.27-01 and 24-1600-70-20-A/32.27-01, Stream WWT31-3006 and Wetland W-T31-3004 - 	<ul style="list-style-type: none"> x. LOD has been reduced to 90' to minimize impacts to WW-T36-1004. y. LOD has been modified to eliminate impacts to this wetland. z. LOD has been reduced to 75' to minimize impacts to W-T36-1004. This linear wetland extends along the adjacent road crossing and would not be avoided by shifting the route northeast. aa. LOD has been reduced to 75' to minimize impacts to W-T36-1004-1 and 2. The pipeline was routed in this location to cross the southern margin of the wetland only. Residential areas and roads south of the current alignment prevent further relocation to the south and complete avoidance of this wetland. bb. LOD has been reduced to 90' to minimize impacts to WW-T36-1007. cc. LOD has been reduced to 90' to minimize impacts to WW-T20-1005. Impacts would not be reduced by shifting the pipeline northeast or southwest, as this would impact meandering portions of the stream, causing greater impacts. dd. LOD has been reduced to 90' to minimize impacts to WW-T24-1001. ee. LOD has been reduced to 90' to minimize impacts to WW-T11-2001. ff. LOD has been reduced to 90' to minimize impacts to WW-T11-2002. The pipeline was
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	<p>impacts to one or both of the regulated Waters could be minimized by relocating the pipeline.</p> <p>ww. Stream WW-T31-3005, Impact Map 24-1600-70-09-A/33.00-01 - could be minimized by reducing the LOD from the center of the pipeline.</p> <p>xx. Impact Map 24-1600-70-09-A/33.57-01, Stream WW-T31-3002A and Stream WWT31-3002 - could be minimized by reducing the LOD from the center of the pipeline. Stream WW-T31-3002A - could be minimized by relocating the pipeline to the southwest.</p> <p>yy. Impact Map 24-1600-70-20-A/33.62-01, Wetland W-T31-3002 and Wetland W-T31-3002-1 - could be minimized by reducing the LOD from the center of the pipeline, Wetland W-T31-3002 - could be minimized by relocating the pipeline to the southwest, Wetland W-T31-3002-1 - could be minimized by relocating the pipeline to the southwest.</p> <p>zz. Impact Map 24-1600-70-09-A/34.02, Stream WW-T31-3001 - could be minimized by reducing the LOD from the center of the pipeline.</p> <p>aaa. Impact Map 24-1600-70-20-A/34.03-01, Wetland W-T31-3001 - could be minimized by relocating the pipeline to the northeast or southwest.</p> <p>bbb. Impact Map 24-1600-70-09-A/34.47-01, Stream WW-T24-3001 - could be minimized by reducing the LOD from the center of the pipeline.</p> <p>ccc. Impact Map 24-1600-70-09-A/0.24-01, Wetland WW-T10-001A - impacts to the wetland could be avoided by shifting the pipeline to the southwest.</p>	<p>routed in this location to parallel an existing electric transmission line ROW. Shifting the route northeast would not minimize impacts to this stream as it extends well beyond the limits of the routing corridor.</p> <p>gg. The LOD was reduced to minimize impacts to this wetland. Shifting the pipeline east to further minimize or avoid impacts was not feasible as the proposed alignment is required to cross the adjacent railroad, and to complete a perpendicular crossing of nearby stream WW-T32-2003.</p> <p>hh. LOD has been reduced to 90' to minimize impacts to WW-T24-2001.</p> <p>ii. LOD has been reduced to 90' to minimize impacts to WW-T10-2005.</p> <p>jj. This wetland is no longer impacted based on a route adjustment.</p> <p>kk. This stream is no longer impacted based on a route adjustment.</p> <p>ll. LOD has been reduced to 90' to minimize impacts to WW-T10-2004.</p> <p>mm. LOD has been reduced to 90' to minimize impacts to WW-T10-2002.</p> <p>nn. LOD has been modified to eliminate impacts to this stream.</p> <p>oo. LOD has been reduced to 90' to minimize impacts to WW-T42-2003.</p> <p>pp. LOD has been reduced to 90' to minimize impacts to WW-T31-3003.</p>
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		<p>qq. LOD has been reduced to 80' to minimize impacts to W-T31-3003.</p> <p>rr. LOD has been reduced to 90' to minimize impacts to WW-T31-3003.</p> <p>ss. LOD has been reduced to 90' to minimize impacts to WW-T31-3009.</p> <p>tt. LOD (northern portion) has been reduced to 75' to minimize impacts to W-T31-3006.</p> <p>uu. LOD (eastern portion) has been reduced to 75' to minimize impacts to WW-T31-3007.</p> <p>vv. LOD has been reduced to 75' to minimize impacts to wetland W-T31-3004 and stream WW-T31-3006. The pipeline was routed in this location to avoid a meandering section of the stream in the eastern portion of the routing corridor; to cross the narrowest section of the riparian forest buffer; and to cross the narrowest section of the wetland at its western margin. Shifting the route west to avoid impacting the wetland was not implemented because this would result in additional clearing of riparian forest buffer along the stream.</p> <p>ww. LOD has been reduced to 90' to minimize impacts to WW-T31-3005.</p> <p>xx. LOD has been reduced to 90' to minimize impacts to WW-T31-3002A. The route was not shifted southwest as this would require crossing a braided portion of the stream and increase impacts.</p> <p>yy. LOD has been reduced to 75' to minimize impacts to W-T31-3002 and W-T31-3002-1.</p>
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Technical Deficiency Number	Technical Deficiency Description	Response
		<p>The pipeline was not shifted southwest in order to avoid impacting a braided portion of stream WW-T31-3002, and to maintain the current alignment through a disturbed portion of the wetland.</p> <p>zz. LOD has been reduced to 75' to minimize impacts to WW-T31-3001.</p> <p>aaa. The pipeline route was not relocated in this location in order to accommodate a landowner request related to agricultural operations.</p> <p>bbb. LOD has been reduced to 90' to minimize impacts to WW-T24-3001.</p> <p>ccc. LOD has been modified to eliminate impacts to this stream (wetland W-T10-001 is also not impacted by the Project).</p>

