



September 6, 2016

Matthew L. Gordon
Sunoco Pipeline, L.P.
535 Fritztown Road
Sinking Spring, PA 19608

Re: Technical Deficiency
Pennsylvania Pipeline Project (aka Mariner East II)
Application No. E36-945
APS No. 879354
Clay and West Cocalico Townships, Lancaster County

Dear Mr. Gordon:

The Department of Environmental Protection (DEP) has reviewed the above referenced application package and has identified the following significant technical deficiencies. The Chapter 105 Dam Safety and Waterway Management regulations include information that will aid you in responding to some of the deficiencies listed below. The deficiencies are based on the requirements of Article I, Section 27 of the Pennsylvania Constitution, applicable laws and regulations, and the guidance that sets forth DEP's recommended means of satisfying the applicable requirements.

As you are aware, Department staff in three different regional offices are reviewing fifteen other Chapter 105 permit applications associated with this project. While the regional offices have coordinated the review of the applications and the identification of deficiencies, it is possible that deficiencies raised in the Department's other deficiency letters may be applicable to this permit, even though not stated herein. The Department recommends that SUNOCO evaluates whether any of the deficiencies identified in the other Chapter 105 permit application deficiency letters, beyond those deficiencies identified in this letter, necessitate revisions in this permit application.

Technical Deficiencies

Common Technical Deficiencies

1. Comprehensive Environmental Evaluation - The following technical deficiencies are related to the overall project comprised by the 17 Chapter 105 Water Obstruction and Encroachment permit applications associated with this pipeline. Please provide the Department with a Comprehensive Environmental Evaluation of the Entire Pipeline Project as a Whole ("Comprehensive Environmental Evaluation") which at a minimum includes the following:
 - a. Use the Environmental Assessment Form (3150-PM- BWEW0017, 2/2013) as a guide and provide a detailed narrative and other appropriate documentation that comprehensively evaluates the project as a whole under each of the categories therein

(Part 1 – Resource Identification; Part 2 – Project Description – including all the analyses listed in the form, as well as in 25 Pa. Code §§ 105.13(e)(1)(vii-x), (2), (3), (g), and (j); and 25 Pa. Code § 105.15.

- b. The Comprehensive Environmental Evaluation should also provide a detailed narrative and other appropriate documentation that comprehensively evaluates the project as a whole for compliance with the requirements associated with the Department’s review of the application listed in 25 Pa. Code § 105.14 in its entirety, with particular emphasis on:
 - i. Antidegradation Analysis - Prepare and submit an analysis and information that addresses consistency with State antidegradation requirements contained in Chapters 93, 95 and 102 (relating to water quality standards; wastewater treatment requirements; and erosion and sediment control) and the Clean Water Act (33 U.S.C.A. § § 1251—1376) for this entire project and other potential or existing projects. 25 Pa. Code § 105.14(b)(11).
 - ii. Secondary Impact Analysis – Prepare and submit an analysis and information that addresses secondary impacts associated with but not the direct result of the construction or substantial modification of the water obstruction or encroachment in the areas of the entire project and in areas adjacent thereto and future impacts associated with water obstructions or encroachments, the construction of which would result in the need for additional dams, water obstructions or encroachments to fulfill the project purpose. 25 Pa. Code § 105.14(b)(12).
 - iii. Project Wide Cumulative Impacts Analysis. Prepare and submit an analysis and information that addresses the cumulative impact for this entire project and other potential or existing projects. As part of this analysis please evaluate whether numerous piecemeal changes associated with all the chapter 105 applications related to this pipeline project may result in a major impairment of the wetland resources. The analysis must be undertaken for each alternative prepared for the proposed pipelines and facilities of Mariner East II, on a statewide basis and must be completed for the entire project, as a whole referencing each of the applications for the entire project. 25 Pa. Code §§ 105.14(b)(14); and 105.15.
 - iv. Comprehensive Evaluation of Compliance with 25 Pa. Code § 105.18a. Prepare and submit an analysis and information that evaluates the project as a whole with all the requirements found in 25 Pa. Code § 105.18a for each wetland or wetland complex in or along the project area as a whole. 25 Pa. Code § 105.18a.
 - v. Comprehensive Alternatives Analysis, Avoidance and Minimization and Mitigation. The applicant needs to demonstrate, that the alternative/s chosen for the entire project will avoid cumulative impacts to the maximum extent

practicable; and where such impacts are not avoidable, describe in detail with appropriate supporting documentation, how such impacts will be minimized and mitigated to the satisfaction of the Department. [25 Pa Code §§ 105.1, 105.13(e)(1)(viii)-(x); 105.14(b); and 105.15-105.20a.]

2. The HDD Inadvertent Return Contingency Plan includes profiles identifying Geotechnical profiles; however, no analysis has been provided on the risk of an inadvertent return occurring. Provide an analysis on the risk of an inadvertent return occurring for all proposed HDD crossings. Include in-depth detail, discussion, and data in the analysis of the risk of a return occurring. [25 Pa. Code §§105.14(b)(7), 105.18a(b)(3), 105.18a(b)(4), 105.18a(b)(5), 105.14(b)(4), 105.14(b)(11)]
 - a. Provide information/details on previous HDD activities on the prior Mariner East pipeline project where IRs occurred. At a minimum this should include, a topographic map with locations and latitude/longitude of each occurrence, description of event, amount of discharge, whether the discharge entered waterways and/or wetlands, mitigation/clean-up measures taken, etc.
 - b. A stand-alone attachment should be created to address the pre-boring geologic evaluation of the existence and potential to impact local drinking water supplies or aquifers around the boring location. The plan needs to include what measures will be employed to verify that no supplies or aquifer are impacted (i.e. pre and post water quality and quantity analysis). The plan should specify what notifications and remediation measures will be employed if there are impacts.
3. EV wetlands are defined as EV waters by Chapter 93. Therefore, explain the measures the applicant will implement to comply with the antidegradation requirements of the Department's water quality standards program.[25 Pa Code §93.4c(b); §93.4c(b)(2); §93.1 (defn. of surface water of exceptional ecological significance); §105.14(b)(11); §105.18a(a)(4); 24 Pa.B. 922 (February 12, 1994)(Incorporation of the Department's Existing Wetlands Protection Program into Water Quality Standards Program)].
4. The application states that the second pipeline will be 16 inches in diameter, while other applications related to this project state that the second pipeline could be up to 20 inches in diameter. Which is correct? [25 Pa. Code §105.13(e)(1)(iii)(A)]
5. List the types and amounts of emissions to satisfy question 13.0.1 of the General Information Form. [1300-PM-BIT0001 5/2012 Instructions]
6. The Application and GIF have different titles for M.L. Gordon. An application shall be signed by the owners of the dam or reservoir, water obstruction or encroachment, or the persons exercising primary responsibility for the dam or reservoir, water obstruction or encroachment. In the case of a partnership, one or more members of the partnership

authorized to sign on behalf of the entire partnership shall sign the application. In the case of a corporation, it shall be signed by the president, vice president or other responsible official empowered to sign for the corporation. Provide consistent titles for Mr. Gordon and demonstrate that he is authorized to sign the Application. [25 Pa. Code §§105.13(i) and 25 Pa. Code §§106.12(f)]

7. Provide a PNDI search clearance letter from the Pennsylvania Game Commission for threatened and endangered species under their jurisdiction. [25 Pa. Code §§105.15(a), 105.14(b)(4), 105.16(c)(3)]
8. 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 and areas necessary to construct the water obstructions and encroachments. [25 Pa. Code §§105.13(e)(1)(x), 105.14(b)(5), 105.15(a), 105.14(b)(4)]
9. The project description provided in the Cultural Resource Notice states that the second pipeline is to be installed within 5 years of the first pipeline. The project description provided in the application does not discuss this timeframe. Regarding this item: Revise the application to discuss if the pipelines will be installed at the same time, or on different schedules. [25 Pa. Code §§105.13(e)(1)(iii)(A), 105.13(e)(1)(iii)(B), 105.301(7), 105.15(a), 105.14(b)(4), 105.18a, 105.21(a)(1), 105.13(e)(1)(ix)]
 - a. If the pipelines are proposed to be installed at separate times, revise the application to clearly indicate this, and to identify the permanent and temporary impacts from the second pipeline installation. Please be advised that if issued the permit may expire before construction is completed on any second line.
 - b. If the pipelines are proposed to be installed at separate times, revise your alternatives analysis to evaluate the feasibility of installing the two pipelines concurrently with one another to avoid and minimize impacts.
 - c. You may need to revise you fee calculation spreadsheets to account for the additional, temporary disturbance resulting from a second, separate installation.
 - d. Your Erosion and Sedimentation Control Permit Application (ESG 05 000 15 001) should also reflect the two construction sequences if two separate construction periods are proposed.
10. Provide a detail that shows how flumes or other in-stream supports are used for temporary stream crossings as mentioned in the Temporary Stream Crossing detail and identify where each method will be used. [25 Pa. Code §§105.13(g)]

