TETRA TECH

June 27, 2025

Pennsylvania Department of Environmental Protection
Regional Permit Coordination Office
Rachel Carson State Office Building
400 Market Street, Harrisburg, PA 17101
Attn: Michael Luciani and Kevin White

Re: Chapter 105 Joint Permit Applications – Response to Technical Deficiency Notification
Tioga Pathway Project
DEP Application No. E5983220-013 (Tioga Co.), APS ID No. 1125745; AUTH ID No. 1506547
DEP Application No. E5383224-006 (Potter Co.), APS ID No. 1125735; AUTH ID No. 1506536
Tioga and Potter Counties, Pennsylvania

On November 7, 2024, National Fuel Gas Supply Corporation ("National Fuel") electronically submitted two Chapter 105 Water and Obstructions and Encroachment Individual Permit Applications to the Regional Permit Coordination Office (RPCO) of the Pennsylvania Department of Environmental Protection (PADEP) for the Tioga Pathway Project (Project) in Tioga and Potter Counties, Pennsylvania. Specifically, National Fuel prepared and submitted an Individual Permit Application for both Tioga and Potter counties.

On May 2, 2025, National Fuel and Tetra Tech, Inc. ("Tetra Tech") – National Fuel's environmental consultant – received a Technical Deficiency Notification from the PADEP. The following information is provided in response to the PADEP's technical comments and all the supporting documents (i.e., revised attachments/files, etc.) have been electronically uploaded to the appropriate RPCO project Public Upload site for each of the Tioga Pathway Project's Individual Permit Applications (i.e., Tioga County and Potter County), as identified in the responses below.

General (Potter and Tioga Counties)

1. *The project proponent should identify all properties within 450-feet of the HDD centerline to inquire as to whether a private well or other water supply (e.g. spring) is present on the property and notify them of the proposed drilling. [25 Pa. Code § 105.14(a)]*

   Response: National Fuel will notify landowners again prior to construction, including those within 450 feet of the proposed HDD and will inquire again as to whether a private well or other water supply is present on the property. Module S3.D (Direct and Indirect Impacts) of the EA in both the Potter County and Tioga County applications has been updated to include the following statement: "National Fuel will identify all properties located within 450 feet of the HDD centerline and inquire as to whether a private well or other water supply (e.g. spring) is present on the property and notify them of the proposed drilling activities."

2. *The Inadvertent Return Plan should be revised to include the following key information:*
   a. *When an IR or loss of circulation is discovered, the IR or loss of circulation should be immediately reported to DEP required under 25 Pa. Code § 78a.68a(i) and § 91.33*
   b. *When an IR is discovered (regardless of whether the IR is to uplands or waters of the Commonwealth), it should be immediately reported to DEP required under 25 Pa. Code § 78a.68a(i) and § 91.33*

   An example Inadvertent Return PPC Plan is provided on the Department's Trenchless Technologies Resource Page which can be found here:

https://www.dep.pa.gov/About/Regional/RPCO/Pages/Trenchless.aspx

Response: The *Tioga Pathway Project's Inadvertent Return Plan*, provided in Attachment 21 (Section 3.0, page 6 and Section 3.2, page 7) of the Tioga County application, has been updated to indicate that the DEP must be notified immediately when an IR or loss of circulation is discovered, regardless of whether the IR occurs in uplands or waters of the Commonwealth.

3. *Please show the locations of the HDD entry pit and the HDD exit pit on the E&S Plans and Site Plans. This location should show specific details of the proposed HDD locations, sizes, depths, etc. [25 Pa. Code § 105.261]*

Response: E&S Plan drawing sheet ES-1.25 (Attachment 11.REV in both applications) and Site Plan Figures 27 (Attachment 06.REV in the Tioga County application) have been revised to show location and orientation of the HDD entry and exit pits. Notes have also been added to the plan sheets identifying dimensions of the pits.

4. *In addition to the deficiencies noted above DEP recommends the following:*
   a. *Prior to HDD advancement, surface casing should be installed within the granular unconsolidated overburden, as detailed within the HDD Feasibility Report, to isolate the problematic overburden material and reduce the risk of an inadvertent return. [25 Pa Code §105.14(a)]*

Response: A surface casing is proposed to be installed at both the HDD entry and exit points as shown on the HDD Plan and Profile. Specific details for the HDD are available in the HDD plan and profile drawings and Feasibility Report provided as part of this response package.

