

July 3, 2019

PennEast Pipeline Company LLC
c/o Ms. Amber Holly
Environmental Project Manager
835 Knitting Mills Way
Wyomissing, Pa 19610

Re: Technical Deficiency
PennEast Pipeline Project – Bucks County
APS ID# 890535, AUTH ID# 1107273
DEP Application No. E09-998
Durham Township & Riegelsville Borough
Bucks County

Dear Ms. Holly:

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 applicable laws and regulations. The referenced guidance set forth below provide DEP's preferred means of satisfying the applicable regulatory requirements.

Technical Deficiencies

1. Please provide the stream bank stabilization method on the Erosion and Sediment (E&S) Control Plan's information ribbon. The stream bank stabilization method should be included for each stream that will be crossed by the pipeline and/or access roadway. Please revise accordingly. [25 Pa. Code § 105.13(g)]
2. Please revise the Stream Bank Stabilization Detail on the Erosion and Sediment (E&S) Control Plans to clearly show that natural streambed material will be placed within the streambed only. The detail shows natural streambed material extending up the banks of the stream. [25 Pa. Code § 105.311]
3. If there is a potential that riprap bank stabilization may be required, please provide a Riprap Bank Stabilization Detail on the Erosion and Sediment (E&S) Control Plans. [25 Pa. Code § 105.13(g)]

4. It appears that there are streams and wetlands that do not have erosion and sediment control best management practices (BMPs) proposed to protect the stream or wetland from sediment deposition during construction of the pipeline. Please check each crossing and provide adequate erosion and sediment control BMPs. Please revise the plans accordingly. [25 Pa. Code §105.13(g)]
5. Per the instructions of 3150-PM-BWEW0557, please provide both the length and width measurements of resource crossings on the ARIT. [DEP Document No. 3150-PM-BWEW0557 and 25 Pa. Code § 105.21(a)(1)]
6. Please provide consistent stationing throughout the pipeline. As an example, the stationing on the Site-Specific Mapping has the stationing starting over at the locations of the resource, while the Erosion and Sediment Control Plans have the stationing continuing along the pipeline. Please revise accordingly. [25 Pa. Code § 105.13(g)]
7. It appears that there are wetland, watercourse and floodway permanent impact area values on the Aquatic Resource Impact Table, Subfacility Tables, and Site-Specific Mapping of zero (0.00). The Erosion and Sediment Control Plans show that there will be matting or other impacts located within the following wetlands, watercourses, and floodways of the following resources:

- a. 110714_JC_001_PFO
- b. 052915_JC_1002_C_IN
- c. 122315_DB_1001_P_MA

Please revise the area to a minimum of 0.001 for consistency. [25 Pa. Code §§ 105.13(g) and 105.21(a)(1)]

8. There are several stream crossings that have a waterbody crossing method as DX-NF. However, the E&S Typical Details Sheets do not include a waterbody crossing method DX-NF. Please include this waterbody crossing method to the E&S Typical Details Sheets. [25 Pa. Code § 105.13(g)]
9. 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, reestablishment of the thalweg, 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(definition of Mitigation), 105.13(e)(1)(x), 105.15(a)(1), 105.14(b)(4), 105.16(d), and 105.242(c)]
10. Procedures should take into account the weather forecast and current conditions be implemented prior to stream crossing installations. Such procedures should include a sign-off sheet documenting that the Environmental Inspector, Foreman, and any other responsible individual agree that the crossing can be constructed during that specific time frame. [25 Pa. Code § 105.13(g)]
11. The Erosion and Sediment Control Plan Alignment Sheets do not include the temporary equipment crossing method for the stream crossings. Please provide the type of temporary equipment bridge crossing method for each stream that is proposed to be crossed by a temporary

equipment bridge. Please show the proposed erosion and sediment control BMPs on the Erosion and Sediment Control Plan Alignment Sheets. Revise the plans and other applicable components of the application appropriately. [25 Pa. Code § 105.13(g)]