11. Provide site plans that depict proposed work for each ATWS within a floodway or floodplain. These plans should include at a minimum the duration of proposed activities, the expected layout, E&S controls, and size or quantity of materials or structures proposed. *[25 Pa. Code §105.13(e)(1)(i)(C)]*
12. A number of drawings in the package, for example the auger bore drawings, state that the plans are for permitting purposes only. The plans, specifications and reports in the application are part of a permit once a permit is issued and must be followed. Remove this language from the plans and provide final plans. *[25 Pa. Code §§105.13(e), 105.44(a)]*
13. The auger bore drawings reference cathodic protection being installed. Provide plans and/or details for any proposed cathodic protection and identify on the plans where and which type of cathodic protection is proposed to be installed. *[25 Pa. Code §§105.3(4), 105.11(a), 105.13(e)(1)(i)(C)]*
14. Where cathodic protection is proposed to be installed in wetlands or other areas where vegetation is proposed to be undisturbed or replanted, identify how this cathodic protection will be maintained and replaced without vegetative disturbance. *[25 Pa. Code §§105.15(a), 105.13(e)(1)(ix), 105.18a]*
15. For all Bore and HDD locations, identify where all pipe pull back, or assembly, or other areas where the pipe will be laid out, and where all construction and staging areas are located. Identify any temporary crossings or impacts for these areas to streams, wetlands, and floodways. Revise the application accordingly to include these impacts, including site-specific plans depicting the impacts and proposed temporary matting. *[25 Pa. Code §§105.13(e)(1)(i), 105.13(e)(1)(iii)]*
16. The site plan sheets and E&S plan sheets identify the floodway which appears to be measured from the centerline of the stream as opposed to measuring from the top of bank for the 50-foot assumed floodway boundary. Provide floodway boundaries on all plan drawings that adhere to the definitions in Chapter 105 by providing the FEMA mapped floodway boundary, in areas absent a FEMA mapped floodway, the floodway boundary measured 50 feet landward from the top of bank, or in areas absent a FEMA mapped floodway a floodway boundary with evidence provided that the assumed 50 feet floodway is not accurate. *[25 Pa. Code §§105.13(e)(1)(i)(A), 105.1]*
17. The Typical Wetland Crossing detail on the E&S plans indicates soil will be stockpiled in the wetland along the trench. Revise the detail to include a means of separating the stockpiled soil from the wetlands, such as geo-fabric and matting, to ensure that stockpiled soil will be completely removed and impacts will be minimized. *[25 Pa. Code §§105.423, 105.18a(a), 105.18a(b), 105.15(a), 105.14(b)(4), 105.14(b)(11), 105.14(b)(13)]*

18. The typical wetland crossing details shown on the E&S plans indicates trench breakers are to be installed in the trench in the wetlands; however it is not clear what trench breakers are or whether trench plugs are intended. Revise this detail to identify whether trench plugs are intended by this term or provide a detail for trench breakers. In addition, if trench plugs are proposed to maintain wetland hydrology, revise the detail to include trench plugs within the wetland for long wetland crossings and specify the distance increments. Furthermore, the E&S plan drawings depict trench plugs which are inconsistent with the detail. Revise the site plans to be consistent with the detail. *[25 Pa Code §105.18a(a)(1) & §105.18a(a)(3) & §105.18a(a)(4) & §105.18a(a)(5) & §105.18a(b)(2) & §105.18a(b)(3) & §105.18a(b)(4) & §105.18a(b)(5) & §105.15(a)(1) & §105.14(b)(4) & §105.14(b)(11) & §105.14(b)(13) & §105.13(e)(1)(i)]*
19. Installation of the trench plugs as depicted in the Trench Plug Detail 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 ending at the top of the bedding material. *[25 Pa. Code §§105.18a, 105.15(a)]*
20. The Typical Wetland Crossing detail on the E&S plans states that the detail does not apply to active cultivated or rotated cropland. Revise the detail to apply to all wetland crossings or provide a separate detail for wetland crossings in active cropland. *[25 Pa. Code §§105.18a, 105.15(a)]*
21. Provide a description of the expected duration each temporary stream crossing will remain in place. If the temporary stream crossing will be in place for greater than one year, then a risk analysis will be necessary. *[25 Pa. Code §§105.13(1)(iii)(A), 105.14(b)(1), 105.14(b)(3)]*
22. Identify the proposed provisions for shut-off in the event of break or rupture for each crossing. Provide locations and description of how this action will be completed in the event a break or rupture occurs. *[25 Pa. Code § 105.301(9)]*

General Application

23. Provide county specific information within the project description. *[25 Pa. Code §§105.13(e)(1)(iii)]*
24. Amend Section C of the Application to identify the size of the proposed second pipeline. Other areas in the application indicate a 16-inch pipe is to be used, but Section C describes a pipe that is up to 20-inch diameter. *[25 Pa. Code §§105.13(e)(1)(iii)(A)]*
25. Section F of the Application indicates the professional engineer's seal and certification is N/A. Plans, specifications and reports accompanying applications for any water

obstructions or encroachments which would pose a threat to human life or a substantial potential risk to property shall be affixed with seal and signature of a registered professional engineer. The seal and certification for Chapter 105 are provided in Tab 7. Remove the N/A label from Section F. *[3150-PM-BWEW0036A Rev. 3/2013 Instructions]*

26. Provide the letters of approval from PA American Water and Ephrata Area Joint Authority and update Question 16.0.2 of the GIF. *[1300-PM-BIT0001 5/2012 Instructions]*
27. Regulations 25 Pa. Code Sections 265.51 and 265.56 listed on page 3 of the PPC Plan do not exist. Correct the PPC Plan to demonstrate proper compliance. *[25 Pa. Code §105.21(a)(1); §91.33(b)]*
28. The following comments pertain the USFWS' Bog Turtle determination of not likely to adversely affect:
 - a. Provide a copy of the April 2016 Bog Turtle Conservation Plan referenced in the USFWS' June 24, 2016 letter. *[25 Pa. Code §§105.14(b)(4), 105.18a(a)(1), 105.18a(a)(5)]*
 - b. Provide copies of any additional information submitted to the USFWS for determination of affect. *[25 Pa. Code §§105.14(b)(4), 105.18a(a)(1), 105.18a(a)(5)]*
 - c. The February 29, 2019 Bog Turtle Conservation Plan states that Zone 2 will be mowed; however, the June 24, 2016 USFWS letter states that this area is to be hand cleared. Clarify the discrepancy between the two dates. *[25 Pa. Code §§105.14(b)(4), 105.18a(a)(1), 105.18a(a)(5)]*
 - d. Identify the location of Zone 2 on the plan drawings. *[25 Pa. Code §§105.14(b)(4), 105.18a(a)(1), 105.18a(a)(5)]*
 - e. Revise the plans to clearly identify the specific avoidance measures in the June 24, 2016 USFWS letter and indicate that they will be followed. *[25 Pa. Code §§105.14(b)(4), 105.18a(a)(1), 105.18a(a)(5)]*
 - f. The USFWS' June 24, 2016 letter states that a Sunoco identified measure of "ensure the HDD will be in bedrock prior to drilling beneath the wetlands by utilizing the information provide in the geotechnical reports" for wetlands A54 and A55. However, the site specific HDD drawings and profiles identity that the proposed pipelines are not proposed to be installed below the depicted "Approximate Bedrock" location. Revise the plan drawings to be consistent with the USFWS approval. In addition, provide assurance that the pipelines will be installed in bedrock at least 10

feet before drilling beneath and 10 feet after passing underneath wetlands A54 and A55. [25 Pa. Code §§105.14(b)(4), 105.18a(a)(1), 105.18a(a)(5)]

29. A water obstruction and encroachment permit may be required for the proposed water withdraws and discharges. [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), 105.14(b)(6), 105.301(1), 105.301(7), 105.301(5), 105.301(3), 105.151(1), 105.151(3), 105.161(a)(3), 105.161(4)]
- a. Provide plans and cross sections indicating pipe size, placement, and locations for all wetlands, streams, floodways and floodplains where the proposed water withdrawal and discharge piping is to be installed.
 - b. Revise the impact tables to include these impacts.
 - c. Provide a description and plans of how the water will be discharged or withdrawn, the discharge capacity, the withdraw rate, 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 obstructions will remain in place.
 - d. Provide cross sections, profiles, and hydraulic analysis for all piping placed in existing stream culverts and along and within stream channels.
 - e. Revise the Environmental Assessment to discuss the impact of the water obstructions and water withdraws from the obstructions on the resources. Where approval is being obtained from the Susquehanna River Basin Commission (SRBC), provide approval from the SRBC for the water withdraws if available.
 - f. Provide documentation of submission of proposed water obstructions and encroachments for these activities to each jurisdictional (PHMC, USFWS, PAFBC, PGC, DCNR) agency and provide clearance from these agencies.

