pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

September 6, 2016

SEP 14 2016

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

Re: Technical Deficiency
Pennsylvania Pipeline Project (a.k.a. Mariner East II)
Application No. E15-862
APS No. 879047
West Nantmeal, East Nantmeal, Wallace, Upper Uwchlan, Uwchlan, West Whiteland, West Goshen, East Goshen, Westtown Townships and Elverson Borough
Chester 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. ***Chapter 105 Dam Safety and Waterway Management regulations*** includes information that will aid you in responding to some of the deficiencies listed below. The deficiencies are based on the requirements of Article I, §27 of the Pennsylvania Constitution and applicable laws and regulations. The guidance sets forth a means of satisfying the applicable regulatory requirements.

As you are aware, DEP staff in three different regional offices are reviewing sixteen 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 DEP's other deficiency letters may be applicable to this permit, even though not stated herein. DEP recommends that Sunoco Pipeline, L.P., 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.

Common Technical Deficiencies

1. General Information Form (GIF)/Application:

   a. List the types and amounts of emissions to satisfy question 13.0.1 of the GIF. *[1300-PM-BIT0001 5/2012 Instructions]*

b. The Application and GIF have different titles for M.L. Gordon. Provide consistent titles for Mr. Gordon and a demonstration that he is authorized to sign the Application. *[25 Pa. Code Sections 105.13(i) 106.12(f)]*

2. Identify the proposed provisions for shut-off in the event of break or rupture for each crossing. Provide locations and a description of how this action will be completed in the event a break or rupture occurs. *[25 Pa. Code Section 105.301(9)]*

3. Site Plan, Drawings and Details (including Erosion and Sediment (E&S) Control Plan Drawings):

a. Several of the E&S Plan drawings appear to include design data or refer to the Mariner-1, 8-inch Anomaly Repair Project (see sheet ES-0.11, the dry bypass plan indicates a proposed 8" pipe). Perform a review of all plan drawings and remove all references to past projects. Typical detail data needs to be labeled appropriately and specific location details needs to reference specific locations. Typical cross sections need to be revised to indicate the proposed 20" and 16" diameter pipes. Typical trench details needs to indicate the appropriate trench width and include trench boxes, if appropriate for depth. *[25 Pa. Code Section 105.13(e)(1)(i)(C)]*

b. Stream and wetland crossing details are only provided in the "Notes" pages of the E&S Plan. Provide details on how each crossing will be constructed, associated E&S controls installed and how restoration will be accomplished. To facilitate your response this comment can be addressed by developing a table for placement on the drawings containing the requested information. *[25 Pa. Code Sections 105.13(e)(1)(i)(C); 105.13(e)(1)(iii)(A); 105.15(a); 105.21(a)(1)]*

c. Provide site plans that depict proposed work for each ATWS within a floodway or floodplain. These plans need to 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 Section 105.13(e)(1)(i)(C)]*

d. 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 are considered final. Remove this language from the plans and provide final plans. *[25 Pa. Code Sections 105.13(e); 105.44(a)]*

e. 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 Sections 105.3(4); 105.13(e)(1)(i)(C)]*

f. 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 Sections 105.15(a); 105.13(e)(1)(ix); 105.18a]*

g. For all Bore and HDD locations: Identify where all pipe pull back, assembly, lay out, and construction staging areas are located. Identify all temporary crossings and impacts to streams, wetlands, and floodways associated with these areas and revise the application accordingly to include these impacts. Include site-specific plans depicting the impacts and proposed temporary matting. *[25 Pa. Code Sections 105.13(e)(1)(i); 105.13(e)(1)(iii); 105.3(a)(4)]*

h. The site plan sheets and E&S plan sheets identify the 50-foot assumed floodway boundary to be measured from the centerline of the stream as opposed to the top of bank. Revise the drawings to indicate floodway boundaries that adhere to the definitions in Chapter 105. *[25 Pa. Code Sections 105.13(e)(1)(i)(A); 105.1]*