Technical Deficiency Number	Technical Deficiency Description	Response
29	<p>The streams lengths shown on the following Impact Maps are inconsistent with the "Impact Table for Individual Permit Application". Clarify the discrepancy and revise the applicable document as necessary. [25 PA Code §105.13(e)(1)(viii), §105.21(a)(1)], §105.13 (e)(1)(x)]</p> <ul style="list-style-type: none"> a. Impact Map 24-1600-70-09-A/7.15-01, Stream WW-T10-100. b. Impact Map 24-1600-70-09-A/M-0147-0.58-01, Stream WW-T10-003, and Stream WW- T10-003A. c. Impact Map 24-1600-70-09-A/M-0184-0.85-01, Stream WW-T10-004. d. Impact Map 24-1600-70-09-A/7.15-01, Stream WW-T10-100. e. Impact Map 24-1600-70-09-A/08.00-01, Sheet 1 of 2, Streams WW-T31-002 and WW-T31-002A. f. Impact Map 24-1600-70-09-A/8.20-01, Stream W W-T31-003. g. Impact Map 24-1600-70-09-A/9.59-01, Stream WW-T10-1001. h. Impact Map 24-1600-70-09-A/9.96-01, Stream WW-T10-1002. i. Impact Map 24-1600-70-09-A/10.11-01, Stream WW-T10-1003. j. Impact Map 24-1600-70-09-A/10.88-01, Stream WW-T35-1002. k. Impact Map 24-1600-70-09-A/11.00-01, Stream WW-T35-1002A. 	<p>Streams lengths on impact maps noted in letters a., b., c., d., e., f., i., j., and k. have been updated to be consistent with stream lengths in the Impact Table for Individual Permit Application.</p> <p>Streams noted in letters g. and h. are no longer impacted by the Project and have been removed from the revised Application.</p>
30	<p>It appears Access Road AR-LA-004, shown on E&S Drawing 24- 1600-70-28-A/LL 113_9-AR-LA-004, will cross a regulated waters at a point located near Station 4+00. Verify and provide revised application documents reflecting any additional impacts. [25 PA Code §105.13 (e)(1)(x)]</p>	<p>Access Road AR-LA-004 is no longer part of the Project.</p>
31	<p>The following deficiencies relate to Access Road AR-LA-010.2, shown on ES Drawing 24- 1600-70-28-A/LL113_9-AR-LA-010.2. [25 PA Code §105.13 (e)(1)(x)]</p> <ul style="list-style-type: none"> a. Provide the access road location on the Impact Drawing 24-1600-70-14-A/0.00-01. b. Parts of the access road are shown in the floodway. Provide revised application documents reflecting the additional impacts. 	<p>The revised application submittal:</p> <ul style="list-style-type: none"> a. Provides the access road AR-LA-010.2 location on the Impact Drawing 24-1600-70-14-A/0.00-01 (sheet 5 of 9), and b. reflects additional impacts associated with floodway on Drawing 24-1600-70-09/A/8.00-01 (sheet 3 of 3).
32	<p>Clarify if Access Road AR-LA-018, shown on Topographical Project Location Key Map 24- 1600-70-14-A/0.00-01, Sheet 5 of 8 is the same as Access Road AR-LA-018.3, shown on ES Drawing 24-1600-70-28-A/LL113_9-AR-LA-018.3. Revise the application documents as appropriate. [25 PA Code §105.13 (e)(1)(x)]</p>	<p>Access Road AR-LA-018 is no longer part of the Project. Access Road AR-LA-18.3 is shown on Topographical Project Location Key Map 24- 1600-70-14-A/0.00-01, Sheet 6 of 9.</p>

Technical Deficiency Number	Technical Deficiency Description	Response
33	It appears that the Access Road AR-LA-023.2 crosses regulatory waters between Stations 9+00 and 10+00 and the Contractor Staging Area L-1-006.3, shown on ES Drawing 24-1600-70-28-A/LL113_9-AR-LA-023.2 may be in the floodway. Verify and provide revised applications documents reflecting any additional impacts. [25 PA Code §105.13 (e)(1)(x)]	Access Road AR-LA-023.2 crosses stream WW-RS-99200 UNT Shawnee Run via an existing bridge. The Floodway impact is depicted on Impact Drawing 24-1600-70-09-A/AR-LA-023.2-01 and included on the impact table in Attachment E-3. However, the Contractor Staging Area CS-CSA-LA-1-006.3 is not impacting this resource.
34	Provide the ES Drawing for Access Road AR-LE-027, as shown on Topographical Project Location Key Map 24-1600-70-14-A/0.00-01, Sheet 7. Revise all other application documents to reflect any additional impacts. [25 PA Code §105.13 (e)(1)(x)]	Access Road AR-LE-027 has been removed from the proposed project and removed from the Topographical Location Key Map.
35	It appears that the pipeline will cross regulatory waters between Stations 325+00 and 330+00 (Latitude: 39.903493°N, Longitude: 76.298206°W). Verify and provide revised application documents reflecting any additional impacts. [25 PA Code §105.13 (e)(1)(x)]	No regulated resource is being impacted; therefore, no impact drawing has been provided. The location provided by the Department at Stations 325+00 and 330+00 (Latitude: 39.903493°N, Longitude: 76.298206°W), CPLS Mile Post 6.2, has been field surveyed and is within an active agricultural field.
36	<p>The following deficiencies relate to ES Drawing 24-1600-70-28-A/LL113_9, Sheet 13. [25 PA Code §105.13 (e)(1)(x)]</p> <ol style="list-style-type: none"> The extent of Stream WW-T92-1002 is inconsistent with Impact Map 24-1600-70-09-A/13.62-01. Clarify the discrepancy and revise the application documents, as appropriate. Wetland Crossing W-T36-1004 is inconsistent with Impact Map 24-1600-70-20-A/14.26-01. Clarify the discrepancy and revise the application documents, as appropriate. Clarify the designation of Wetland W-RS-T36-1004-1. The designation of the wetland is inconsistent with Impact Map 24-1600-70-20-A/14.26-02. Revise the application documents, as appropriate. 	<ol style="list-style-type: none"> Stream WW-T92-1002 impact has been reduced and is now depicted on Impact Drawing 24-1600-70-09-A/M-0434-0.10-01. Wetland Crossing W-T36-1004 has been reduced and is now depicted on Impact Drawing 24-1600-70-20-A/M-0206-0.06-01 (Sheet 1 of 2). Wetland W-RS-T36-1004-1 has been field verified as Wetland W-T36-1004-1 and is now depicted on Impact Drawing 24-1600-70-20-A/M-0206-0.06-01 (Sheet 2 of 2).