General Plan and Impact Table

30. Provide a registered professional engineer's seal and signed certification, in accordance with §106.12(g), which shall read as follows:

“I (name) do hereby certify to the best of my knowledge, information and belief, that the information contained in the accompanying plans, specifications, and reports has been prepared in accordance with accepted professional practice, is true and correct, and is in conformance with Chapter 106 of the rules and regulations of the Department of Environmental Protection.”

If the seal/certification is submitted on a separate piece of paper, please have it refer specifically to the project name and application number shown above. Also, the seal shall be affixed on the cover page of the plan sheets. *[25 Pa. Code §§106.12(g)]*

31. Revise the application plans to include all avoidance and minimization measures for identified species of concern associated with water obstructions and encroachments from the Pennsylvania Game Commission, Pennsylvania Fish and Boat Commission, Pennsylvania Department of Conservation and Natural Resources, and the U.S. Fish and Wildlife Service. Ensure any seed mixtures, matting, or other specified items are included in the plans and/or E&S plans. In addition, revise the Environmental Assessment to discuss the avoidance and minimization measures and clearances received. *[25 Pa. Code §§105.15(a), 105.14(b)(4), 105.16(c)(3)]*
32. Page 9 of Tab 18 indicates that there will only be one temporary travel lane or access road across a stream. The aerial plans in Tab 7A do not identify the location of this proposed access. Provide plans that depict the proposed temporary lanes. *[25 Pa. Code §§105.13(e)(1)(i)(C)]*
33. There are certain portions of streams where the pipeline is located less than the minimum 25 feet away from the stream bank. These portions are near hard meanders thereby increasing the potential for exposure during stream migration. Identify and provide adequate erosion protection at these locations, or move the proposed pipes 25 feet away from the stream bank. Natural vegetative stabilization or natural stream design structures should be considered first to avoid and minimize impacts. *[25 Pa. Code §§105.314]*
34. There are plan sheets in Tab 7A with streams that do not show enough information beyond the temporary right-of-way (ie. Floodway delineation, stream orientation, and hydrologic connections) to properly evaluate the proposed impacts. Provide a better depiction of the streams outside of the proposed temporary rights of way. *[25 Pa. Code §§105.13(e)(1)(i)(A)]*
35. The site specific drawings reference "Stream Restoration" but no detail or plan for this stream restoration has been provided. Provide a plan for the stream restoration referenced in the site specific drawings. In addition, clarify if this will be utilized at additional stream crossings or not and identify the crossings where it will be utilized. *[25 Pa. Code §§105.13(e)(1)(i)(G), 105.13(e)(1)(i)(C), 105.311(2), 105.15(a)]*
36. The ATWS area in the floodway of Stream S-B82 on Sheet 9 of Tab 7A is designated for spoil; however a plan depicting the location of the spoil in conjunction with E&S controls could not be found. Provide plans that demonstrate proper measures to minimize the potential for discharge of fill material to the stream. *[25 Pa. Code §§05.13(g)]*

37. It does not appear that the temporary floodway impacts to Stream S-B82 are correctly identified. Plan Sheet 9 of Tab 7A indicates temporary impacts over 5,000 square feet including the temporary ROW and ATWS areas. Clarify this discrepancy. *[25 Pa. Code §§105.21(a)(1)]*
38. Stream S-A88 on Sheet 8 of Tab 7A indicates temporary floodway impacts, but there are none shown on either Sheet 8 or Sheet 9. Clarify this discrepancy. *[25 Pa. Code §105.21(a)(1)]*
39. The ATWS area in the floodway of Stream S-B10 on Sheet 12 of Tab 7A is designated for spoil; however a plan depicting the location of the spoil in conjunction with E&S controls could not be found. Provide plans that demonstrate proper measures to minimize the potential for discharge of fill material to the stream. *[25 Pa. Code §§105.13(g)]*
40. It does not appear that the temporary floodway impacts to Stream S-B12 are correctly identified. Plan Sheet 12 of Tab 7A indicates temporary impacts of almost 4,000 square feet including the temporary areas. Clarify this discrepancy. *[25 Pa. Code §105.21(a)(1), 105.15(a)]*
41. Temporary floodway impacts are depicted with the temporary ROW for Stream S-B13 on Sheet 13, but the temporary floodway impacts are listed as 0. Clarify this discrepancy. *[25 Pa. Code §105.21(a)(1), 105.15(a)]*
42. Temporary floodplain impacts for Stream S-A82 on Sheet 6 of Tab 7A are listed as zero; however, temporary right-of-way is depicted within the floodplain, and Table 4 of Tab 11 indicates that the floodplain crossing method includes open cut. Clarify this discrepancy. *[25 Pa. Code §§105.13(e)(1)(i)(A), 105.13(e)(1)(i)(C)]*
43. The ATWS in the floodplain of Stream S-J59 on Sheet 4 of Tab 7A does not describe the type of equipment or spoil designated for the area, or what the duration of the ATWS will be. *[25 Pa. Code §105.13(e)(1)(i)(C)]*
44. The ATWS in the floodplain of Stream S-K35 on Sheet 3 of Tab 7A does not describe the type of equipment or spoil designated for the area, or what the duration of the ATWS will be. *[25 Pa. Code §§105.13(e)(1)(i)(C)]*
45. The Preface and Section 5 of the PPC plan state that spill prevention or notification is not required; however, spill prevention is described in Section 3.0 of the PPC plan. Furthermore, Section 5.3 of the PPC plan does not require notification of downstream users. Provide information that supports the statements that spill prevention and downstream user notification are not required. *[25 Pa. Code §§105.21(a)(1), 105.13(g)]*

46. Table 3 of Tab 11 and the stream data sheet for Stream S-A81 indicate that the bank to bank width is 2 feet, but Table 1, page 1, and page 3-9 of the Aquatic Resource Report indicate 1.5 feet. Clarify this discrepancy. *[25 Pa. Code §§105.21(a)(1), 105.13(e)(1)(i)(A), 105.13(e)(1)(i)(C)]*
47. Table 3 of Tab 11 and the stream data sheet for Stream S-A78 indicate that the bank to bank width is 3 feet, but Table 1, page 1, and page 3-10 of the Aquatic Resource Report indicate 2.5 feet. Clarify this discrepancy. *[25 Pa. Code §§105.21(a)(1), 105.13(e)(1)(i)(A), 105.13(e)(1)(i)(C)]*
48. Table 3 of Tab 11 and the stream data sheet for Stream S-A76 indicate that the bank to bank width is 4 feet, but Table 1, page 2, and page 3-10 of the Aquatic Resource Report indicate 3.5 feet. Clarify this discrepancy. *[25 Pa. Code §§105.21(a)(1), 105.13(e)(1)(i)(A), 105.13(e)(1)(i)(C)]*
49. Table 3 of Tab 11 and the stream data sheet for Stream S-A88 indicate that the bank to bank width is 2 feet, but Table 1, page 1, and page 3-10 of the Aquatic Resource Report indicate 1.5 feet. Clarify this discrepancy. *[25 Pa. Code §§105.21(a)(1), 105.13(e)(1)(i)(A), 105.13(e)(1)(i)(C)]*
50. There are plan sheets in Tab 7A with streams that do not show enough information beyond the temporary right-of-way (ie. Floodway delineation, stream orientation, and hydrologic connections) to properly evaluate the proposed impacts. Provide a better depiction of the streams outside of the proposed temporary rights of way. *[25 Pa. Code §§105.13(e)(1)(i)(A)]*
51. Indicate why a flume option is not selected for larger streams in lieu of bypass pumping. *[25 Pa. Code §§105.13(e)(1)(viii)]*
52. The E&S sheet numbers on the Tables in Tab 11 do not correspond to the E&S plan provided for Lancaster County. Clarify this discrepancy. *[25 Pa. Code §§105.21(a)(1) § 105.13(g)]*
53. There is no HDD Table located in Attachment A, of Appendix A, Tab 9. Provide the missing table. *[25 Pa. Code §§105.21(a)(1)]*
54. 25 Pa. Code § 93 classifies unnamed tributaries to Cocalico Creek as WWF; however, the submission identifies them as HQ-WWF. In addition, the Chapter 93 designations should not be listed as “drains to.” Correct the submission to reflect the proper designated uses. *[25 Pa. Code §§105.13(e)(1)(A)]*
55. The Auger Bore Plan drawing PPP-PA-LA-0004.0003-AR depicts permanent ROW and Temporary ROW in wetland J54 and stream S-J59. This is not depicted on other plan

drawings or the impact table. Revise this auger bore drawing to be consistent with the other plan drawings and minimize impacts to the stream and wetland. [25 Pa. Code §§105.13(e)(1)(i), 105.21(a)(1)]