i. The Typical Wetland Crossing detail on the E&S plans, ES-0.09, 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 full removal of the stockpiles soil and minimize impacts. *[25 Pa. Code Sections 105.423; 105.18a(a); 105.18a(b); 105.15(a); 105.14(b)(4); 105.14(b)(11); 105.14(b)(13)]*

j. 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 the top of the bedding material. *[25 Pa. Code Sections 105.18a; 105.15(a)]*

k. 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 Sections 105.18a; 105.15(a)]*

l. 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 risk analysis will be necessary. *[25 Pa. Code Section 105.13(e)(1)(iii)(A)]*

m. Additional comments relating to the drawings can be found in specific comments below.

4. There are several comments regarding Agency Coordination, including Pennsylvania Natural Diversity Inventory (PNDI) and Pennsylvania Historical and Museum Commission (PHMC). See specific comments below.

5. There are several comments regarding the Environmental Assessment. See specific comments below.

6. There are several comments regarding the Avoidance, Minimization, and Mitigation Plan. See specific comments below.

7. There are several comments regarding the Alternatives Analysis (AA). See specific comments below.

8. 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. Provide the Department with a Comprehensive Environmental Assessment 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 Sections 105.13(f)(1)(vii-x), (2), (3), (g), and (j); 105.15; Article I, §27 (Pa. Constitution).

   b. The Comprehensive Environmental Evaluation also needs to 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 Section 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. Sections 1251—1376) for this entire project and other potential or existing projects. 25 Pa. Code Section 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 Section 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 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 Sections 105.14(b)(14); 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 Section 105.18a for each wetland or wetland complex in or along the project area as a whole. 25 Pa. Code Section 105.18a.

v. Comprehensive Alternatives Analysis, Avoidance and Minimization and Mitigation. The applicant needs to demonstrate that the alternatives 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 Section 105.1

Technical Deficiencies

Joint Permit Application Package, Section F, Attachments

1. **GIF**

   No comment.

2. **Application Fee and Work-sheet**

   No comment.

3. **Act 14 Notifications**

   No comment.

4. **Cultural Resources**

   a. 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 Sections 105.13(e)(1)(x); 105.14(b)(5); 105.15(a); 105.15(a)(1); 105.14(b)(4); Environmental Assessment Form Instructions & Joint Permit Application Instructions for a Water Obstruction and Encroachment Permit Application, III., Section F. d.; Implementation of the Pennsylvania State History Code: Policy and Procedures for Applicants for DEP Permits and Plan Approvals, Document # 012-0700-001]*

   b. The project description provided in the Cultural Resource Notice states that the second pipe is to be installed within 5 years. The application Project Description or other descriptions in the application do not mention that the second pipe will be installed within 5 years. Revise and clarify the application to clearly identify if both pipelines will be installed at the same time, or if they will be installed at separate times. If the pipelines will be installed at separate times, revise the application to indicate this, and identify the temporary and permanent impacts from the second pipeline installation separately, and discuss the alternative of installing them at the same time to avoid and minimize impacts.*[25 Pa. Code Sections 105.13(e)(1)(iii)(A); 105.13(e)(1)(iii)(B); 105.15(a); 105.15(a)(1); 105.14(b)(4); 105.18a(a); 105.18a(b); 105.13(e)(1)(ix)]*

5. **PASPGP Cumulative Impact Form**

PASPGP-4 has expired. Prepare and submit PASPGP-5 Reporting Checklist and Aquatic Impact Table forms and acknowledgement of application of Section 404 Permit Application made to U.S. Army Corps of Engineers. *[25 Pa. Code §105.13]*