12. It appears that you are proposing to replace several culverts along existing access roads. Please provide hydrologic and hydraulic calculations for the proposed culvert replacements. Also, please be advised that the invert of the culvert must be depressed a minimum of 6-inches below streambed elevation for drainage areas less than one square mile and 12-inches below streambed elevation for drainage areas greater than one square mile. [25 Pa. Code § 105.161]
13. Tables 11.3, 11.4 and 11.5 in the E&S General Notes mention use of crown vetch in seeding mixtures. DEP does not recommend use of crown vetch. Remove these seed mixture options and consider using native upland seed mixtures as an alternative. [25 Pa. Code §§ 105.13(e) and 105.21(a)(1)]
14. You appear to be proposing to construct permanent waterbars upslope of wetlands. These permanent waterbars should not divert surface water from the wetland as this may cause a secondary impact to the downgradient wetlands. Please provide information elaborating on the potentially affected wetland(s) hydrology and whether the proposed permanent waterbars will cause secondary impacts to those wetland(s). [25 Pa. Code §§ 105.18a(b)(1-3) and 105.14(b)(4)]
15. You appear to be proposing to have permanent water bars discharge within the riparian buffer of streams. The locations of the permanent waterbars should not create an outlet where the banks of the stream have the potential to erode. The permanent waterbars should outlet to mimic the existing conditions and provide sheet flow prior to discharging into a surface water. Also, the permanent waterbars should be located outside of the riparian buffer, as practical. [25 Pa. Code § 105.14(b)(4)]
16. Please show on the Erosion and Sediment Control Plan Alignment Sheets the locations of the public and private water supplies. [25 Pa. Code §§ 105.13(e)(1)(ii) and 105.14(b)(5)]
17. The Site-Specific Mapping does not note the bore pit depths and locations. Please correct as necessary throughout application. [25 Pa. Code §§ 105.13(e) and 105.21(a)(1)]
18. Provide adequate provisions for shut-off in the event of pipeline break or rupture. Provide locations and descriptions of how this action will be completed if a break or rupture occurs. [25 Pa. Code § 105.301(9)]
19. The Cultural Resource Summary indicates there will be an upcoming Determination of Effect Report. Please verify if the proper documentation has been received and update the application where applicable. [25 Pa. Code §§ 105.13(e), 105.14(b)(5), 105.21(a)(1), and 105.24]
20. Please update any table in the Environmental Assessment (EA) which may relate to changes to the ARIT. [25 Pa. Code § 105.21(a)(1)]

21. EA Module 2, Section S2.A.4 references Appendix BU-L-2C as the location map “that identifies regulated waters of the Commonwealth, natural areas, wildlife sanctuaries, natural landmarks, political boundaries, publicly available service areas for public water supplies, and historic landmarks within 1 mile of the Project and State Parks and prime farmland within 100 feet of the Project....”. Appendix BU-L-2C is not a map. It is the table of prime farmland referenced in EA Module 2, S2.A.5. Please provide the location map for EA Module S2.A.4 or verify if I_LocationMap_2400 is the correct document and correct language in the EA. [25 Pa. Code §§ 105.13(e) and 105.21(a)(1)]
22. Discuss how sensitive resources will be protected and proper vegetation establishment will be assured before agriculture land is handed over to landowner. [25 Pa. Code § 105.13(e)]
23. The EA Module 2, Section S2.C, indicates that the U.S. Fish and Wildlife Service (USFWS) recommends the Federal Energy Regulatory Commission (FERC) re-initiate consultation. Please provide final reports and clearances from applicable agencies and revise this section. [25 Pa. Code § 105.21(a)(1)]
24. Please supply the consultation update letter from the USFWS regarding the modified 2017 Biological Opinion and discuss any changes to avoidance and minimization plans. [25 Pa. Code §§ 105.13(e), 105.14(b)(4), 105.21(a)(1), and 105.24]
25. EA Module 2, Section S2.D.1, states, “Following restoration, a 50-foot-wide permanent right-of-way (ROW) will be maintained for the life of the pipeline. No trees will be permitted to grow within that width.” Module 3 and 4 discuss a 30-foot corridor for tree cutting. Please clarify and revise application as needed. [25 Pa. Code §§ 105.21(a)(1)]
26. EA Module 2, Table BU-L2-6 indicates that watercourse 051515_JC_1004_E_MI, an ephemeral stream, has a Watershed size of 4. Please verify if this is accurate. [25 Pa. Code § 105.21(a)(1)]
27. In the EA Module 3, Section S3A, provide a final summary of total impacts for each table (Tables L3-1 through 4). [25 Pa. Code § 105.21(a)(1)]
28. Please provide the invasive species plan (ISMP) referenced in Module 3 of the EA. Clarify and indicate if this plan will be used during the monitoring periods for the ROW and compensatory mitigation sites. [25 Pa. Code § 105.13(e)]
29. In reference to the following statements in the EA Module 3, “Selectively clearing, by hand methods, a 30-foot wide operational easement to improve line of sight between pipeline markers where horizontal directional drillings (HDD) are proposed” and “Wetland systems comprised of forested communities will be allowed to revert back to their original site condition (excluding locations maintained for line of sight),” please specify how much tree clearing will be done in the floodway and wetland for both the project construction and operation and maintenance (O&M) for the HDD crossings. Please note clearing of trees in PFO wetlands will be considered conversion and require mitigation. [25 Pa. Code § 105.302(6)]