56. The site plan drawing indicates stream S-J59 and wetland J54 are to be bored. However, the Auger Bore Plan drawing PPP-PA-LA-0004.0003-AR does not indicate any bore pits or that the pipeline is proposed to be bored underneath these resources. Provide an auger bore plan and profile for the crossing of these resources. [25 Pa. Code §§105.13(e)(1)(i), 105.301(5)]
57. The E&S plan drawing ES-1.12 is inconsistent with the site plan drawings and the HDD plan drawings which only depict one continuous HDD for each pipeline. Revise the E&S plan drawings to be consistent and accurate with the rest of the application. [25 Pa. Code §§105.13(e)(1)(i), 105.21(a)(1)]
58. The site specific drawing S-B83-C-101 depicts different temporary wetland and stream crossing impacts than the E&S site plan drawing ES-1.17. Revise the plan drawings to be consistent and accurately depict the proposed impacts. [25 Pa. Code §§105.13(e)(1)(i), 105.21(a)(1)]
59. Revise the site specific drawing S-B83-C-101 to clearly depict the stream banks of stream S-B83 and the limits of excavation. [25 Pa. Code §§105.13(e)(1)(i), 105.301(1)]
60. The site specific drawing S-B83-C-101 appears to depict that the width of the timber mat crossing will in some locations only be supported on one side (left or right) of the matting. Clarify how the timber mats are to be installed in such a manner. [25 Pa. Code §§105.151(1)]
61. Provide profiles for the temporary crossings identified in the E&S plan that depict at a minimum the existing conditions and the proposed conditions. Provide information regarding the length of time that all temporary crossings will be in place. Some of the plans appear to use unnatural stream contours upon restoration. Identify the aggregate and the typical timber mat crossing being used. [25 Pa. Code §§105.13(e)(1)(i)(B), 105.13(e)(1)(i)(C)]
62. The site plan sheets and E&S plan sheets identify the floodway which appear to be measured from the centerline of the stream as opposed to the top of bank for the 50-foot assumed floodway boundary. Provide floodway boundaries on all plan drawings that adhere to the definitions in Chapter 105 by providing the FEMA mapped floodway boundary, in areas absent a FEMA mapped floodway, the floodway boundary measured 50 feet landward from the top of bank, or in areas absent a FEMA mapped floodway a floodway boundary with evidence provided that the assumed 50 feet floodway is not accurate. [25 Pa. Code §§105.13(e)(1)(i)(A), 105.1]

63. For all Bore and HDD locations, identify where all pipe pull back, or assembly, or other areas where the pipe will be laid out, and all construction and staging areas are located. Identify any temporary crossings or impacts for these areas to streams, wetlands, and floodways and revise the application accordingly to include these impacts, including site-specific plans depicting the impacts and proposed temporary matting. *[25 Pa. Code §§105.13(e)(1)(i), 105.13(e)(1)(iii)]*
64. The plans depict that stream S-B13 starts adjacent to the proposed ROW; however, it appears that the stream starts above the ROW and flows through the ROW. It also appears on aerial photographs that a stream flows through wetland B11. The photographs and narrative do not give justification, nor appear to depict that a stream is not present nor why stream S-B13 begins. Revise the application to explain this delineation of the streams, and ensure that its floodway and proposed floodway impacts are fully identified and depicted and include color photographs which depict the resource and surrounding area sufficiently. *[25 Pa. Code §§105.13(e)(1)(i)(A), 105.13(e)(1)(iv)]*
65. Provide site specific cross sections for the streams and wetlands which depict the existing and proposed conditions of the streams and wetlands, proposed pipes and depths, and the existing stream bed and banks dimensions. *[25 Pa. Code §§105.13(e)(1)(i)(G), 105.14(b)(4), 105.301(3), 105.301(4), 105.301(5)]*
66. The Mitigation Plan states that the excavated stream banks will be reseeded; however the E&S detail for bank restoration does not indicate this. Revise the Bank Restoration Detail to be consistent and include the native seeding mixture to be utilized. *[25 Pa. Code §§105.13(e)(1)(ix), 105.14(b)(4), 105.21(a)(1)]*
67. The E&S plan details for temporary stream crossings and plan drawings state timber mats or temporary equipment bridge may be utilized but only depicts a timber mat bridge. Provide details for the proposed temporary equipment bridge(s) which depict the size, shape, and span of the structure. Provide separate details depicting the timber mat and other bridge structure crossing's cross sections. In addition, revise the E&S plan and/or other plan drawings to identify the method of each temporary stream crossing proposed at each location. *[25 Pa. Code §§105.13(e)(1)(C), 105.13(e)(1)(i)(G), 105.13(e)(1)(iii)(A), 105.151(1), 105.21(a)(1)]*
68. Trench plugs are proposed to be located at wetland/upland interfaces. Additional trench plugs may be necessary along the length of the crossing due to the length and/or slope to maintain hydrology throughout the wetland. Review and revise the application and plans accordingly. Some additional guidance is available in the PA E&S Control BMP Manual. *[25 Pa. Code §§105.13(e), 105.18a]*

69. Temporary road stream crossing details utilizing culverts are provided on E&S plans ES-0.08 and ES-0.10; however, the E&S plans and impact plans do not identify that any of these crossings are to be used. Revise the E&S plans to remove these proposed crossing methods if not proposed to be utilized, or identify where the proposed crossing methods will be utilized. *[25 Pa. Code §§105.13(e)(1)(i)(C), 105.151(1), 105.21(a)(1), 105.13(e)(1)(iii)(A)]*
70. Revise the stream Bank Restoration Detail to clearly indicate that the existing bank slope and grade and elevation are to be restored, to identify a biodegradable erosion control blanket to be utilized, and to specify the native plantings to be used. In addition, some stream banks are likely to be a-typical, like vertical banks, or very low banks, or eroding banks. Provide plans and details for how banks of a-typical conditions will be restored. *[25 Pa. Code §§105.13(e)(1)(i)(G), 105.13(e)(1)(ix), 105.1, 105.13(e)(1)(x), 105.15(a)(1), 105.14(b)(4), 105.16(d)]*
71. 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 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, 105.13(e)(1)(x), 105.15(a)(1), 105.14(b)(4), 105.16(d)]*
72. Streams S-B12 and S-B13 which begin within the proposed ROW or immediately adjacent thereto it are proposed to be crossed by the proposed pipelines. Revise the application to discuss and provide plans outlining how source(s) of the streams will be protected and maintained. Revise the Environmental Assessment and Mitigation Plan to discuss the impacts to the streams both within the ROW and the downstream affects to the resources and properties. Provide compensatory mitigation for streams in which flow will be adversely affected. *[25 Pa. Code §§105.13(e)(1)(ix), 105.13(e)(1)(x), 105.14(b)(4), 105.14(b)(12), 105.14(b)(3), 105.15(a)(1), 105.16(d)]*
73. The Mitigation Plan states that for HDD crossings, a telemetry guidance system will be used.
 - a. Revise the application to identify what type of telemetry guidance system will be utilized; specifically if it will utilize cables, wires, or other obstructions placed or strung across waters of the Commonwealth. *[25 Pa. Code §§105.13(e)(1)(iii), 105.13(e)(1)(i), 105.301(7)]*
 - b. If cables, wires, or other obstructions will be utilized across waters of the Commonwealth revise the application to identify these temporary impacts, include them in the impact tables. Provide plan drawings and cross sections depicting the obstructions, and provide information on the purpose, function, and length of time they will be installed. *[25 Pa. Code §§105.13(e)(1)(i), 105.301(3), 105.301(5),*

105.15(a), 105.13(e)(1)(iii)]

- c. If cables or other obstructions are proposed over streams, an Aids-To-Navigation (ATON) Plan may be required by the PA Fish and Boat Commission; therefore, if cables or other obstructions are proposed, provide approved ATON plans along with approvals and/or documentation from the PA Fish and Boat Commission documenting where ATON plans are not applicable. Contact Thomas Burrell with the Pennsylvania Fish and Boat Commission at 717.705.7838 regarding ATON requirements. *[25 Pa. Code §§105.14(b)(6), 105.21(a)(2), 105.14(b)(2)]*
74. The impacts described under Section 5.0 of the Mitigation Plan are inconsistent with the impacts provided in the impact tables in the Environmental Assessment. Revise this inconsistency to state the correct impact totals throughout the application. *[25 Pa. Code §§105.15(a), 105.21(a)(1), 105.13(e)(1)(i)(ix)]*
75. Provide information about the pump size, flow rate, and duration of use for those open cut crossings (dry crossings) that will use the typical bypass pump-around method. Provide justification for why larger streams do not utilize the proposed flume option. How will aquatic life be able to pass throughout the stream safely? *[25 Pa. Code § 105.401(4), 105.13(g)]*
76. The application states that the period of instream work to install the proposed pipeline(s) will be less than 24 hours in minor waterbodies and 48 hours for crossing of “intermediate” (10-30’ across) waterbodies. Describe how these timeframes coincide with the hydrostatic testing procedures outlined in the project description. Do the trenches remain open during testing? To facilitate the further understanding of your project, revise your application to discuss the estimated time installation will take in crossings of wetlands and larger watercourses. *[25 Pa. Code § 105.13(e)(1)(iii)]*