Technical Deficiency Number	Technical Deficiency Description	Response
37	On ES Drawing 24-1600-70-28-A/LL113_9, Sheet 22 of 34, the impacts to Stream WWT42-2004 are shown to be minimized; however, Impact Map 24-1600-70-09-A/23.61-01 depicts a permanent crossing. Clarify the discrepancy and revise the application documents, as appropriate. [25 PA Code §105.13 (e)(1)(x)]	Impacts to Stream WW-T42-2004 have been eliminated; therefore, Impact Map 24-1600-70-09-A/23.61-01 has been removed from the package.
38	Clarify if the Contractor Staging Area CS-CSA-LA-1-005.1, shown on ES Drawing 24-1600-70-28-A/LL113_9-CSA-CS-CSA-LA-1-005.1 is the same area as CS-CSA-LA-1-005 shown on the Topographical Project Location Key Map 24-1600-70-14A/0.00-01, Sheet 5. Revise the application documents as necessary. [25 PA Code §105.13 (e)(1)(x)]	<p>The revised Application clarifies the discrepancy between the Contractor Staging Area and the Topographical Project Location Map.</p> <p>Contractor Staging Area CS-CSA-LA-1-005.1 is now shown on the Topographical Project Location Key Map 24-1600-70-14A/0.00-01, Sheet 6 of 9.</p>
39	Provide ES Drawings for Contractor Staging Areas CS-CSA-LA-1-006.2 and CS-CSA-LA-1-006.1 as shown on the Topographical Project Location Key Map 24-1600-70-14A/0.00-01, Sheet 6. Also provide ES Drawings for Contractor Staging Areas CS-CSA-LA-1-007.1 as shown on the Topographical Project Location Key Map 24-1600-70-14A/0.00-01, Sheet.7. Revise the application documents as necessary. [25 PA Code §105.13 (e)(1)(x)]	Contractor Staging Areas CS-CSA-LA-1-006.2 and CS-CSA-LA-1-006.1 are no longer a part of the Proposed Project and no longer on the Topographical Project Location Key Map. Contractor Staging Area CS-CSA-LA-1-007.1 is now shown on the Topographical Project Location Key Map 24-1600-70-14A/0.00-01 Sheet 8 of 9.

Technical Deficiency Number	Technical Deficiency Description	Response
40	<p>Indicate the site location on the Topographical Project Location Key Map and provide an Impact Map for the Hydrostatic Test Water Withdrawal Area LA-163 as shown on ES Drawing 24-1600-70-28-A/LL113_9-CS-LA-163 and for the Hydrostatic Test Water Withdrawal Area LA-164 as shown on ES Drawing 24-1600-70-28-A/LL113_9-CS-LA- 164. Revise the application documents as necessary to reflect any additional impacts. <i>[25 PA Code §105.13 (e)(1)(x)]</i></p>	<p>The Chiques Creek water withdrawal location is identified on plan sheet 24-1600-70-09-A/23.90-01. The location is included as revised impact numbers 267 and 268 in Attachment E-2 of the revised Application.</p> <p>Topographic location maps Sheet 5 and 6 (Attachment H-2) have been updated to show the hydrostatic water discharge impact areas.</p> <p>Metering plans for the four water withdrawal locations are included in Attachment L-5, Enclosure D, Appendix L-6. Water withdrawal locations are also depicted on the Project location maps in Attachment I-2 and Attachment I-3.</p>
41	<p>The application does not adequately explain the need to install the pipeline across watercourses "in the wet." Installation of the pipeline across watercourses "in the wet" may result in adverse impacts to water quality in watercourses that are being crossed. Select an alternate crossing technique for each crossing where work "in the wet" is currently proposed, and remove the "in the wet" detail from the ES plans or provide a demonstration that the selected crossing technique avoids and minimizes impacts to the watercourse to the greatest extent practicable. <i>[25 PA Code §105.13(e)(1)(viii)]</i></p>	<p>All "in the wet" watercourses within Lancaster County have been removed and the crossing methods have been revised to dam and pump or flumes.</p>
42	<p>Impact Drawings - Clarify what Existing TGPL R/W stands for as shown in the Legend. <i>[25 PA Code §105.13(e)(1)]</i></p>	<p>The revised Application clarifies that "Existing TGPL R/W" stands for "Transcontinental Gas Pipe Line right-of-way" (see Attachment H-2).</p>
43	<p>The stream length on Stream WW-T10-001 on Map Impact Map 24-1600-70-09-A/0.24-01 is inconsistent with regard to the stream length impact. Clarify the discrepancy and revise the applicable document as necessary. <i>[25 PA Code §105.13(e)(1)(viii), §105.13(e)(1)(x)]</i></p>	<p>The length of Stream WW-T10-001 has been confirmed and presented consistently on applicable documents in the revised Application.</p>

Technical Deficiency Number	Technical Deficiency Description	Response
44	On Impact Map 24-1600-70-09-A/M-0147-0.58-01, Stream WW-T10-003A -A small corner of the LOD is shown encroaching in the floodway of the stream in the north-west vicinity where the LOD widens from 75 feet to 100 feet. Revise the plan to avoid the impact or provide justification for why the LOD cannot be reduced in this location. [25 PA Code §105.13(e)(1)(vii), §105.13(e)(1)(viii)]	As provided in Attachment P-1, Appendix P-1 of the revised application, the LOD for WW-T10-003A has been necked down to 75' to reduce impacts. See Attachment H-2, revised drawing 24-1600-70-09-A/M-0147-0.58-01.
45	The following deficiencies relate to Impact Map 24-1600-70-20-A/7.10-01. [25 PA Code §105.13(e)(1)(viii), §105.21(a)(1)] a. Clarify the wetland boundaries. It is difficult to differentiate the boundary line between W-T10-101A and W-T10-101C.	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.
46	The following deficiencies relate to Impact Map 24-1600-70-20-A/14.26-02. [25 PA Code §105.13(e)(1)(viii), §105.21(a)(1)] a. Wetland W-T36-1004-2 - It appears that permanent impacts to the wetland will occur which are not identified in the application. Revise all documentation as necessary and explain why this impact is necessary.	No permanent impacts to Wetland W-T36-1004-2 will occur (see strike-through text for revised impact # 135 in Attachment E-2). The drawing has been revised (see attachment H-2 drawing 24-1600-70-20-A/M-0206-0.06-01).
47	The following deficiencies relate to Impact Map 24-1600-70-09-A/34.02-01. [25 PA Code §105.13(e)(1)(viii)] a. Stream WW-T31-3001 - Utility line crossings of streams should be accomplished so that the line is at a right angle, where possible. Revise the plan to minimize impacts by crossing at a right angle or provide justification for why the pipeline cannot be revised at this location.	As provided in Attachment P-1, Appendix P-1 of the revised application, the LOD for WW-T31-3001 has been necked down to 75' to reduce impacts. The current alignment was selected at the request of the landowner and the homeowners to the east. For revised drawing, see Attachment H-2 Impact Map 24-1600-70-09-A/34.02-01).
48	The stream and wetland boundaries overlap on several impact sheets. 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.