5. *Please show the proposed grading with the proposed gravel pads for the valve settings, access roads, etc., on the Site Plans. The proposed grading should show the extents of the proposed fill and/or excavation within any floodway or wetland. [25 Pa. Code § 105.261]*

Response: E&S Plan drawing sheet ES-0.16 (Attachment 11.REV in both applications) and Site Plan Figure 1 (Attachment 06.REV in the Potter County application) have been revised to identify proposed grading for the Z20 Valve Site. The YM59 Permanent Access Road 9 (PAR-9) will be constructed at existing grade; therefore, no grading is proposed except for the removal of existing topsoil, which will then be replaced by proposed gravel. The E&S Plan has been revised to include drawing sheet ES-0.17 to include the plan view for YM59 PAR-9 as well as a newly provided profile of the access road. No grading is proposed for any of the other permanent or temporary access roads as these access roads already exist and will maintain their existing contour, and there are no other valves, etc. located in resource areas.

6. *On the Chapter 105 Impact Drawings, please indicate the stream crossing and wetland crossing methods for construction. [25 Pa. Code §§ 105.13(e) and 105.21(a)(1)]*

Response: The resource impact drawings presented in Attachment 06.REV of both the Potter County and Tioga County applications have been updated to include the stream and wetland pipeline crossing method for each resource. However, if the resource is not directly crossed by the pipeline but is in the limits of disturbance (i.e., no trench excavation is necessary), the appropriate BMPs (i.e., timber mats and E&S controls) are shown at each crossing and identified in the Site Plan Legend (Sheet 2 of 3).

7. *Please provide the stream bank stabilization method on the E&S Plans. 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)]*

   Response: A standard detail for Typical Stream Bank Restoration identifying the proposed stream bank stabilization method is available in Attachment 11.REV on E&S Plan sheet ES-0.11 of both the Potter County and Tioga County applications. Stabilization of stream banks will be achieved through application of erosion control blanket and permanent seeding on disturbed areas above the normal flow depth, and placement of native stream material segregated during excavation below the streams normal flow depth. In addition, the Streams section in Module S4.B (Repair, Rehab, and Restoration Actions/Proposed Preservation and Maintenance Operations) of the EA (Attachment 10.REV of both applications) has been expanded to include streambank stabilization.

8. *Discuss how sensitive resources will be protected and/or proper vegetation establishment will be assured before agriculture land is handed over to landowner for use. [25 Pa. Code § 105.21(a)(1)]*

   Response: In agricultural areas (pasture, hay fields, row crops) revegetation shall be considered successful when, upon visual survey, crop growth and vigor are similar to adjacent undisturbed portions of the same field (unless the easement agreement specifies otherwise). The agricultural areas, including currently farmed or fallow PEM wetlands, will be revegetated in accordance with permit requirements. Specifically, upon completion of construction activities, if temporary restoration is completed in the fall due to time of year conditions, National Fuel will apply supplements (lime/fertilizer) in upland areas only, seed with a temporary upland or wetland seed mixture, and mulch (uplands only) as noted in the Erosion and Sediment Control Plan until final restoration can be completed in the spring. For final restoration in agricultural areas, National Fuel will seed with a permanent upland or wetland seed mix. For any agricultural areas that were utilized for row crops prior to construction, National Fuel will coordinate with the landowner to either seed with a permanent seed mixture or have the landowner re-plant row crops in order to achieve proper vegetative cover and pre-construction conditions. Monitoring will be performed by an Environmental Inspector to ensure proper restoration and revegetation measures are implemented in accordance with permit requirements. Additionally, for sensitive resources (wetlands and waterbodies) within agricultural fields, revegetation and restoration progress will be monitored for three years post-construction or until restoration is deemed successful.

9. *Within the Temporary Bridge Stream Crossing detail and the Stream Mat for Single Span Crossing, consider additional language stating the siderails will be wrapped in geotextile to deter sediment from entering the stream. [25 Pa. Code §§ 105.21(a)(1) and 105.13(g)]*

   Response: Attachment 11.REV on E&S Plan sheet ES-0.12 of both the Potter County and Tioga County applications includes Stream Mat Crossing details (drawing numbers 9 and 9A) that show a detail inset with a section view of the proposed installation of the siderails. The detail inset clearly shows the siderails will be wrapped by geotextile fabric.