30. Per the EA instructions S3C10 and EA Appendix V (3150-PM-BWEW0017), please provide the key details for each subfacility. Please use PIPE, which should include O&M; FLACT for floodway impacts not associated with pipe, such as access roads; and TMPWI for wetland disturbance areas during construction. At this time, WTIIIM will not be required if the disturbance is captured in TMPWI. Neither WTIIIM nor TMPWI is required for horizontal directional drilling (HDD) bored pipe impacts. [25 Pa. Code § 105.21(a)(1)]
31. Please include in the HDD Inadvertent Returns and Contingency Plan and the Erosion and Sediment Plans provisions to contact the Department immediately by email, phone, or electronically delivered letter if a loss of pressure or an inadvertent return occurs during the horizontal directional drilling operations. Drilling operations should not continue until a Professional Engineer (PE) or Professional Geologist (PG) has performed an inspection of the drilling site and drill alignment. The PE or PG should then notify the Department in writing that the drilling can commence without the risk of an inadvertent return.

Should an inadvertent return occur during drilling operations, a Re-evaluation Report should be submitted to the Department by the PE or PG examining the drilling alignment and ensuring that another inadvertent return is unlikely. The Department will need to review this submitted information and approve the restarting of drilling operations. [25 Pa. Code § 105.302(6)]
32. An analysis of well production zones was not evaluated. Please provide this analysis. [25 Pa. Code § 105.14]
33. Due to karst geology identified along the western side of the Delaware River, all private water supply wells located within 1,000-feet of the HDD bore path should be identified. Public water supply wells should be identified within 0.5-mile radius of the bore path. A physical investigation of the area should be conducted due to online resources being unreliable for listing public and private water supply well locations. [25 Pa. Code §§105.13(e)(1)(ii) and 105.14(b)(5)]
34. The Department recommends that any private or public water supplies within the requested search radii be sampled pre- and post- construction for water quality, yield, and turbidity parameters for horizontally directionally drilled pipeline section. Additional supply wells outside of the search radius that are determined to be at high risk for impact (e.g. along a fault line) should also be included. [25 Pa. Code §105.14]
35. Surface water intakes for public and private water supplies within 1-mile downstream of the HDD crossing of the Delaware River should be identified. [25 Pa. Code § 105.14]
36. Geophysical data collected in the Delaware River indicates an area of higher Inadvertent Return (IR) probability. The area denoted where the thrust fault is anticipated should be approached with caution during drilling. [25 Pa. Code § 105.313(c)]
37. In the Alternative Analysis section 11.2.3, please further describe which “specific conditions [would] render a dry crossing infeasible” and the course of action to be followed if a dry crossing is infeasible. [25 Pa. Code §§ 105.13(e) and 105.21(a)(1)]