6. **PNDI and Agency Coordination**

a. Provide a PNDI Search clearance letter from the Pennsylvania Game Commission for threatened and endangered species under their jurisdiction. *[25 Pa. Code Sections 105.13; 105.14; 105.21; 93.4c(a)(2)]*

b. Provide details and clearance status of Migratory Bird issue requested by the U.S. Fish and Wildlife Service. *[25 Pa. Code Sections 105.13; 105.14; 105.21; 105.411(3)]*

c. The consultations with the agencies [Pennsylvania Game Commission (PGC), Pennsylvania Fish and Boat Commission (PFBC), Pennsylvania Department of Conservation and Natural Resources (DCNR), and the U.S. Fish and Wildlife Service (USFWS)] have resulted in the incorporation of avoidance measures, seasonal restrictions and other recommendations being provided to the applicant in the various clearance letters. In an effort to clarify and implement these measures and restrictions the applicant needs to prepare a table clearly listing all avoidance measures, seasonal restrictions and other recommendations and provide this table to the Department as a supplement to their application. These conditions also need to be included in the Notes of the Erosion and Sedimentation Control Plan so that they are readily accessible to project staff and contractors. *[25 Pa. Code Sections 105.13; 105.14; 105.16(c)(3); 105.21]*

7. **Site Plans**

a. Provide cross section drawings for all stream crossings and indicate existing and proposed conditions at each crossing site *[25 Pa. Code Sections 105.13; 105.13(e)(1)(A) & (G); 105.302; 105.311]*

8. **Location Map**

No comment.

9. **Project Description**

a. The 2.3 mile Swedesford Road lateral off the mainlines is shown on the site

plans but is not described in the Project Narrative or any other section of the application package. Provide purpose, need, description, impacts and any mitigation measures regarding this proposed lateral. *[25 Pa. Code Sections 105.13; 105.14; 105.301(7); 105.13(e)(1)(ix)]*

b. Descriptions and locations of valve stations are not provided. Provide descriptions and locations of the valve stations located in Chester County. *[25 Pa. Code Sections 105.13; 105.14]*

c. Provide the provisions to be used to protect the environmental resource in the event of break or rupture. These provisions need to be explained in the Project Description and referenced on the drawings. *[25 Pa. Code Section 105.302(5)]*

10. **Color Photographs**

No comment.

11. **Environmental Assessment**

a. The application identifies a number of watercourses (streams) as ephemeral (see Table 3, Section F, Attachment 11). No methods for the determination of ephemeral flow status of the streams are provided. It appears that only desk-top evaluations and/or cursory field observations were utilized. Ephemeral streams are not identified separately in Chapter 105 and are included in the definition of intermittent stream. Revise the application materials accordingly to identify the ephemeral streams as intermittent. *[25 Pa. Code Section 105.1]*

b. The application classified watercourses as "drains to." There is no stream classification in 25 Pa. Code Chapter 93 of "drains to." All tributaries not noted separately in Chapter 93 are given the classification of their downstream reaches and thus receive the appropriate level of protection. Revise relevant tables to include the correct stream classification for all streams and their tributaries. *[25 Pa. Code Section 93.1]*

c. Revise the application to include an analysis on whether the wetlands are "Exceptional Value (EV)" or "Other" wetlands. This needs to include an analysis based on each of the seven factors listed in 25 Pa. Code Section 105.17, including wetlands associated with EV streams and Wild Trout Streams, habitat for threatened or endangered (T&E) species, wetlands that are hydraulically connected to T&E habitats, wetlands along a public or private water supply, including both surface water and groundwater, Scenic rivers, and

natural or wild areas (see Section 105.17 for complete criteria). DEP has identified that at least the following wetlands: A46, C33, C34, and C35 are EV and have not been identified as such in the application. Reevaluate the classification of streams and wetlands based on 25 Pa. Code Section 105.17 and then revise Table 2, Section F, Attachment 11 to accurately identify EV and Other wetlands. *[25 Pa. Code Section 105.1 Wild trout streams; Sections 105.15(a) and 105.17; 105.21(a)(1); 58 Pa. Code Section 57.11(b)(4)]*

d. Provide an assessment of the functions and values of all additional Exceptional Value wetlands as a result of the response to Section 11.c. *[25 Pa. Code Sections 105.13(e)(3); 105.14(b)(13); 105.15(a); 105.15(a)(1)]*