Technical Deficiency Number	Technical Deficiency Description	Response
49	Provide a typical plan showing the crossing layout. The PA DEP finds it unclear where the dam and pump by-pass will be located in relation to the Bridge Equipment Crossing (BEC) and where the BEC will be located in relation to the pipeline. <i>[25 PA Code §105.13(e)(1)(i)(C)]</i>	The BMPs and Quantities Plan Set within the revised Application (Attachment M) includes a revised dam and pump typical (DPX) showing the BEC with respect to the pipeline and the dam and pump by-pass.
50	Provide specific sizing for the BEC pipes, for each resource crossing, which will meet the specification provided on Sheet 24-1600-70-26-A/BEC-01, Note 8. Ensure to provide sufficient documentation supporting the size specification. <i>[25 PA Code §105.13(e)(1)(i)(C)]</i>	Transco has revised the BMPs and Quantities Plan Set within the revised Application (Attachment M) to no longer utilize BEC with culverts.
51	Provide documentation the BEC pipes, for each resource crossing are sized so that the normal flow depth in the pipes is less than half the diameter of the pipes. <i>[25 PA Code §105.13(G)]</i>	Transco has revised the BMPs and Quantities Plan Set within the revised Application (Attachment M) to no longer utilize BEC with culverts.

Technical Deficiency Number	Technical Deficiency Description	Response
52	Changes in proposed project impacts at various locations have occurred since initial application submission. Clearly explain what led to these changes for each location where increased impacts are now proposed and clearly explain why these impacts are necessary. In addition, clearly explain why some impacts have been lessened and explain why this can't occur at other locations. <i>[25 PA Code §105.13(e)(1)(viii)]</i>	All changes to the Project since the initial Application submittal on August 28, 2015 and the administrative completeness response on December 4, 2016 that have resulted in increased, lessened, or eliminated impacts to regulated resources are a result of the incorporation of route deviations and new field survey data. Route deviations are defined as minor adjustments to the proposed route that are typically incorporated to avoid a specific feature (e.g., topography, sensitive habitat, structures) and/or to accommodate requests by affected landowners or jurisdictional agencies. New field survey data was collected for route deviations and of portions of the project that were previously-inaccessible at the time of the initial Application and administrative incompleteness response submittals. The Chapter 105 Impact Table, provided within Attachment E-2 of the revised Application, identifies new or revised impact information as bold, italicized text, while previously-identified impacts that have been avoided due to the incorporation of route deviations are presented as bold, strikethrough text, indicating that those resources are no longer impacted by the Project.

Technical Deficiency Number	Technical Deficiency Description	Response
53	<p>Several small and headwater tributaries will be impacted by this project. Avoid impacting the tributaries or explain how they will be restored to the pre-construction conditions when 2- foot contours are being utilized; which are, in many cases, greater than height of the banks of the watercourses, and provide a site specific restoration detail for each watercourse. <i>[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)]</i></p>	<p>Transco will stabilize the surface water banks and bed to preconstruction contours such that they are similar to banks at the limits of disturbance. Transco will also utilize pre-construction photographs. Banks will be stabilized using geotextile fabric. Attachment L-5, Enclosure D, Appendix L-3, Table 1 identifies each watercourse and the stream restoration detail to be utilized on either bank.</p>
54	<p>Provide a detailed site specific pollution prevention and control plan that addresses potential inadvertent returns as well as hazardous and non-hazardous chemical releases. <i>[25 PA Code § 105.21 (a)(3)]</i></p>	<p>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.</p>