38. In the Alternative Analysis Table: Riverine Resources (S4), some streams specifically state they can be crossed within 24 or 48 hours. Please state the expected crossing time for each resource. Based on previous projects, unexpected circumstances can arise during stream crossings which result in an extended crossing time. Please state if any streams are expected to exceed the recommended crossing time of 24-48 hours (respectively). Discuss the plan of action if the proposed crossing timeline is exceeded, and state the proposed timeline in both the AA table and construction narrative. [25 Pa. Code § 105.21(a)(1)]
39. Appendix BU-S-3 is referenced in Alternatives Analysis document (S_Bucks Alt Analysis_2018_12_20). Please verify if the Alternatives Analysis document should be referring to S4_Bucks_Riverine_AA and S4_Bucks_wetland_AA. If so, revise accordingly. Additionally, BU-S-4 HDD Design and Reports, appears to be labeled as file S-6., please clarify and revise application as needed. [25 Pa. Code § 105.21(a)(1)]
40. Throughout the permit (including EA-Module 4 and the Alternative Analysis), wetland and watercourse restoration monitoring timelines are not consistent stating in some places two years and in other places three years of monitoring (respectively). In any event, the proposed monitoring timelines are inconsistent with the Department's guidance for Wetlands Replacement/Monitoring, Department document 363-0300-001, which states wetland replacement must be monitored for a period of not less than five years. Please revise the monitoring timelines to reflect a 5-year monitoring period. [25 Pa. Code §105.21(a)(1)]
41. The Wetland and Riparian Reforestation Plan does not clearly show what the intentions are with respect to which wetlands and riparian areas get seeded and which wetlands and riparian areas get reforested. Please provide a Reforestation Plan that clearly demonstrates the vegetation type proposed for each site that will be restored. Please include the resource ID and designation on the plans as well as the planting schematics, including width of plantings in riparian buffers based on water course designation (typical vs. EV/HQ, according to §102.14 requirements, where applicable). [25 Pa. Code §§ 105.13(e) and 105.16(d)]
42. In the Wetland and Riparian Reforestation Plan, consider replanting shrubs up to the 10-foot wide buffer (between 15 and 5 feet from center of pipeline) in exceptional value watersheds, where trees would otherwise not be permitted or consider replanting shrubs across the entire ROW, where tree roots would otherwise not be permitted, as stated in the EA Module 3 "A 10-foot wide operational easement centered on the pipeline will be maintained in an herbaceous or scrub/shrub vegetative state in emergent or scrub-shrub wetlands." [25 Pa. Code §§105.16(d) and 105.18a(b)(3)(ii)(B)]
43. Please include in the EA Module 4, Section S4.C, the total acres to be mitigated for and the total acres WHM Solutions will uplift/enhance. [25 Pa. Code §§105.20a(a) and 105.21(a)(1)]
44. The Department requests function and value mitigation at a rate of 2:1 for conversion impacts to "other" PFO wetlands, 2.5:1 for conversion impacts to EV PFO wetlands; 1.5:1 for conversion impacts to "other" PSS wetlands, and 1.75:1 for conversion impacts to EV PSS wetlands. [25 Pa. Code §§105.14(b)(13) and 105.20a(a)(2)]

45. Please submit final documents in the Compensatory Wetland Mitigation Plans that are not labelled "Draft." [25 Pa. Code §§105.20a(a) and 105.21(a)(1)]
46. The off-site Compensatory Wetland Mitigation Plan Performance Standards provide for a contingency of 30% canopy cover prior to the end of monitoring." Department guidance, *Design Criteria - Wetlands Replacement/Monitoring*, DEP Doc. No. 363-0300-001, suggests 85% survival of planted species and a monitoring period of not less than five years. The contingency regarding "30% canopy cover prior to end of monitoring" will not be acceptable. Please revise the off-site Compensatory Wetland Mitigation Plan Performance Standards to be consistent with the Department guidance. [25 Pa. Code §§105.20a(a), 105.21(a)(1), and 105.13(e)]
47. Regarding the EA Module 4 and Post-Construction Wetland and Watercourse Monitoring Plan, Department guidance, *Design Criteria - Wetlands Replacement/Monitoring*, DEP Doc. No. 363-0300-001, requires 85% cover of hydrophytic species. Please revise performance standards accordingly. [25 Pa. Code §§105.20a(a), 105.21(a)(1), and 105.13(e)]
48. The Post-Construction Wetland and Watercourse Monitoring Plan states that you intend to only monitor wetlands 0.1 acres or greater in size. All restored wetland impacts need to be monitored regardless of size. Please revise application to reflect that all restored wetlands will be monitored. [25 Pa. Code §105.21(b)]
49. In the Compensatory Wetland Mitigation Plan, consider providing a method to clearly and permanently demarcate easement boundaries. [25 Pa. Code § 105.13(e)]

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 **September 2, 2019**, or DEP may consider the application to be withdrawn by the applicant. You may request a time extension, in writing, before **September 2, 2019** to respond to deficiencies beyond the sixty (60) calendar days. When you submit the request, you should explain why an extension of time is necessary. Requests for extension of time **are not** automatically granted. After review by DEP, you will be notified in writing of the decision to either to grant or deny the extension, 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).

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 its decision based on the information previously submitted. 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 to all deficiencies, your application may be withdrawn or denied.

If you have any questions regarding the identified deficiencies, please contact Michael Luciani, Application Manager, at 570-826-3089 or mluciani@pa.gov, and refer to Application No. E09-998, Authorization No. 1107273 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,



Kevin S. White, P.E.
Environmental Group Manager
Regional Permit Coordination Office

cc: Sarah Binckley, AECOM
Bucks County Conservation District
US Army Corps of Engineers, Philadelphia District
PA Fish & Boat Commission, Division of Environmental Services
Durham Township
Riegelsville Borough