e. EV wetlands are defined as EV waters by Chapter 93. Therefore, explain the measures the applicant will implement to comply with the anti-degradation requirements of the Department's water quality standards program. *[25 Pa. Code Sections 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)]*

f. 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. DEP 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 public 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 Sections 105.13; 105.14(b)(4); 105.14(b)(5); 105.18a(5); 105.18a(b)(5)]*

g. Item B.2.a of Section F, Attachment11, Enclosure D of the Environmental Assessment (EA) states the natural drainage patterns of the wetlands and small or headwater streams will be maintained. However, no information has been provided or detailed contours or cross sections depicting the drainage patterns, or what the drainage patterns are in the wetlands in the existing conditions. 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 Sections 105.13(e)(1)(i)(G); 105.13(e)(1)(x); 105.14(b)(4); 105.14(b)(13); 105.13(e)(1)(ix); 105.1; 105.14(b)(11); 105.15(a); 105.15(a)(1); 105.16(d); 105.18a(a)(1); 105.18a(a)(5); 105.18a(b)(1); 105.18a(b)(5); 105.301(3); 105.301(4); 105.301(5)]*

h. The EA does not list the South Branch of French Creek as a state scenic river. In addition, Shamona Creek and Black Horse Creek are not defined as wild trout streams. Revise text and tables to include the correct stream and wetland classifications. *[25 Pa. Code Section 105.14(b)(10)]*

i. 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 able to replant an orchard or vineyard. *[25 Pa. Code Sections 105.13(e)(1)(x); 105.21(a)(1); 105.15(a); 105.15(a)(1); 105.14(b)(5); 105.14(b)(4)]*

12. **Erosion and Sedimentation Control Plan**

a. The E&S plan drawings and plan sheets indicate that no improvements are proposed for the resource crossings. However, the impact plan drawings and impact tables indicate temporary crossings and bridges are proposed. Revise the application accordingly to be accurate. If temporary crossings are proposed, revise the E&S plan drawings to depict the impacts. If an existing road with existing obstructions crossing streams or wetlands is proposed to be utilized and no improvements are proposed to the road, then provide color photographs of the resources and existing road crossings. Note: the provided photographs do not depict or clearly depict these crossings. *[25 Pa. Code Sections 105.13(e)(1)(i)(C); 105.13(e)(1)(iii)(A); 105.13(e)(1)(iv); 105.15(a); 105.21(a)(1)]*

b. The "typical" wetland crossing details shown on the E&S plans, ES-0.09, indicates Trench Breakers are to be installed in the trench in the wetlands; however, it is not clear what Trench Breakers are, or if Trench Plugs are what is meant. Revise this detail to identify if Trench Plugs are meant 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 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 Sections 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)]*

c. Provide plans showing the location, type, size and height of any proposed culvert construction and/or modifications of culverts within streams or wetlands. Provide an analysis of the hydraulic capacity demonstrating that the structures do not have: (1) an adverse impact on EV wetlands; (2) a significant adverse impact on Other wetlands; and (3) materially alter the natural regimen of the stream or increase velocities or direct flows in a manner which results in erosion of stream beds and banks. *[25 Pa. Code Sections 105.18a(a)(1); 105.18a(a)(3); 105.18a(a)(4); 105.18a(a)(5); 105.18a(b)(1);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)]*

d. Provide site-specific plans and cross sections depicting the size and height for the proposed "Block Valve Settings", their limits of disturbance, permanent access roads, and all other permanent grading and structures located in Waters of the Commonwealth and floodplains. This needs to include plans depicting the size and height of structures located in the floodway and floodplain. *[25 Pa. Code Sections 105.13(1)(i); 106.12(d)(2)]*

e. Proposed plantings relating to immediate stabilization on restoration plans need to eliminate Crown Vetch (*Coronilla varia*).

13. **Hydrologic and Hydraulic Analysis**

No comment.