<p>55</p>	<p>Specific to the PRM Plan. [25 PA Code § 105.13(e)(1)(ix), §105.20a, §105.21(a)(1)]</p> <ul style="list-style-type: none"> a. According to the USFWS, "Bog turtles usually occur in small, discrete populations, generally occupying open-canopy, unpolluted, herbaceous sedge meadows and fens bordered by wooded areas". Therefore: <ul style="list-style-type: none"> i. Explain how the proposed mitigation will enhance bog turtle habitat when woody species are proposed to be planted and the area will no longer be maintained in an emergent state. ii. Clearly explain why planting woody species in a bog turtle wetland is an appropriate form of compensation to offset PFO wetland impacts. b. As currently proposed, the compensatory mitigation easement boundaries are likely to be difficult for the landowner and for Sunoco Pipeline, L.P. to identify. Provide a revised plan to include a method of permanently demarcating the easement boundaries. c. In regards to two new Sunoco Pipeline, L.P. pipelines that are proposed to cross the Hibred Farms mitigation site: <ul style="list-style-type: none"> i. It appears that the Sunoco Pipeline, L.P.'s construction workspace will encroach on the proposed easement boundaries. Revise the plans to show the construction workspace, and provide documentation to show that the mitigation will remain viable. ii. Provide documentation from Sunoco Pipeline, L.P. to support the assertion that the proposed mitigation easement boundary will not conflict with the proposed ROW for the Sunoco pipelines, and that no future expansion of the existing pipeline ROW will be attempted. iii. Explain how invasive species will be managed in the Sunoco Pipeline, L.P. ROW, or explain why management is not necessary. d. The Planting Plan in the PRM Plan proposes wetland tree and shrub plantings at densities of 200 per acre. However, Table 6 in Section 6 of the PRM Plan indicates that no PFO wetlands will occur in the post-mitigation condition. <ul style="list-style-type: none"> i. Explain why tree and shrub plantings of 200 stems per acre will not result in PFO wetland creation. 	<p>The PRM Plan(Attachment Q of the Application) has been updated to provide the following clarifications:</p> <ul style="list-style-type: none"> a. <ul style="list-style-type: none"> i. The proposed mitigation addresses current impairments to sites existing hydrology. Upon review of the 1939 aerial imagery, the PRM Site exists in its natural state as a mixed PEM, PSS, PFO wetland. By 1959, aerial imagery indicates clearly that an intensive ditching system was installed to lower the water table in the area for agricultural practices. Since that time the main stem has continued to incise, creating a zone of depression adjacent to the incised channel, negatively affecting the hydrology of the wetlands on-site, while also creating instability and downstream sedimentation impacts. When compared to the bog turtle core habitat map, it can be seen that very little core habitat occurs adjacent to the main stem, further confirming the influence of the incision on the PRM Site's hydrology. Lastly these headcuts and the systems overall instability will continue to incise the side ditches, ultimately resulting in a reduction of core bog turtle habitat at the PRM Site. <p>The proposed mitigation will address the incision of the main stem, stabilizing the stream, increasing stream and floodplain interaction, reducing downstream sedimentation, and raising the water table adjacent to the channel. This improved hydrology will enhance the bog turtle habitat on-site.</p>
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	<p>ii. If PFO wetland creation is not anticipated, explain why the proposed mitigation is appropriate to offset PFO wetland impacts.</p> <p>e. While the PA DEP understands that RES will implement and conduct monitoring and maintenance of the mitigation area on 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.</p> <p>f. According to the provided functions and values assessments for wetlands W-T10-100, and W-T20-002, the wetlands provide a principal function of fish and shellfish habitat. However, according to the application, the PRM area will not provide this function. Therefore, explain how the mitigation area is appropriate to compensate for impacts to wetlands W-T10-100 and W-T20-002.</p> <p>g. Explain why the application states that the Hibred Farms Mitigation area does not provide principal functions of flood flow alteration, nutrient removal, sediment/toxicant retention, uniqueness/heritage, sediment stabilization, and production export, but will when mitigation activities are complete. The PA DEP finds it unclear how the function of the wetland will be changed through the mitigation procedures proposed.</p>	<p>The proposed woody PSS species are non-aggressive species, many of which are currently present within the PRM Site. All selected species and planting rates were approved by the USFWS in consultation with bog turtle specialists from agencies in other states. In addition, species in adjacent bog turtle wetlands were inventoried as part of the species list selection. These plantings are proposed to be planted only in limited non-core habitat areas. Long-term, FPR is providing the long-term easement holder with a long-term maintenance and monitoring fund. This money can be used to ensure that there is no encroachment of any woody tree species into the core bog turtle habitat areas.</p> <p>Overall the restored main stem improves the hydrology of the site, addresses the current causes of instability, and when combined with the structure of the projects proposed long-term maintenance and management provides a sustainable enhancement to the existing bog turtle habitat on-site.</p> <p>ii. As stated in the response to 67.a.i, woody species plantings will occur in small non-core bog turtle habitat pockets within the wetland complex on-site. Of the species being planted, silky dogwood (<i>Cornus amomum</i>) and willow (<i>Salix</i> spp.) currently grow within the PRM Site. All selected species and planting rates were approved by the USFWS in consultation with bog turtle specialists from agencies in other states. In addition, species in adjacent bog</p>
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		<p>turtle wetlands were inventoried as part of the species list selection.</p> <p>The proposed mitigation is appropriate to compensate for PFO wetland conversion impacts based upon the completed functions and values analysis. As said in Section 6.1 Functional Impacts and Proposed Functional Uplift of the Permittee-Responsible Mitigation Plan for the Project Hibred Farms Mitigation Site; “The wetland functions and values assessments performed at the Project impact locations and the PRM Site indicate that the mitigation site, once restored, will compensate 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 at comparatively high levels.”</p> <p>More specifically, and by function, the PRM Site will improve its floodflow alternation function by addressing the streams current incision the stream and floodplain interaction is improved increasing infiltration in the floodplain wetlands, reducing overall flood peak flow and volume. Additionally, through converting upland farmland into native warm season grasses and wildflowers which reduces stormwater sheet flow, and increases infiltration.</p> <p>The PRM Site will improve wildlife habitat by improving hydrology within the wetlands on-site by addressing the stream incision as discussed in 67.a.i, and through the restoration current farm field into native</p>
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		<p>warm season grasses and wildflowers. This creates high quality avian habitat as well as pollinator habitat.</p> <p>The PRM Site will improve nutrient removal and retention through the proposed stream restoration, which will reduce nutrient loading by eliminating the bank erosion at the site, reducing downstream sedimentation and associated nutrient loading. The restored stream and floodplain interaction will also increase nutrient retention through increase nutrient uptake in the on-site wetlands.</p> <p>Additionally, the restoration of upland pasture areas to native warm season grasses and wildflowers, which will reduce both nutrient loading from erosion, nutrient loading from fertilizer application, and nutrient retention through plant uptake.</p> <p>As seen above the proposed restoration is appropriate compensation to offset impacts from PFO wetland conversions.</p> <p>b. The perimeter of the PRM Site will be demarcated in the field in a manner that is easily identifiable. The permanent markers will be installed prior to or concurrent with construction of the components of the mitigation plan and be maintained and permanently visible for the life of the protected site.</p> <p>The boundary of the PRM Site will be demarcated using 8-foot PVC pipe anchored with a metal T post. Signage will be posted on the metal T posts to indicate that the site is a PRM Site protected under</p>