Environmental Assessment

77. Revise the application to clarify if the exceptional value wetland analysis included all factors listed in 25 Pa Code §105.17(1). If the analysis did not consider all factors, revise it to analyze all factors and update the application. *[25 Pa. Code §§105.13(e)(1)(x)(B), 105.17(1)]*
78. Provide an assessment of the functions and values of any additional Exceptional Value wetlands and wetland with impacts over 1 acre. *[25 Pa. Code §§105.13(e)(3), 105.15(a)]*
79. Enclosure C of the Environmental Assessment discusses the various sections in terms relative to the existing pipeline ROW; however, the proposed ROW does not fully overlap the existing ROW but abuts/parallels the existing ROW. Revise Enclosure C to discuss the functions, habitat, and other factors in Enclosure C outside of the existing

ROW and in areas of proposed impact and the overall resources. [25 Pa. Code §§105.13(e)(1)(x), 105.15(a), 105.14(b)(4)]

80. 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. Locate the public drinking water supplies in the vicinity of the proposed pipeline. 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 DEP's eMapPA to identify public water supplies in the vicinity of your project. [25 Pa. Code §§105.13(e)(1)(ii) & 105.13(e)(1)(x) & 105.14(b)(5)]
- a. Upon identification of public drinking water supplies, revise questions 14.0, 15.0, and 16.0 of the General Information Form accordingly. [General Information Form Instructions]
 - b. Upon identification of public drinking water supplies, revise the Environmental Assessment Form and associated enclosures accordingly to discuss the resources and impacts from water obstructions and encroachments on the public water supplies. [25 Pa. Code §§105.15(a), Environmental Assessment Form Instructions]
 - c. Upon identification of public drinking water supplies, revise the Alternatives Analysis and Mitigation Plan accordingly to avoid and minimize impacts to public water supplies and provide a detailed discussion on alternative routes, designs and methods documenting that there is no practicable alternative to further avoid and minimize impacts. [25 Pa. Code §§105.13(e)(1)(viii), 105.13(e)(1)(ix), 105.14(b)(5)]
81. The application does not identify if the resources proposed to be affected are part of or located along a private water supply, including surface and groundwater sources. Revise the application and the Environmental Assessment to identify if any of the proposed resources are part of or located along a private water supply. [25 Pa. Code §§105.15(a), Environmental Assessment Form Instructions]
- a. If private water supplies are identified, revise Enclosures C and D of the Environmental Assessment to identify them and discuss the impacts on them from the proposed water obstructions and encroachments.
 - b. Provide procedures that will be followed to investigate and resolve impacts to private water supplies should they occur as a result of the proposed activities. These procedures should discuss, at a minimum, how private water supply owners will be

alerted in the event of an inadvertent return and how impacts will be resolved and/or mitigation.

82. Section F, Attachment 11, EA Form, Page 2, item 7 states, "Is the water resource part of or located along a private or public water supply?" The Applicant checked "No". However, no documentation validating this statement is provided in the application. The Department is concerned that private and perhaps public water supply wells are located along crossed stream and wetland water resources and/or along the length of the HDD operations. The applicant needs to propose measures to protect all water uses, both surface intakes and groundwater sources, located along and/or downstream of the proposed work areas. Special attention needs to be applied to the potential unplanned impacts that HDD and inadvertent releases (IR) may have on groundwater sources. In addition, where a structure or activity is in a wetland, the applicant must demonstrate that this project will not cause or contribute to the pollution of groundwater or surface water resources or diminution of resources sufficient to interfere with their uses, including use as a public or private water supply. Your assessment needs to include identification, notification and consultations with water suppliers and/or well owners. A notification contact list needs to be included in your PPC Plan and Inadvertent Release Plan. [25 Pa Code §105.13; §105.14(b)(4); §105.14(b)(5); §105.18a(5); §105.18a(b)(5); §91.33(b)].
83. Revise Enclosure D of the Environmental Assessment to evaluate how pipe installation combined with permanent ROW maintenance will not result in an adverse impact to wetlands. The evaluation should specifically include a discussion of potential impacts to hydrology that could occur from open cut installation. This evaluation should also address any potential impacts the use of HDD drilling fluids would have on wetland hydraulics. [25 Pa. Code §§105.13(e)(1)(x), §105.15(a)]
84. In regards to the proposed pipeline crossings of wetland A55 and streams S-A82, S-A83, S-A80, and S-A81:
- a. It appears your proposed construction workspace will encroach upon proposed easement boundaries for the Transcontinental Gas Pipeline Company, LLC.'s proposed Hibred Farms compensatory mitigation site. Revise the application to discuss the effects of the water obstruction and encroachments on the proposed compensatory mitigation and provided documentation of communication with Transcontinental Gas Pipeline Company. [25 Pa. Code §§105.14(b)(4), 105.14(b)(12), 105.14(b)(14), 105.15(a)]
 - b. The proposed "Permanent Easement (no surface disturbance) boundary and "Permanent ROW" boundary appear to conflict with the proposed easement boundaries for the Transcontinental Gas Pipeline Company, LLC.'s proposed Hibred Farms Compensatory mitigation site. Revise the application to discuss the effects of the water obstruction and encroachments on the proposed compensatory mitigation, including the effects of operation and maintenance and provide documentation of communication with

Transcontinental Gas Pipeline Company. [25 Pa. Code §§105.14(b)(4), 105.14(b)(12), 105.14(b)(14), 105.15(a)]

85. Revise Enclosures C & D to discuss the watercourses and wetlands proposed to be impacted and the impacts on them, and not discuss the impacts in general terms of the overall project or general type of impacts. [25 Pa. Code §§105.13(e)(1)(x), §105.15(a)]
86. 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), and *Environmental Assessment Instructions*]
87. Revise Enclosure D of the Environmental Assessment to discuss the impacts on the Game Lands crossed in Lancaster County by the Water Obstructions and Encroachments, and provide documentation of coordination and approval from the Pennsylvania Game Commission. The discussion of impacts affects multiple sections of Enclosure D; such as but not limited to State Game Lands, Federal, State, Local, Migration, and Private Plant or Wildlife Sanctuaries, Environmental Study Areas, Hunting, etc. As necessary, provide any supporting documentation and/or coordination materials for the approval from the Game Commission. [25 Pa. Code §§105.13(e)(1)(x), 105.15(a), 105.14(b)(5), *Environmental Assessment Form Instructions*]
88. Enclosure C of the Environmental Assessment mentions that the project crosses the Middle Creek Important Bird Area (IBA), but Enclosure D does not discuss the impacts that water obstructions or encroachments may have on this area. Revise Enclosure D of the Environmental Assessment to discuss the impacts the proposed water obstructions and encroachments will have on this area. In addition, identify if/how the recommendations in the USFWS letter dated June 24, 2016 are being addressed. [25 Pa. Code §§105.13(e)(1)(x), 105.14(b)(4), 105.14(b)(5), 105.15(a)]
89. Revise section B.1.b.5. of Enclosure D of the Environmental Assessment to discuss the impacts of the water obstructions and encroachments on migration both within and outside the boundaries of Middle Creek Wildlife Management Area. [25 Pa. Code §§105.15(a), 105.14(b)(4), 105.14(b)(5), 105.18a(a)(1), 105.18a(b)(1)]
90. Revise section D.5 of Enclosure C of the Environmental Assessment to identify the Middle Creek Cocalico Creek Supporting Landscape, Allegheny Creek Supporting Landscape, Little Muddy Creek Supporting Landscape, and the Millbach Spring Wetlands Supporting Landscape. [25 Pa. Code §§105.13(e)(1)(x), 105.15(a), 105.14(b)(4), 105.14(b)(5)]
91. Update and revise section A.3 of Enclosure D of the Environmental Assessment to discuss any avoidance and minimization measures relative to clearance for the

Pennsylvania Historical and Museum Commission. [25 Pa. Code §§105.13(e)(1)(x), 105.15(a), 105.14(b)(5), *Environmental Assessment Form Instructions*]