14. **Stormwater and Floodplain Management Analysis**

a. An Act 167 Stormwater Management Plan has been prepared/adopted by Chester County under the Stormwater Management Act. Provide an analysis of the project's impact on, and consistency with, the stormwater management plan, along with a letter from the municipalities and County commenting on this analysis. If a letter is not provided, provide all correspondence with the County and municipalities on this subject. *[25 Pa. Code Section 105.13(e)(1)(v)]*

b. The proposed project is located within a floodway delineated on the municipal FEMA map. Provide an analysis of the project's consistency with municipal flood plain management programs and provide a letter from each local municipality indicating consistency with their respective municipal flood plain management programs. If a consistency letter is not provided, provide all correspondence (including municipal requests for more information) with the municipalities on this subject. *[25 Pa. Code Section 105.13(e)(1)(vi)]*

15. **Risk Assessment**

No comment.

16. **Professional Engineer's Seal/Certification**

No comment.

17. **Alternatives Analysis (AA)**

a. The Alternatives Analysis (AA) needs to include 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. 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. Revise the AA 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 Sections 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)]*

b. According to Table 2, Section F, Attachment 11 within Chester County there are 26 wetland crossings, 17 of these are proposed to be made by open cut, seven (7) crossings by HDD and two (2) crossings by boring. Of these 26 crossings 14 are of EV wetlands. Of the 14 EV wetlands four (4) crossings are proposed by HDD, one (1) crossing by boring, and nine (9) crossing by open cut. There are 12 crossings of "Other" wetlands, two (2) proposed for HDD, one (1) by bore and nine (9) by open cut. The applicant's AA does not provide any justification for their selection of which water resource (streams and wetlands) crossings will be made by HDD. This information needs to be provided.

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. However, their basis for this decision is not provided. It also appears that HDD is proposed only for crossings of known and suspected bog turtle habitats and residential/commercial areas. A full discussion of these HDD issues needs to be provided in the AA. If HDD is the least impactful method, then the applicant needs to provide explanations why all the remaining EV wetlands cannot be crossed by HDD.

Section 105.18a (a) (1 through 7) provide criteria for assessing impacts to EV wetlands. Each of these seven (7) criteria must be fully discussed in AA to justify proposed impacts to EV wetlands. Likewise, §105.18a (b) (1 through 7) provide criteria for "Other" wetlands. Each of these seven (7) criteria must also be discussed in the AA to account for proposed impacts to "Other" wetlands. Provide a revised alternatives analysis that incorporates a discussion of alternative crossing techniques (conventional bore, HDD, micro-tunneling, etc.) addressing each EV and Other resource crossing individually, and explaining why trenchless installation methods are or are not appropriate. Provide justification based on §105.18a for selecting method of crossings. *[25 Pa. Code Sections 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)]*

c. The applicant has selected HDD to cross selected sensitive environmental and residential/commercial areas but has not presented supporting data that documents the suitability of the substrate and geology for HDD utilization. The Revised Bog Turtle Conservation Plan (February 20, 2016) prepared by the applicant includes geotechnical data that was obtained at selected sites. However, similar geotechnical and risk analysis were not included in the application package for all proposed HDD crossings. The applicant needs to submit such data and documentation. In addition, the applicant has not presented contingency plans in the case that HDD fails at certain sites. Such contingency plans must be developed and submitted to DEP. Resultant impacts of utilizing other construction methods must also be documented and submitted to the Department. *[25 Pa. Code Sections 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)]*

18. **<u>Avoidance, Minimization, and Mitigation Plan</u>**

a. The application references stream and wetland restoration but sufficient details and plans for stream and wetland restorations have not been provided. Provide a mitigation/restoration plan for the impacted streams and wetlands in accordance with §§105.20a(a) and (b). This plan needs to include all phases of restoration and replacement, including detailed grading plans, stabilization, in-

stream control measures, planting plans, schedules and monitoring plans. *[25 Pa. Code Sections 105.13(e)(1)(ix & x); 105.18(a & b); 105.16(d)* ; 105.20a (a) &(b).