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		<p>a conservation easement, and will include PA DEP and U.S. Army Corps of Engineers (USACE) authorization numbers.</p> <p>c.</p> <p>i. The design plans have been revised to show the construction workspace and are provided in the revised Hibred Farms Mitigation Site PRM Plan. The construction workspace is also shown on Figure 9: Resource Development Map of Appendix A: Figures of the PRM Plan. The restoration project boundaries were created in coordination with Sunoco to ensure that there were no permanent overlaps of project boundaries. The construction workspace is located within the upland areas of the parcel, where the work to be conducted by Sunoco or their affiliate will consist of HDD boring from the temporary work space. This will avoid disturbance to the wetland areas. Based upon the sequencing of the proposed Sunoco project, the pipeline work will be completed prior to the upland restoration sequencing, when the area is still active farmland. No temporary work is being done in the projects wetland spaces, and Sunoco's permanent pipeline easements were taken into consideration when the easement boundaries for the project were set.</p> <p>Furthermore, The PRM Project will be protected by a deed of restrictive covenant or conservation easement in advance of the proposed activities outlined in the PRM Plan, ensuring the long-term protection of the site. The mitigation easement will</p>
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		<p>ensure that the PRM Site will be permanently protected in perpetuity from uses that are incompatible with the objectives of the PRM Plan.</p> <p>ii. On September 10, 2015, Sunoco, L.P. (Sunoco) and Transco's subconsultant, signed an agreement (provided as Attachment Q-2) supporting the assertion that the proposed mitigation easement boundary will not conflict with the proposed permanent ROW for the Sunoco pipelines. As part of the agreement, Sunoco has acknowledged Transco's subcontractor's proposed mitigation easement boundary and, given the mutual benefits expected for both parties, Sunoco does not object to the placement of the mitigation easement boundary.</p> <p>iii. Furthermore, as stated in <i>Section 4.0 Site Protection Instrument</i> of the PRM Plan, the PRM Project will be protected by a deed of restrictive covenant or conservation easement in advance of the proposed activities outlined in this mitigation plan, ensuring the long-term protection of the site. The site protection instrument will be recorded within 60 days in the county courthouse after USACE/PA DEP approval, with subsequent approval from the Permittee to move forward with mitigation. This will ensure that the PRM Site will be permanently protected from uses that are incompatible with the objectives of the PRM Plan.</p> <p>d. There are three proposed areas within the PRM Site where the proposed planting plan includes shrub species at a rate of 100 plants per acre, totaling approximately</p>
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		<p>3.745 acres. Due to the lower planting densities these areas were not specifically called out as being PFO post-restoration.</p> <ul style="list-style-type: none">i. The planting plan for the project has been revised in coordination with the USFWS. Based upon the updated plan, there are three proposed areas within the PRM Site where the proposed planting plan includes only and shrub species, totaling approximately 3.745 acres. These areas are being planted at a rate of 100 plants per acre. Due to the lower planting densities these areas were not specifically called out as being PSS post-restoration.ii. There are three proposed areas within the PRM Site where the proposed planting plan includes shrub species, totaling approximately 3.745 acres. Due to the lower planting densities these areas were not specifically called out as being PSS post-restoration. For the remainder of the response, please see the response to comment 67.a.ii. <p>e. As stated in <i>Section 1.0: Introduction of the Hibred Farms Permittee-Responsible Mitigation Site Plan, "FPR, on behalf of Transco, 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 PA DEP Chapter 105 Rules and Regulations regarding wetland</i></p>
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		<p><i>replacement criteria guidelines and 33 CFR §332.</i> These legal duties and responsibilities include establishment of the mitigation area.</p> <p>f. The Function Value Evaluations forms for the Hibred Farms Mitigation Site (provided as Appendix F: Wetland Function and Values Assessment Forms of the PRM Plan) indicate that post-restoration, the fish and shellfish habitat function/value will be a principal function at the PRM Site. Text within the PRM Plan indicating that this function is not a primarily function has been corrected. Restoration activities will result in stabilization of the currently eroded and incised stream, thereby reducing sedimentation and improving aquatic habitat. Vegetative enhancement coupled with instream restoration activities as described in the revised PRM Plan will provide appropriate compensation for impacts to wetlands W-T10-100 and W-T20-002.</p> <p>g. The rationale and list of considerations to determine suitability and principal functionality of wetlands as provided in Appendix A of the USACE <i>Highway Methodology Workbook Supplement: Wetland Functions and Values</i> (1993), Transco’s subconsultant determined that the Hibred Farms Mitigation Site is suitable for seven of the 13 core functions/values evaluated as part of the wetland evaluation, of which include groundwater recharge/discharge, floodflow alteration, sediment toxicant retention, nutrient removal, wildlife habitat, uniqueness/heritage, and endangered species habitat. Because of the significant</p>
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		<p>extent of degradation within and surrounding the PRM Site, only two of these functions are principal functions. Transco's subconsultant does not anticipate a change in the principal functions of the wetland, but rather an ecological uplift to the wetland such that those functions and values that the wetland is currently (pre-restoration) suitable for, will become principal functions, post-restoration. The restoration activities proposed at the PRM Site will significantly enhance the ecological and biological integrity of the PRM Site such that not only will the extent of suitable functions/values increase for the wetland (10 suitable functions and values post-restoration), but the extent of principal functions will also increase (eight principal functions post restoration).</p> <p>More specifically, and by function, the PRM Site will improve its Flood Flow Alternation function by addressing the streams current incision the stream and floodplain interaction is improved increasing infiltration in the floodplain wetlands, reducing overall flood peak flow and volume. Additionally, through converting upland farmland into native warm season grasses and wildflowers which reduces stormwater sheet flow, and increases infiltration.</p> <p>The PRM Site will improve wildlife habitat by improving hydrology within the wetlands on-site by addressing the stream incision as discussed in 55.a.i, and through the restoration current farm field into native warm season grasses and wildflowers.</p>
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Technical Deficiency Number	Technical Deficiency Description	Response
		<p>This creates high quality avian habitat as well as pollinator habitat.</p> <p>The PRM Site will improve nutrient removal and retention through the proposed stream restoration, which will reduce nutrient loading by eliminating the bank erosion at the site, reducing downstream sedimentation and associated nutrient loading. The restored stream and floodplain interaction will also increase nutrient retention through increase nutrient uptake in the on-site wetlands.</p> <p>Additionally, the restoration of upland pasture areas to native warm season grasses and wildflowers, which will reduce both nutrient loading from erosion, nutrient loading from fertilizer application, and nutrient retention through plant uptake.</p> <p>Again, Transco’s subconsultant does not anticipate any wetland functionality to change, rather an improvement such that pre-restoration suitable functions become post-restoration principal functions.</p>
56	<p>Section 6 of PRM Plan indicates that no exceptional value PFO wetlands will be impacted in Lancaster County. However, Table L(d)-1 in Attachment L of Enclosure D of the Environmental Assessment identifies wetland W-T10-003 as being an Exceptional Value, PFO wetland. Clarify this inconsistency and revise all documentation in the application as necessary. <i>[25 PA Code §105.21 (a)(1)]</i></p>	<p>Transco has provide a revised PRM Plan to include impacts to EV PFO wetlands (see Attachment Q-1, Section 6.0). The wetland table is Table L(d)-4 in the revised Application.</p>