92. Section A.3 of Enclosure D of the Environmental Assessment identifies the Allegheny Portage Railroad of the Pennsylvania Canal in Cumberland County, when it is located in Blair County. Revise this section to be accurate. [25 Pa. Code §§105.13(e)(1)(x), 105.21(a)(1), 105.15(a)]
93. 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. Discuss how the minimization measures would affect preserved farms and how they will be affected, such as not being able to replant an orchard or vineyard. [25 Pa. Code §§105.13(e)(1)(x), 105.15(a), 105.14(b)(5), 105.14(b)(4), *Environmental Assessment Form Instructions*]
94. Revise the Environmental Assessment to discuss the impacts to each wetland where a vegetative class change is proposed (ex. PFO to PSS). The discussion should be specific to the wetland and its functions and values. [25 Pa. Code §§105.14(b)(4), 105.14(b)(13), 105.14(b)(11), §105.15(a), 105.18a(b), 105.18a(a)]
95. Revise Section B.1.c. of Enclosure D of the Environmental Assessment to discuss, any avoidance and minimization measures, and committing to implementing them. It currently states that clearances are being worked on. [25 Pa. Code §§105.15(a), 105.14(b)(4), 105.21(a)(1)]
96. Revise Enclosure D to discuss potential impacts to Core Habitat Areas and Supporting Landscapes identified in Enclosure C of the Environmental Assessment from the proposed water obstructions and encroachments. [25 Pa. Code §§105.15(a), 105.14(b)(4)]
97. Revise the description of wetland functions and values to not only include the principle functions and values, but all the functions and values the wetlands provide. [25 Pa. Code §§105.13(e)(2), 105.14(b)(13), 105.15(a)]
98. Based on the functions and values descriptions wetlands may contain groundwater discharges, such springs, maybe concave and not connected to groundwater. Identify and provide a discussion on any potential permanent impacts to wetland hydrology from excavation or alteration from construction of the proposed project. Provide a plan, plan sheets, cross sections, and other details which demonstrate that impacts to the wetlands' hydrology from alteration of restrictive layers have been avoided and minimized. [25 Pa. Code §§105.15(a), 105.13(e)(1)(x), 105.14(b)(4), 105.14(b)(13), 105.18a(a), 105.18a(b)]

99. Section B.2.a of Enclosure D of the Environmental Assessment states the natural drainage patterns of the wetlands and small or headwater streams will be maintained. However, no information has been provided including detailed contours or cross sections depicting the drainage patterns, cross section, or what the drainage patterns are in the wetlands in their existing conditions. Explain how the final “restored” wetland elevations and natural drainage patterns of wetlands and streams will be determined. *[25 Pa. Code §§105.13(e)(1)(x), 105.14(b)(4), 105.14(b)(11), 105.15(a), 105.18a(a), 105.18a(b)]*
100. 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]*
101. Revise Enclosures C&D to assess the condition and discuss the condition of and impacts to forested and scrub shrub riparian areas. Revise the enclosures to discuss the primary impacts and secondary impacts, as well as consideration of antidegradation on watercourses for each watercourse crossing from the riparian vegetation impacts. *[25 Pa. Code §§105.15(a), 105.13(E)(1)(x), 105.14(b)(4), 105.14(b)(11), 105.14(b)(12), 105.14(b)(14)]*
- a. In general, the Department recommends evaluating the riparian areas from the top of bank landward 100ft, and if the area utilized is less than 100ft justification should be given as to why. *[25 Pa. Code §§105.15(a), 105.13(E)(1)(x), 105.14(b)(4), 105.14(b)(11), 105.14(b)(12), 105.14(b)(14), Riparian Forest Buffer Guidance, Document # 394-5600-001]*
 - b. To avoid and minimize the impacts to the watercourses, provide a plan to replace the vegetation lost in both permanent and temporary ROW and workspaces. Alternatively, where it cannot be replaced and provided protection from clearing during the proposed project’s operation and maintenance, provide an explanation as to why it cannot be replaced. *[25 Pa. Code §§105.15(a), 105.13(E)(1)(x), 105.14(b)(4), 105.14(b)(11), 105.14(b)(12), 105.14(b)(14), 105.1, 105.14(b)(7)]*
 - c. Revise the application plan drawings and project description to clearly and specifically state if vegetation clearing, cutting, removal, or other alteration is proposed as part of the proposed projects’ construction, operation, and maintenance. Revise the plan drawings to clearly indicate all locations where maintenance clearing, cutting, removal, or other alternation is not part of proposed maintenance activities.

[25 Pa. Code §§105.13(e)(1)(ix), 105.14(b)(4), 105.14(b)(12), 105.14(b)(13), 105.14(b)(14), 105.11(d)]

102. To aid in evaluating the condition of and change in condition to watercourses and wetlands as discussed in other comments, the Department recommends utilizing the Draft Pennsylvania Riverine Condition Level 2 Rapid Assessment Protocol and the Draft Pennsylvania Wetland Condition Level 2 Rapid Assessment Protocol. These protocols are not for identifying the functions and values of the resources, but rather are utilized to assess the current and proposed conditions of the resources. *[25 Pa. Code §§105.14(a), 105.14(b)(4), 105.14(b)(13), 105.14(b)(12), 105.15(a), 105.13(e)(1)(x)]*

Mitigation Plan/Environmental Assessment

103. The Mitigation Plan appears to indicate that streams and wetlands which will be crossed by HDD are not proposed to have vegetative impacts either during construction or during operation and maintenance of the proposed pipelines. However, it is unclear on the plan drawings and in the application narrative precisely if vegetation cutting, clearing, removal, or grubbing is or is not part of the proposed construction, operation, and maintenance. Where Horizontal Directional Drill (HDD) and Bore crossings of resources are proposed a Permanent Easement is identified and impacts are identified as permanent only for the pipe size itself, and at other resource crossings a permanent ROW is identified and impacts are identified as permanent for the entire ROW. No explanation has been provided in the application for this different nomenclature.
- a. Revise the application plan drawings and application narratives, including but not limited to the project description and mitigation plan, to clearly and specifically state if vegetation clearing, cutting, removal, or other alteration is or is not proposed as part of the proposed projects' normal construction, operation, and maintenance. *[25 Pa. Code §§105.13(e)(1)(ix), 105.14(b)(4), 105.14(b)(12), 105.14(b)(13), 105.14(b)(14), 105.11(d)]*
 - b. Revise the plan drawings to clearly indicate all locations where maintenance clearing, cutting, removal, or other alternation is not part of proposed maintenance activities. *[25 Pa. Code §§105.13(e)(1)(ix), 105.13(e)(1)(i), 105.14(b)(4), 105.14(b)(12), 105.14(b)(13), 105.14(b)(14), 105.11(d)]*
 - c. If construction, normal operation, or normal maintenance activities will require the clearing, cutting, removal, or other alteration of the vegetation in or adjacent to the wetland and streams the application must be revised to identify and discuss in detail the primary impacts and secondary impacts to these resources from the proposed project. The applications Environmental Assessment should be revised to discuss the resources and the impacts thereto. Compensatory mitigation may be necessary and required to compensate for impacts to these resources. *[25 Pa. Code §§105.15(a),*

*105.13(e)(1)(x), 105.14(b)(4), 105.14(b)(12), 105.14(b)(13), 105.14(b)(14),
105.14(b)(11), 105.13(e)(1)(ix), 105.15(a), 105.18a(a), 105.18a(b)]*

104. The Mitigation Plan implies through mention of “No Mow” signs that PSS and PFO wetlands which will be crossed by open cut methods are not proposed to have vegetative impacts after they are re-vegetated following construction during the operation and maintenance of the proposed pipelines. However, it is unclear on the plan drawings and in the application narrative precisely if vegetation cutting, clearing, removal, or grubbing is or is not part of the proposed operation, and maintenance of the proposed pipelines.
- a. Revise the application plan drawings and application narratives, including but not limited to the project description and mitigation plan, to clearly and specifically state if vegetation clearing, cutting, removal, or other alteration is or is not proposed as part of the proposed projects’ normal construction, operation, and maintenance. *[25 Pa. Code §§105.13(e)(1)(ix), 105.14(b)(4), 105.14(b)(12), 105.14(b)(13), 105.14(b)(14), 105.11(d)]*
 - b. Revise the plan drawings to clearly indicate all locations where maintenance clearing, cutting, removal, or other alteration is not part of proposed maintenance activities. *[25 Pa. Code §§105.13(e)(1)(ix), 105.13(e)(1)(i), 105.14(b)(4), 105.14(b)(12), 105.14(b)(13), 105.14(b)(14), 105.11(d)]*
 - c. If construction, normal operation, or normal maintenance activities will require the clearing, cutting, removal, or other alteration of the vegetation in or adjacent to the wetlands the application must be revised to identify and discuss in detail the primary impacts and secondary impacts to these resources from the proposed project. The applications Environmental Assessment should be revised to discuss the resources and the impacts thereto. Compensatory mitigation may be necessary and required to compensate for impacts to these resources from these impacts. *[25 Pa. Code §§105.14(b)(4), 105.14(b)(12), 105.14(b)(13), 105.14(b)(14), 105.15(a), 105.11(d), 105.13(e)(1)(ix), 105.18a(a), 105.18a(b)]*
105. The Mitigation Plan and Environmental Assessment state that conversion of Palustrine Forested Wetlands (PFO) is proposed to occur, that there will be a functional loss, but the loss is de minimus.
- a. Revise the Mitigation plan to replant the PFO wetlands in the permanent and temporary ROW with native trees if possible, and if not possible provide specific details and documentation on why this is not possible. *[25 Pa. Code §§105.13(e)(1)(viii), 105.1, 105.14(b)(4), 105.14(b)(13), 105.18a(a), 105.18a(b)]*
 - b. Based on the Mitigation Plan, PSS wetlands are acceptable in the permanent ROW. Therefore, if replanting of PFO wetlands in the permanent or temporary ROW is not

possible, revise the mitigation plan to replant converted PFO wetlands in the ROW with shrubs. [25 Pa. Code §§105.13(e)(1)(viii), 105.1, 105.14(b)(4), 105.14(b)(13), 105.18a(a), 105.18a(b)]