b. In regards to the mitigation plan, explain how pre-existing conditions (bank grades, bank slopes, bed and bank elevations, soils and habitat features) will be documented and used as a basis to restore impacted streams and wetlands to pre-existing or better habitat conditions. Explain under what conditions the restoration design based on pre-existing design will be modified when the pre-existing conditions are degraded (areas of severe bank erosion, bank undercutting, unnatural substrate and similar conditions). Provide plans and details for the restoration of stream habitat at open cut stream crossings. This needs to include stockpiling and segregation and replacement of native stream bed material. Contingency plans addressing measures to stabilize the work area in the event of sudden precipitation also need to be included. *[25 Pa. Code Sections 105.13(e)(1)(i)(G); 105.13(e)(1)(i)(C); 105.311(2); 105.15(a); 105.14(b)(4); 105.16(d).*

c. The application states that temporarily impacted Palustrine Scrub Shrub (PSS) and Palustrine Forested Wetlands (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. PFO areas in temporary impacted areas, outside the 50-ft right-of-way, will be re-planted with native forest tree species. Provide planting plans and details for these restoration areas including the replanting of PFO areas in the permanent ROW. 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 Sections 105.13(e)(1)(ix); 105.1, Mitigation; 105.14(b)(4); 105.14(b)(13); 105.18a(a)(1); 105.18a(a)(3); 105.18a(a)(6); 105.18a(b)(1); 105.18a(b)(2); 105.18a(b)(6)]*

d. Section 2.2.2.1 of the Mitigation Plan identifies that wetlands will be reseeded with a native wetland seed mixture; however, the mixture, application rates and other factors are not specified nor are they 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. Provide similar information for the replanting of wetland shrubs and forest species (as discussed in 18.c). Note that not planting and allowing natural colonization of impacted areas will likely result in areas dominated by invasive, non-native species and is not an acceptable approach to restoration. *[25 Pa. Code Sections 105.13(e)(1)(ix); 105.1, Mitigation; 105.14(b)(4); 105.14(b)(13); 105.18a(a)(1);*

105.18a(a)(3);105.18a(a)(6); 105.18a(b)(1); 105.18a(b)(2); 105.18a(b)(6)]

e. The Mitigation Plan and Environmental Assessment (EA) state that conversion of Palustrine Forested Wetlands (PFO) is proposed to occur, that there will be a functional loss, but the loss is *de minimis*; however, the application does not evaluate the cumulative conversion of PFO wetlands for the entire project. Revise the application to assess the impacts to the affected forested wetlands, evaluate the cumulative effect on all counties of the proposed project, and provide compensatory replacement for the lost functions and values. Provide plans for compensatory mitigation to replace PFO permanently lost due to forest conversion. Provide your definition of *de minimis* and the source of this definition. *[25 Pa. Code Sections 105.13(e)(1)(ix); 105.1, Mitigation; 105.14(b)(4); 105.14(b)(14); 105.14(b)(13); 105.18a(a)(1); 105.18a(a)(3); 105.18a(a)(6); 105.18a(b)(1); 105.18a(b)(2); 105.18a(b)(6); 93.4a(b); 93.4a(c); Article I, Section 27 (Pa. Constitution)]*

f. 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 and secondary impacts, as well as consideration of antidegradation, on watercourses for each watercourse crossing from the riparian vegetation impacts. *[25 Pa. Code Sections 105.15(a), 105.13(E)(1)(x); 105.14(b)(4); 105.14(b)(11); 105.14(b)(12); 105.14(b)(14)]*

   i. Evaluate 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 Sections 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]*

   ii. 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 protected from clearing during the proposed project's operation and maintenance, provide an explanation as to why it cannot be replaced. *[25 Pa. Code Sections 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)]*

   iii. 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 alteration is not part of proposed maintenance activities. *[25 Pa.*