10. *In the project narrative of Module S1 in the EA, please specify the width of the overall ROW and portion to be maintained after the completion of the construction. [25 Pa. Code §105.15(a)(1)]*

    Response: The introduction of the *Summary of Resources & Impacts* section in Module S1.B (Project Purpose and Need, Water Dependency, and Summary of Resources and Impacts) of the EA (Attachment 10.REV) in both the Potter and Tioga County applications has been expanded to include the following text:

"Construction of both the Z20 Replacement Pipeline and YM59 Mainline Pipeline will typically require a nominal construction ROW width of 75 feet. ATWS will be used to facilitate construction in certain areas (such as for certain stream and road crossings, topsoil segregation in agricultural areas, and side slopes), depending on site-specific needs. Following construction, the permanently maintained ROW will be 50 feet wide."

11. *Within the EA Module S3H, please provide a detailed cumulative impact analysis specific to the wetlands within the existing ROW that will incur additional impacts due to the new construction activities. Please expand discussion and further discuss why those impacts are not anticipated to produce a major impairment of the wetland resources. [25 Pa. Code §§105.14(b)(14) and 105.15(a)(1)]*

    Response: The wetlands located in the existing Z20 permanent ROW will not experience any cumulative impacts as the existing permanent ROW will not be expanded/widened following construction (i.e., it will remain a 50-foot-wide ROW), and the temporarily impacted areas will be allowed to revert to their pre-existing cover. As presented in Table S.B-1 (Attachment 10B.REV), the wetlands located in the existing ROW included a variety of cover types (PEM, PSS, and PFO) and did not appear to lack wetland function and values when compared to adjacent, undisturbed wetland areas. In addition, no wetlands located in the Z20 ROW will be permanently impacted (Resource Table S3.C-1 in Attachment 10B.REV) as National Fuel will continue to operate and maintain the Z20 ROW in the same manner they have since 1936 when the original Z20 line was constructed.

    The text in EA Module S3.H (Attachment 10.REV) in the Potter County Application has been updated to include the following: "With regard to potential cumulative impacts to wetlands located in the existing Z20 ROW, the existing permanent ROW will not be expanded/widened following construction (i.e., it will remain a 50-foot-wide ROW), and the temporarily impacted areas will be allowed to revert to their pre-existing cover. In addition, National Fuel will continue to operate and maintain the Z20 ROW in the same manner they have since 1936 when the original Z20 line was constructed. Based on field surveys, the wetlands located in the existing ROW have not been adversely impacted as a variety of cover types (PEM, PSS, and PFO) were observed and the wetlands did not appear to lack wetland function and values when compared to adjacent, undisturbed wetland areas."

12. *In Module S4.B, Streams, it states a detailed planting plan will be developed and provided to DEP for review and approval prior to implementation. Please provide a planting plan for the 50-foot riparian areas referred to in the application and illustrated in Appendix C, Figures S4.B, Riparian Planting Areas. Please include but not limited to proposed tree/shrub species, sizes, amounts, planting schedule and spacing, and indicator status. [25 Pa. Code §105.15(a)(1)]*

    Response: National Fuel has prepared a detailed Riparian Buffer Planting Plan for the 50-foot previously forested/scrub-shrub riparian areas. The Plan has been added to the application and is provided as a new Attachment 10E in both the Potter County and Tioga County applications. The Plan includes proposed tree/shrub species, sizes, amounts, planting schedule and spacing, and indicator status [Note, Figure S4.B (Riparian Planting Areas) has been incorporated into the Plan and is no longer included in Attachment 10C.REV of both applications].

13. *As of April 29, 2025, the Department has not received comments from the Pennsylvania Fish and Boat Commission (PFBC) review of the project. Please be aware that additional comments from the PFBC may follow this technical deficiency letter. [25 Pa. Code §105.24]*

Response: National Fuel appreciates and acknowledges the Department's notification regarding the absence of comments from the PFBC at this time.