- c. The application does not evaluate the cumulative conversion of PFO wetlands for the entire project. The applications for Blair, Huntingdon, Juniata, Perry, Cumberland, York, Dauphin, Lebanon, Lancaster, and Berks Counties within the Department's Southcentral Region propose a conversion on approximately 0.528 acre of PFO wetlands. Based on the Department's review of the impacts for PFO wetlands, compensatory mitigation is required to offset the identified PFO functional impacts of conversion to PSS. Revise the application to assess the impact to the effected forested wetlands, evaluate the cumulative effect on all counties of the proposed project, and provide compensatory replacement for the lost functions and values. [25 Pa. Code §§105.13(e)(1)(ix), 105.13(e)(1)(viii), 105.14(b)(4), 105.14(b)(12), 105.14(b)(13), 105.14(b)(14), 105.15(a), 105.18a(a), 105.18a(b), 105.20a(a)(2)]

106. The application states that temporarily impacted Palustrine Scrub Shrub (PSS) and PFO wetlands will be replanted with native trees and shrubs, PSS wetlands in the permanent ROW will be planted with wetland shrubs, and PFO wetlands in the permanent ROW will be allowed to revert to PSS/PEM wetlands. Provide planting plans and details for these areas and for the replanting of PFO areas in the permanent and temporary ROWs. The planting plans must identify the locations of the plantings and wetlands, the species to be planted, the planting density, the proposed size of the plantings, planting timing, goals and objectives for success, and a monitoring plan to ensure re-establishment. [25 Pa. Code §§105.13(e)(1)(ix), 105.18a(a), 105.18a(b), 105.20a]
107. Section 2.2.2.1 of the Mitigation Plan, Construction in Wetlands with Unsaturated Soils, conflicts with the rest of the application, which identifies that all wetland crossings will be crossed with mats or pads. Crossing unsaturated wetlands without timber mats would contribute to soil compaction, rutting, and disturbance of the cut vegetation's roots. Therefore, revise the Mitigation Plan to identify that all wetland crossings shall use mats or pads. [25 Pa. Code §§105.21(a)(1), 105.13(e)(1)(ix), 105.15(a), 105.18a(a), 105.18a(b)]
108. Section 2.2.2.1 of the Mitigation Plan identifies that wetlands will be reseeded with a native wetland seed mixture; however, the mixture is not specified nor is it proposed on the plans. Revise the application to identify the seed mixture to be used and revise the E&S plans to indicate its use for wetland restoration in the Typical Wetland Restoration detail. [25 Pa. Code §§105.13(e)(1)(ix), 105.14(b)(4), 105.14(b)(13)]

Alternatives Analysis

109. The Alternatives Analysis states that the Alternatives Analysis is meant to be a summary of major actions taken to avoid/minimize impacts. The Alternatives Analysis must be a detailed analysis of alternatives, including alternative locations, routings, or designs to avoid or minimize adverse impacts and document and provide evidence that there is no practicable alternative which would not involve a wetland or that would have less adverse impact on a wetland. In addition, for the project to be water dependent as stated in the Alternatives Analysis, it must be based on the demonstrated unavailability of any alternative route location, or design or use of location, route or design to avoid or minimize adverse impacts. Revise the Alternatives Analysis to provide a detailed analysis of alternative routings, locations, and designs to avoid and minimize impacts and provide detailed documentation and evidence that there are not practicable alternatives which would further avoid and minimize impacts. [25 Pa. Code §§105.13(e)(1)(viii), 105.14(b)(7), 105.18a(a)(2), 105.18a(a)(3), 105.18a(b)(2), 105.18a(b)(3)]

In addition, address the following specific comments regarding the Alternatives Analysis:

- a. The Alternatives Analysis states that the proposed project was co-located with an existing pipeline for the majority of the route. However, there is a route deviation from the Lebanon County border to wetland W8c that is away from the existing Sunoco pipeline proposed to occur within Lancaster County. No information, details, or documentation on alternate route selection to avoid and minimize impacts has been provided. Provide a detailed alternatives analysis which contains evidence and documentation on potential and avoided impacts for the existing alignment, proposed alignment, and other potential route alignments which documents that impacts cannot be further avoided and minimized. [25 Pa. Code §§105.13(e)(1)(viii), 105.14(b)(7), 105.18a]
- b. Revise the Alternatives Analysis to discuss, evaluate, and provide a detailed analysis on alternative routes to avoid and minimize impacts to High Quality Streams and watersheds. [25 Pa. Code §§105.14(b)(7), 105.13(e)(1)(viii)]
- c. Revise your alternatives analysis to discuss routing alternatives that were considered as alternatives to impacts Exceptional Value wetlands. [25 Pa. Code §§105.13(e)(1)(viii), 105.14(b)(7), 105.18a(a)]
- d. Some portions of the proposed ROW and pipelines directly abuts the maintenance corridor of the existing Sunoco pipeline; however, in other portions the proposed ROW has partial or near complete overlap with the existing maintenance area and pipeline. No discussion on this is provided in the alternatives analysis, and it appears that more overlap of the proposed ROW and the existing Sunoco Maintenance corridor is practicable and would further avoid and minimize impacts. Revise the

- application accordingly to avoid and minimize impacts by locating the proposed ROW with overlap of the existing maintenance corridor, or provide a detailed analysis and discussion with specific details explaining why this overlap is present in some areas and not others, and why the proposed ROW cannot further overlap. [25 Pa. Code §§105.14(b)(7), 105.13(e)(1)(viii), 105.18a(a), 105.18a(b)]
- e. It appears that several waters of the Commonwealth could be crossed using trenchless installation methods. Revise the application accordingly, or provide a revised alternatives analysis that incorporates a discussion of alternative crossing techniques (conventional bore, HDD, micro-tunneling, etc.) that includes documentation and evidence addressing each resource crossing and explaining why trenchless installation methods are not appropriate. [25 Pa. Code §§105.14(b)(7), 105.18a(b)(3), 105.18a(a)(3), 105.13(e)(1)(viii)]
 - f. It appears that primary impacts and secondary impacts from the Temporary ROW and ATWS's can be avoided by locating them outside the floodway of streams. Revise the application accordingly to avoid and minimize impacts, or provide a detailed analysis of alternative routes, designs and methods to avoid and minimize these impacts which documents and provides evidence that other routes and designs would not further avoid or minimize impacts. [25 Pa. Code §§105.13(e)(1)(viii), 105.14(b)(7)]
 - g. It appears, but is not described in the application, that HDD was assumed by the applicant to be the crossing method presenting the least potential impact to water resources and aquatic species. Revise the alternatives analysis to provide justification for the selection of which water resource (streams and wetlands) crossings will be made by HDD. [25 Pa. Code §§105.14(b)(7), 105.18a(b)(3), 105.18a(a)(3), 105.13(e)(1)(viii)]
 - h. The following pertain to streams S-A82, S-A83, S-A80, S-A81, S-A79, S-A78, and S-A77 and wetlands A54 and A55 [25 Pa. Code §§105.13(e)(1)(viii), 105.14(b)(7), 105.18a]:
 - i. It appears that impacts could be avoided and/or minimized by locating the proposed pipelines and ROW to the North along the South side of State Route 897, or north of Route 897, and could utilize "Dry Bore" construction methods. The alternatives analysis does not provide details or evidence documenting that there are no practicable alternatives to avoid and minimize impacts. Revise the application accordingly to avoid and minimize impacts, or provide a detailed analysis of alternative routes, designs and methods to avoid and minimize these impacts which documents and provides evidence that other routes and designs would not further avoid or minimize impacts.
 - ii. The February 29, 2016 Bog Turtle Conservation Plan states that "The agricultural

conservation easements in this area have constrained the effort and has forced SPLP to parallel their existing 8-inch line in this area.” However, based on the *Agricultural Security Areas of West Cocalico Township* map on the Lancaster County Agriculture Preservation Board’s website, Sunoco is proposing new ROW adjacent to the existing pipeline and along a different route from the new pipeline on preserved farmland in Lancaster County. Therefore, it appears that locating the proposed pipelines away from the existing pipeline to avoid and minimize impacts is practicable. Revise the application accordingly to avoid and minimize impacts, or provide a detailed analysis of alternative routes, designs and methods to avoid and minimize these impacts which documents and provides evidence that other routes and designs would not further avoid or minimize impacts.