Code Sections 105.13(e)(1)(ix); 105.14(b)(4); 105.14(b)(12); 105.14(b)(13); 105.14(b)(14); 105.11(d)]

g. Section 2.2.2.1 of the Mitigation Plan, entitled "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 Sections 105.21(a)(1); 105.13(e)(1)(ix); 105.13(e)(1)(i); 105.13(e)(1)(iii); 105.13(e)(1)(x); 105.14(b)(4); 105.14(b)(13); 105.15(a); 105.15(a)(1); 105.18a(a)(3); 105.18a(a)(1); §105.18a(b)(1); 105.18a(b)(2); 105.422]*

h. Prepare a monitoring plan that verifies that the permittee will monitor the stream and wetland restoration sites for at least five (5) years. Monitoring reports will need to be submitted to the Department every six months for the first two years after construction and annually for three years thereafter. The monitoring reports shall contain information describing the success of the site at the time of inspection, an inventory of the surviving plant species and percent aerial coverage, photographs of the replacement sites with plans showing the location and orientation of each of the photographs, and a written plan to correct any deficiencies identified during the monitoring phase. [*25 Pa. Code Sections 105.20a; 105.18a(a)(7); 105.18a(b)(7); 105.13(e)(1)(ix) 105.16(a); 105.1 (defn. of mitigation); 105.53(4); 105.54*]

i. The Department disagrees with the statement made in several sections of the application that secondary effects will not occur to impacted wetlands. Secondary (indirect) effects are defined in the EPA Regulations (40 CFR §230.11) as effects on an aquatic ecosystem that are associated with a discharge of dredged or fill materials, but do not result from the actual placement of the dredged or fill material. Secondary effects that may occur on the impacted wetlands include alteration of wildlife and aquatic habitats, changes in hydrology due to factors such as over-compaction of soils, changes species composition and densities and colonization by invasive species. Address secondary impacts, their monitoring, prevention of such impacts, and control strategies, in the requested restoration and mitigation plan. *[25 Pa. Code §§105.14(b)(12); 105.21(a)(1); 105.13(e)(1)(ix); 105.13(e)(1)(i); 105.13(e)(1)(iii); 105.13(e)(1)(x); 105.14(b)(4); 105.14(b)(13); 105.15(a); 105.15(a)(1); 105.18a(a)(3); 105.18a(a)(1); 105.18a(b)(1); 105.18a(b)(2); 105.53(4); 105.54; 105.422]*

j. Provide details of SPLP's annual Wetland Monitoring and Environmental Inspection Programs. *[25 Pa. Code Sections 105.13(e)(1)(ix); 105.1, Mitigation; 105.14(b)(4); 105.18a(a)(1); 105.18a(b)(1); 105.18a(b)(2); 105.18a(b)(6); 105.53(4); 105.54]*

k. The Mitigation Plan does mention placement of "No Mowing" signs as replanted PSS areas, but this doesn't provide for long term protection if repairs are needed, replanting of these areas if accidental mowing occurs, and that such signs could become not visible over time. Provide "No Mowing" stones to demarcate the area. Stones need to be placed and of size to prevent mowing equipment access. *[25 Pa. Code Sections 105.13(e)(1)(ix); 105.1, Mitigation; 105.14(b)(4); 105.14(b)(13); 105.18a(a)(1); 105.18a(b)(1); 105.18a(b)(2); 105.18a(b)(6)]*

19. **Other Comments**

a. The application will need a comprehensive Preparedness Prevention Contingency Plan (PPC) combined with the Inadvertent Release Plan (IRP). The plan needs to include downstream notification lists of public and other water intakes and public and private water wells along the ROW, noting those water users along areas where HDD will be utilized.

b. The application includes separate documents covering PPC activities. Due to the scope of this project, you must consolidate these plans into one stand-alone document that can be used in the field. This single document will be the primary document used for emergency response, and as such, needs to provide a complete and useable reference for contractors and other on-site personnel. The PPC needs to include the following:

i. Instructions and procedures to facilitate the avoidance and minimization of impacts and provide the framework to investigate and resolve impacts caused by spills, releases, and other pollution events should they occur.