Technical Deficiency Number	Technical Deficiency Description	Response
57	<p>Section 6 of the PRM Plan states that impacts to PSS wetlands are temporary because the areas will be allowed to revert to PSS wetlands. The application further states that a 10-foot permanent 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, §105.21 (a)(1)]</p>	<p>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 for the Project.</p> <p>Within Lancaster County, there are no non-EV or EV PSS wetland impacts. The Mitigation Master Plan and PRM Plan are provided as Attachments Q-1 and Q-2 within the revised Application.</p>

58	<p>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)]</p>	<p>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.</p> <p>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</p>
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Technical Deficiency Number	Technical Deficiency Description	Response
		<p>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.</p>
59	<p>The functions and values data sheets are not completed in their entirety. Provide completed data sheets. [25 PA Code §105.21(a)(1)]</p>	<p>Completed functions and values forms have been provided within the revised wetland delineation report, which is included as Attachment L-2 of the revised Application.</p>
60	<p>The functions and values data sheet for wetland W-T10-002 does not appear to be completed properly. Provide a revised data sheet. [25 PA Code §105.21 (a)(1)]</p>	<p>Wetland W-T10-002 is no longer impacted by the Project and has been removed from the revised Application.</p>

<p>61</p>	<p>Provide plans and cross sections indicating pipe size, placement, and locations for all wetlands, streams, floodways, 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, water surface elevation. 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)]</p>	<p>The revised Application includes a description and revised drawings to depict the proposed water withdrawal locations. Transco will request SLLA approval in November of 2016 from the PA DEP, and will be provided notification upon receipt.</p> <ul style="list-style-type: none"> a. All water withdrawals will be completed in compliance with the Susquehanna River Basin Commission (SRBC) dockets. Four water withdrawal sites are planned in Lancaster County: (1) Pequea Creek, (2) Conestoga River (Primary), (3) Conestoga River (Secondary), and (4) Chiques Creek. The SRBC approved the dockets for these water withdrawal locations on September 8, 2016. The locations of the water withdrawal equipment relative to wetlands, streams, floodways, and floodplains are included on the revised Chapters 102 and 105 drawings (see Attachment H-2). b. All water withdrawals will be completed in compliance with the SRBC dockets. The SRBC docket and metering plan 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, Section D). c. 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
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Technical Deficiency Number	Technical Deficiency Description	Response
		SRBC dockets. This information is provided in Attachment L-5, Appendix L-5 and L-6.
62	<p>The following deficiencies relate to the proposed hydrostatic test water withdrawal. [25 PA Code §§105.13(e)(1), §105.31(b)(1)]</p> <ul style="list-style-type: none"> a. Provide plans and cross sections indicating pipe size, placement, and locations for all wetlands, streams, floodways 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, water surface elevation. If a permanent intake, outfall, or pipe will be installed in Stream WW-T20-1001, a Submerged Lands License Agreement will be required. b. 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. c. Provide a cross sections, profiles, and hydraulic analysis for piping placed in existing stream culverts and along and within stream channels, if applicable. 	See Technical Response 61 and 63.
63	Stream WW-T20-1001 is navigable waterway of the Commonwealth. Therefore, installation of the pipeline requires a Submerged Lands License Agreement. Provide additional documentation as indicated on the enclosed form. [25 PA Code §105.31(b)(1)]	Transco will request SLLA approval in November of 2016 from the PA DEP, and will provide a copy of the executed agreement upon receipt.
64	Revise section A.9 of Enclosure D of the Environmental Assessment to discuss and identify impacts to preserved farms and/or farms with agriculture preservation easements or restrictions. [25 PA Code §105.13(e)(1)(x), §105.15]	Attachment L-5, Enclosure D, Section A9 of the revised Application has been updated to discuss and identify impacts to preserved farms and/or farms with agriculture preservation easements or restrictions.

Technical Deficiency Number	Technical Deficiency Description	Response
65	Section B1 of Enclosure D states that wetlands will be monitored for a period of 3 to 5 years. Clarify what factors will be used to determine the length of the monitoring period and provide a plan to correct any deficiencies identified during the monitoring period.	<p>Attachment L-5, Enclosure D, Section B1 has been revised. Wetlands will be monitored post-construction in accordance with the Transco Procedures (Attachment 18 of the Transco ECP [Attachment M]).</p> <p>Within three years after construction, Transco will file a report with the Secretary identifying the status of the wetland revegetation efforts and documenting success as defined in the Transco Procedures.</p> <p>For any wetland where revegetation is not successful at the end of three years after construction, Transco will develop and implement (in consultation with a professional wetland ecologist) a remedial revegetation plan to actively revegetate wetlands. Transco will continue revegetation efforts and file a report annually documenting progress in these wetlands until wetland revegetation is successful.</p>
66	The application incorrectly identifies the chapter 93 designation of WW-T 110-001 as CWF, MF, when the correct 25 PA Code, Chapter 93 designation is HQ-CWF, MF. Revise all applicable documents in the application to accurately identify the Chapter 93 designation of the watercourse. [25 PA Code §105.21(a)(1)]	The designation of Watercourse WW-T10-001 has been revised to HQ-CWF, MF in the revised Application.
67	The application incorrectly identifies the Chapter 93 designation of WW-T 110-001A as CWF, MF, when the correct 25 PA Code, Chapter 93 designation is HQ-CWF, MF. Revise all applicable documents in the application to accurately identify the Chapter 93 designation of the watercourse. [25 PA Code §105.21(a)(1)]	Watercourse WW-T10-001A is no longer impacted and has been removed from the revised Application.

Technical Deficiency Number	Technical Deficiency Description	Response
68	<p>The alternatives analysis application states that the proposed pipeline will be co-located with existing pipeline ROWs where possible. However, it does not appear that the pipeline is co-located with existing utilities throughout much of Lancaster County. Provide plans showing nearby existing utility ROWs and provide an explanation of why the pipeline was not co-located in those locations. <i>[25 PA Code §§105.13(e)(1)(viii), §105.18a]</i></p>	<p>Transco has provided mapping and a table in the revised Application providing justification for areas where the pipeline is not co-located with existing utilities (see Attachment P-1, Appendix P-3).</p>
69	<p>Identify and show the location of the "cultural resource sites" mentioned in the discussion of Alternative 12. Additionally, clearly explain why additional impacts to Waters of the Commonwealth are warranted. <i>[25 PA Code §105.13(e)(1)(viii)]</i></p>	<p>Per Attachment L-5, Enclosure D, Section D, the results and locations of the archaeological, geomorphological and Architectural History investigations conducted in Lancaster County have been submitted to the PHMC for review, as parts of four report packages: the March 2015 Initial Report Package, the November 2015 Addendum 1 Report Package, the May 2016 Addendum 2 Report Package, and the August 2016 Addendum 3 Report Package. Because these reports contain sensitive information, they are marked "Contains Privileged Information – Do Not Release," and can be available upon request directly to the PHMC.</p> <p>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 corridor have been minimized to the maximum extent practicable.</p>

<p>70</p>	<p>As discussed in the April 28, 2014 response letter from the U.S. Fish & Wildlife Service, 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)]</p>	<p>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.</p> <p>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.</p> <p>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</p>
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Technical Deficiency Number	Technical Deficiency Description	Response
		<p>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.</p> <p>Seeding specifications for the PRM sites are included within the PRM sites' plans, as Attachment Q-2 of the revised Application.</p>
71	<p>Explain why construction ROWs in wetlands exceed the maximum width of 75 feet as recommended by FERC. <i>[25 PA Code §105.18(a)]</i></p>	<p>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. .</p>