- i. It appears that locating the proposed pipelines and ROW to the south of the proposed crossing of S-A76 and wetland A52 could avoid impacts to wetlands. The discussion mentions previously undisturbed area and residences; however, the area is in active agricultural fields and the pipelines appear to already be proposed adjacent to the residences. Revise the application accordingly to avoid and minimize impacts, or provide a detailed analysis of alternative routes, designs and methods to avoid and minimize these impacts which documents and provides evidence that other routes and designs would not further avoid or minimize impacts. *[25 Pa. Code §§105.13(e)(1)(viii), 105.14(b)(7), 105.18a]*
- j. It appears that locating the proposed pipelines and ROW to the south of the proposed crossing of S-A88 and wetland A56 could minimize the amount of EV wetland impacted and allow for the use of the “dry bore” construction method. The analysis states that there would be impacts to undisturbed habitat and nearby residences. However, the proposed pipelines already cross near the residences and the area is in active agricultural production. Utilization of a “Dry Bore” would also allow use of a “Permanent Easement (no surface disturbance)” instead of a “Permanent ROW” in the stream and wetland resources. Revise the application accordingly to avoid and minimize impacts, or provide a detailed analysis of alternative routes, designs and methods to avoid and minimize these impacts which documents and provides evidence that other routes and designs would not further avoid or minimize impacts. *[25 Pa. Code §§105.13(e)(1)(viii), 105.14(b)(7), 105.18a]*
- k. It appears that the auger bore under stream S-B82 could be extended to also bore underneath wetland B72, or a separate “dry bore” could be utilized to install the pipelines underneath wetland B72 to minimize impacts. Revise the application accordingly to avoid and minimize impacts, or provide a detailed analysis of alternative routes, designs and methods to avoid and minimize these impacts which documents and provides evidence that other routes and designs would not further avoid or minimize impacts. *[25 Pa. Code §§105.13(e)(1)(viii), 105.14(b)(7), 105.18a]*

- l. It appears that impacts to wetland B72 could be avoided by routing the pipelines and ROW North of the wetland. Revise the application accordingly to avoid and minimize impacts, or provide a detailed analysis of alternative routes, designs and methods to avoid and minimize these impacts which documents and provides evidence that other routes and designs would not further avoid or minimize impacts. *[25 Pa. Code §§105.13(e)(1)(viii), 105.14(b)(7), 105.18a]*
- m. It appears the temporary impacts to stream S-B82 could be avoided by removing the proposed temporary ROW from the stream east and west of SR 897. Revise the application accordingly to avoid and minimize impacts, or provide a detailed analysis of alternative routes, designs and methods to avoid and minimize these impacts which documents and provides evidence that other routes and designs would not further avoid or minimize impacts. *[25 Pa. Code §§105.13(e)(1)(viii), 105.14(b)(7)]*
- n. It appears that impacts to stream S-B83 and wetland B74 could be avoided and/or minimized by locating the proposed pipelines and ROW north of Pond-B11A or between the existing Sunoco pipeline and SR 897. Revise the application accordingly to avoid and minimize impacts, or provide a detailed analysis of alternative routes, designs and methods to avoid and minimize these impacts which documents and provides evidence that other routes and designs would not further avoid or minimize impacts. *[25 Pa. Code §§105.13(e)(1)(viii), 105.14(b)(7), 105.18a]*
- o. The proposed Permanent ROW is greater than 50ft through wetland B74 and stream S-B83. It is unclear why the ROW width is so large in this area. It appears that reducing the ROW width could minimize impacts to this stream and wetland. Revise the application accordingly to avoid and minimize impacts, or provide a detailed analysis of alternative routes, designs and methods to avoid and minimize these impacts which documents and provides evidence that other routes and designs would not further avoid or minimize impacts. *[25 Pa. Code §§105.13(e)(1)(viii), 105.14(b)(7), 105.18a]*
- p. It appears that impacts to wetland B5 and stream S-B8 could be avoided by locating the proposed pipelines to the north around the wetland and stream along the newly constructed access road to Sunoco's pump station. Revise the application accordingly to avoid and minimize impacts, or provide a detailed analysis of alternative routes, designs and methods to avoid and minimize these impacts which documents and provides evidence that other routes and designs would not further avoid or minimize impacts. *[25 Pa. Code §§105.13(e)(1)(viii), 105.14(b)(7), 105.18a]*
- q. It appears impacts to wetland B7 could be avoided by locating the proposed pipelines and ROW south of wetland B7. Revise the application accordingly to avoid and minimize impacts, or provide a detailed analysis of alternative routes, designs and methods to avoid and minimize these impacts which documents and provides

evidence that other routes and designs would not further avoid or minimize impacts. [25 Pa. Code §§105.13(e)(1)(viii), 105.14(b)(7), 105.18a]

Other

110. If any changes to the proposed route occur, revise all parts, and components of the application to reflect these changes. This includes providing copies of the submission to and clearance from the PHMC, USFWS, PFBC, DCNR, and PGC. [25 Pa. Code §§105.13(e)(1), 105.21(a)(1)]
111. Please respond to and address the comments from the Pennsylvania Fish and Boat Commission found on the attached sheet. Due to the number of crossings and time-of-year restrictions, the Department recommends identifying the time-of-year restrictions on the plans. [25 Pa. Code §§105.14(b)(4), 105.14(b)(6)]
112. The application contains HDD Inadvertent Return Contingency Plans in multiple sections of the application, such as the Mitigation Plan and different species conservation plans. However, the Contingency Plans are not all consistent in terms of agency notifications, and the PAFBC Law Enforcement is not identified as being notified as required in the PAFBC PNDI clearance letter. Agency notification should occur when inadvertent returns happen in any water resource, not just bog turtle areas. Also, the HDD table is not included in all versions of the Contingency Plan. Revise the HDD Inadvertent Return Contingency Plans to all be consistent, include the appropriate jurisdictional agencies, and provide documentation that revised plans have been sent to all jurisdictional agencies. [25 Pa. Code §§105.21(a)(1), 105.13(e)(1)(ix), 105.14(b)(4)]
113. Provide consistent and up-to-date plans to the Department and Clay and West Cocalico Townships. [25 Pa. Code §§105.21(a)(1), 105.13(e)(1)(v), 105.13(e)(1)(vi), 105.13(e)(1)(i)(A), 105.13(e)(1)(i)(C)]

You must submit a response for each of the above deficiencies. You may request a time extension, in writing, before November 7, 2016 to respond to deficiencies beyond the sixty (60) calendar days. Requests for time extensions will be reviewed by DEP and considered. You will be notified in writing of the decision either to grant or deny, including a specific due date to respond if the extension is granted. Time extensions shall be in accordance with 25 Pa. Code §105.13a(b).

DEP has developed a standardized review process and processing times for all permits or other authorizations that it issues or grants. Pursuant to its Permit Review Process and Permit Decision Guarantee Policy (021-2100-001), DEP guarantees to provide permit decisions within the published time frames, provided applicants submit complete, technically adequate applications/registrations that address all applicable regulatory and statutory requirements, in the first

submission. Since you did not submit a complete and/or technically adequate application, DEP's Permit Decision Guarantee is no longer applicable to your application.

Pursuant to 25 Pa. Code §105.13a of DEP's Chapter 105 Rules and Regulations you must submit a response fully addressing each of the significant technical deficiencies set forth above. Please note that this information must be received within sixty (60) calendar days from the date of this letter, on or before November 7, 2016 or DEP may consider the application to be withdrawn by the applicant.

If you believe that any of the stated deficiencies is not significant, instead of submitting a response to that deficiency, you have the option of asking DEP to make a decision based on the information with regard to the subject matter of that deficiency that you have already made available. If you choose this option with regard to any deficiency, you should explain and justify how your current submission satisfies that deficiency. Please keep in mind that if you fail to respond, your application may be withdrawn or denied.

Should you have any questions regarding the identified deficiencies, please call Herman Jackson at 717.705.4814 and Andrew McDonald at 717.705.4776 and refer to Application No. E07-459 to discuss your concerns or to schedule a meeting. The meeting must be scheduled within the 60-day period allotted for your reply, unless otherwise extended by DEP. You may also follow your application through the review process via *eFACTS on the Web* at: <http://www.ahs2.dep.state.pa.us/eFactsWeb/default.aspx>.

Sincerely,



Edward J. Muzic, P.E.
Civil Engineer Manager, Hydraulic
Dam Safety, Waterways & Wetlands Section

Enclosure (Attach: PAFBC comments and eMapPA Instructions)

cc: Brad Schaeffer, Tetra Tech, Inc.
U.S. Army Corps of Engineers, Baltimore District – Pat Strong
Pennsylvania Fish and Boat Commission, Division of Environmental Services
Pennsylvania DEP, Southwest Regional Office, Waterways and Wetlands Program
Pennsylvania DEP, Southeast Regional Office, Waterways and Wetlands Program
Lancaster County Conservation District
Lancaster County Planning Commission
Clay Township
West Cocalico Township