ii. Notification protocols and an up to date list of agencies and local governments. Specifically missing from the current submitted application is the contact information for The U.S. Fish and Wildlife Service, PADEP Southeast Regional Office and Counties in the Southeast Region.

iii. The management of excess drilling mud/liquids that may be encountered at the individual bore pits.

iv. Appendix B needs to be revised to state that all discharges to a stream, wetland or groundwater must be contained, and PADEP must be notified. *[25 Pa. Code Sections 105.2 (1 and 2); 91.33(a) and (b)]*

c. While you provided a narrative discussing how impacts to private water supplies will be investigated and addressed, a formal plan has not been provided. Revise the PPC Plan to include the following on public and private water supplies: *[25 Pa. Code Sections 105.14(b)(4);105.14(b)(5)]*

i. A copy of the FERC standards SPLP Plans to use in accepting and investigating landowner complaints of spring and well water supply impairment.

ii. Measures the applicant will take to investigate for the presence of public and private water supplies in areas where HDD crossings are proposed. Utilize the attached instructions for searching eMAP for Public Water Supply locational information. You will not be able to obtain the exact source location, but you will be able to find any in the vicinity and obtain the name of the Public Water Supplier. If any are identified in the vicinity of your project, you need to contact the water supplier to discuss the project with them and work to determine if your project will have an impact on the water supply. Both surface and groundwater supplies need to be evaluated and included in your review and response documents.

iii. Procedures that will be followed to investigate and resolve impacts to public and private water supplies should they occur as a result of the proposed activities. This procedure needs to discuss how water supply owners will be alerted in the event of an inadvertent return.

iv. Here are some options for the pipeline drilling to protect drinking water wells:

1. Map where the pipeline crosses sensitive geology and aquifers. Maps are available from the state geologic survey of unconsolidated sand and gravel, carbonate, and known karst feature density
2. Location and contact information for drinking water wells in the vicinity of the pipeline. Well contact info can be searched for by location in the eMAP PA website for public wells and PAGWIS website for driller registered private wells.
3. Within 0.5 miles, wells are potentially vulnerable over a long time period, and within 400 feet wells are vulnerable in short time

periods. Some wells may have more accurately modelled protection zones available.

4. Continuous monitoring of water levels in nearby wells could show a hydraulic connection that may have quantity or quality impacts. Water quality sampling and analysis of nearby wells could monitor for quality impacts

d. 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)]*

i. Provide information/details on previous HDD activities on the prior Mariner East pipeline project where IRs occurred. At a minimum this needs to 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. Also, provide a list of areas where Mariner East 1 had issues with inadvertent returns to the surface when conducting HDD crossings, and discuss how you have taken these historic issues into account in your design of the proposed project.

ii. A stand-alone attachment needs to 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 also needs to specify what notifications and remediation measures will be employed if there are impacts.

You must submit a response, <u>in triplicate,</u> 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 Section 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.

If you believe that any of the stated deficiencies are 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 need to 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 DEP at the phone number located in the first page footer, and refer to Application No. E15-862 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,

John Hohenstein, P.E.
Chief, Dams and Waterways Section
Waterways and Wetlands

Enclosure

cc: Mr. Schaeffer – Tetra Tech, Inc.
U.S. Army Corps of Engineers, Philadelphia District
U.S. Army Corps of Engineers, Baltimore District
Pennsylvania Fish and Boat Commission, Division of Environmental Services
Pennsylvania DEP, Southwest Regional Office, Waterways and Wetlands Program
Pennsylvania DEP, Southcentral Regional Office, Waterways and Wetlands Program
Chester County Conservation District
Chester County Planning Commission
West Nantmeal Township
East Nantmeal Township
Wallace Township

Upper Uwchlan Township
Uwchlan Township
West Whiteland Township
West Goshen Township
East Goshen Township
Westtown Township
Elverson Borough
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