Technical Deficiency Number	Technical Deficiency Description	Response
72	The PFBC currently manages Fishing Creek as a Wild Trout Stream from the Headwaters to Silver Spring Road. However, based on recent surveys, the wild trout designation will be extended downstream to the mouth. Therefore Watercourses WW-T10-001 and WW-T10-001A are considered wild trout streams. Revise all documents as necessary. [58 PA Code §57.11(b)(4)]	The trout stream status of Watercourse WW-T10-001 has been changed to wild trout in the revised Application. Watercourse WW-T10-001A is no longer impacted and has been removed from the revised Application.
73	Wetland W-T10-003 appears to be identified as Wetland W-T10-003C on drawing number 24-1600-70-28-A/LL113_9 Sheet 2 of 34 of the ESCGP-2 plans. Clarify if this is the case and explain the discrepancy. [25 PA Code §105.21 (a)(1)]	The revised Application identifies the referenced wetland as W-T10-003C, consistent with the ESCGP-2 plans.
74	An in-kind culvert replacement is proposed on drawing number 24-1600-70-28-A/LLI 13_9 Sheet 4 of 34 of the ESCGP-2 plans, but this activity is not identified in the Chapter 105 application. Therefore: [25 PA Code §105.13(e)(1), §105.21 (a)(1)] a. Clarify if the culvert will be replaced as a part of this project. b. Identify the type and size of the culvert to be replaced. c. Provide revised plans and application documents that include the impacts associated with the replacement of the culvert. d. Ensure that the requirements of 25 PA Code, Chapter 105, Subchapter D are met.	The revised Application identifies that the culvert will be replaced in-kind (see Attachment H-2 drawing 24-1600-70-09-A/M-0184-0.85-01). Information requirements of 25 PA Code, Chapter 105, Subchapter D are met in Attachment M.
75	The extents of stream WW-T32-2002 of W-T32-2002 on drawing number 24-1600-70-20-A/21.11-01 are unclear. Although the hatching depicts a wetland near the southern LOD, impacts are shown to be stream impacts. Clarify this inconsistency. [25 PA Code §105.13(e)(1)(A)]	Watercourse WW-T32-2002 and Wetland W-T32-2002 are no longer impacted and have been removed from the revised Application.
76	Explain why stream WW-T42-2004 is shown to be avoided on Sheet 22 of 34 of the ESCGP-2 plans but is shown to be impacted on Drawing No 24-1600-70-09-A/23.61-01 in the Chapter 105 application. [25 PA Code §105.21 (a)(1)]	Stream WW-T42-2004 is no longer impacted and has been removed from the revised Application.
77	Explain why impacts to wetland W-T31-3005 are identified as a stream impact on Drawing Number 24-1600-70-09-A/31.59-01. [25 PA Code §105.21 (a)(1)]	Stream impact Drawing Number 24-1600-70-09-A/31.59-01 (WW-T31-3007) depicts the Wetland and Upland Data point within Stream WW-T31-3007 TOB area. However, Wetland W-T31-3005 is not impacted by the proposed project. Wetland W-T31-3005 is further east from the proposed Project.

Technical Deficiency Number	Technical Deficiency Description	Response
78	The application states that Tucquan Creek is a Scenic watercourse. Therefore, provide copies of correspondence with PA DCNR's Bureau of Recreation and Conservation, and provide copies of all documents that may need to be revised as a result of coordination with DCNR. [25 PA Code §105.14(b)(5)]	Additional information related to Tucquan Creek's designation as a scenic watercourse has been added to the revised Application (Attachment L-5, Enclosure D, Section A-2.
79	Table L(c)-2 in Attachment L of Enclosure C of the Environmental Assessment incorrectly states that the Bog Turtle was not detected in the project area in Lancaster County, as the turtle was found in or near the Permittee Responsible Mitigation Site. Revise the application as necessary. [25 PA Code §105.21(a)(1)]	Table L(c)-2 has been removed from Enclosure C of the Environmental Assessment (Attachment L-4 of the Application). For development of the PRM plan presence was assumed; the PRM plan was then developed in coordination with, and approved by, the USFWS and PFBC.
80	Wetland W-T36-1003 contains a vernal pool component based on the information provided in the application. Restoration of vernal pools can prove to be difficult. Explain why the wetland cannot be avoided. If it can't, provide site specific information on the hydrology and soils, as well as data on why the wetland maintains standing water and provide site specific construction plans, cross sections, and restoration details to ensure that the hydrology and functions and values of the wetland is not altered and it continues to maintain inundation and seasonal hydrology. [25 PA Code §105.13(e)(1)(x), §105.14(b)(4), §105.14(b)(13), §105.15(a), §105.15(1), §105.15(b), §105.18a(a)(1), §105.18a(a)(3), §105.18a(a)(4), §105.301(4), §105.301(5)]	Wetland W-T36-1003 is no longer impacted and has been removed from the revised Application.

Technical Deficiency Number	Technical Deficiency Description	Response
81	<p>Revise Enclosure D of the Environmental Assessment to explain, on an individual crossing and cumulative basis, why open cut pipe installation combined with permanent ROW maintenance will not result in an adverse impact to exceptional value wetlands or a significant adverse impact to other wetlands. The analysis should include a discussion of potential temporary or permanent impacts to hydrology as a result of the open cut, as well as a loss of woody species in forested/scrub shrub areas. Provide a plan to minimize the risk of permanent impacts to wetland hydrology for each wetland where an impact may occur. [25 PA Code §105.13(e)(1)(ix), §105.18a]</p>	<p>The Alternatives Analysis (Attachment P-1 of the revised Application) has been revised to include an analysis of applicable crossing techniques and their feasibility for application within this Project. The Comprehensive Environmental Evaluation for the Central Penn Line provided in Attachment L-5, Appendix L-1 includes a summary of cumulative impacts for the Project as whole.</p> <p>Maintenance within PSS and PFO wetlands is described within Attachment L-5, Enclosure D, and Attachment 18 of the ECP (Attachment M of the revised Application). Attachment L-5, Enclosure D provides a discussion as to the use of these maintained corridors for visual inspection of Project facilities to ensure safe operation and maintenance. A Riparian Area Impact Assessment and Restoration Plan is included within the revised Application (Attachment L-5, Appendix L-2) as discussed within the response to Technical Deficiency 12. Revised PRM Plans are included as Attachment Q-2 within the revised Application, which details the compensatory mitigation for PSS and PFO impacts.</p> <p>Section B1 of Enclosure D within Attachment L-5 discusses the measures utilized during construction and installation to minimize the risk of permanent impacts to wetland hydrology, which is also discussed within the Transco Procedures in Attachment 18 of the ECP (Attachment M).</p>

Technical Deficiency Number	Technical Deficiency Description	Response
82	<p>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 PA DEP recommends evaluating the riparian areas from the top of bank landward 100 ft. and if the area utilized is less than 100 ft. 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)(12), §105.14(b)(14), §105.15(a), §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., <i>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]</i></p> <p>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 are not final, the PA 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)]</p>	<p>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.</p> <p>A Riparian Area Impact Assessment and Restoration Plan for the Project area in Lancaster County is provided in Attachment L-5, Appendix L-2.</p> <p>Refer to the responses to Technical Deficiencies 12 and 13.</p>

Technical Deficiency Number	Technical Deficiency Description	Response
83	Provide a revised Enclosure D of the Environmental Assessment that includes a plan to minimize impacts to recreational opportunities on the Martic Low Grade and Conestoga Trails. <i>[25 PA Code §105.14(b)(5)]</i>	Attachment L-5, Enclosure D of the Environmental Assessment has been revised to include a plan to minimize impacts to recreational opportunities on the Martic Low Grade and Conestoga Trails. Site-specific crossing plans for the Enola Low Grade Trail (in Martic Township) and Conestoga Trails are located in Attachment L-5, Appendix L-4.
84	Several different equipment crossing details are provided in the E&S Control Plans. Revise the plans to identify where each type of crossing will be utilized. <i>[25 PA Code 105.13 (e)(1)]</i>	The revised Application includes revised drawings providing where each crossing method will be used (see Attachment H-2).