Potter County (DEP Application No. E5383224-006)

14. *In the photo provided for Wetland W03-PEM, it appears to have a vernal pool area within the delineated boundary. Please describe the impact to this wetland habitat and the restoration activities for this area. [25 Pa. Code §105.14(b)(4)]*

    Response: As shown in Attachment 10A (EA Appendix A, Aquatic Resource Report; pages 134 and 138), the wetland W03-PEM sample location and photographs are located within the 300-foot survey corridor but are approximately 90 feet south of the proposed LOD. The standing water area (potential vernal pool) shown in the photographs does not extend north into the proposed LOD and will not be impacted. As shown in the photographs, there were no areas of standing water that extended into the proposed LOD where W03-PEM is crossed.

15. *In the EA, Page 7 (Wetlands) states that the proposed project will impact fourteen wetlands whereas other parts of the EA states that only ten will be impacted. Please revise and be consistent throughout the application. [25 Pa. Code §105.21(a)(1)]*

    Response: There are a total of 14 wetlands located in the LOD of the proposed Project in Potter County; however, three of these wetlands will be entirely avoided. As indicated on page 3 of the EA, "A total of 14 wetland areas are located within the proposed limits of disturbance (LOD) of the proposed Project in Potter County. Of these wetlands, 3 will be entirely avoided, 1 will be temporarily impacted by an access road, and the remaining 10 will be impacted by pipeline construction."
    The EA text has been reviewed and updated (Attachment 10.REV in the Potter County application), where necessary, to more accurately indicate the number of wetland areas located in the LOD.

16. *In the EA, Section S1.B, impacts to floodplains are referenced. Please review the definitions of floodway and floodplain in §105.1 and clarify which of the proposed impacts will affect floodways. Please revise and resubmit associated information as necessary. [25 Pa. Code §§105.15(a)(1) and 105.21(a)(1)]*

    Response: In accordance with Chapter 105.1 definitions of floodplain and floodway, the EA text (Attachment 10.REV) has been revised in both the Potter County and Tioga County applications to reflect that Project impacts are associated with floodways and not floodplains. Specifically, floodways were determined as indicated on maps and flood insurance studies provided by FEMA. In an area where no FEMA maps or studies have defined the boundary of the 100-year frequency floodway, it was assumed that the floodway extends from the stream to 50 feet from the top of the bank of the stream.

17. *The project summary of the EA (S1.A) states that: "The existing Z20 Pipeline generally will be replaced by removal or may be abandoned in place where conditions preclude effective removal." Please provide a contingency plan that discuss the method of abandonments, the depth of the pipe under streambeds, and/or other resources prior to approval for review of potential impacts. Note that Department notification is required prior to abandonment and update the plans accordingly. [25 Pa. Code §§105.15(a)(1) and 105.21(a)(1)]*

    Response: The following text has been added to Module S1.A in both the Potter County and Tioga County applications (Attachment 10.REV) to provide clarification regarding the potential to abandon the Z20 pipeline in place.

"In some instances, circumstances may be discovered during excavation that prevent the feasible removal of the existing pipeline. Such circumstances may include unexpectedly deep pipe depth or access to the pipeline is excessively encumbered by other buried utilities. No such locations are currently known or anticipated, but such circumstances may be encountered unexpectedly, as historical records of the pipeline installation may be inaccurate or lacking. In such cases, a segment of the existing pipeline may be abandoned in place by cutting the pipe on either end of the abandonment section, cleaning of any fluids, grouting, capping on either end, and backfilling. The new pipeline will be installed adjacent to the existing/abandoned pipeline segment within the existing permanent ROW. Abandonment in place will be limited to only those areas where it is not feasible to remove the existing pipeline; the standard procedure will be to remove the pipeline in all areas feasible. If such a circumstance is identified within a Chapter 105 regulated resource during construction, National Fuel will notify the DEP, inform them of the site-specific situation (i.e., pipe depth), and coordinate as necessary to complete the crossing with DEP approval."

18. *Sheet ES 1.24 of the E&S Plan illustrates a ditch within the LOD draining to Wetland W55 and Stream S62. Please describe the activities in this area and provide E&S BMPs to protect the ditch and/or the release of sediment to the aquatic resources situated downslope. [25 Pa. Code §§102.4(b)(5)(ix) and 105.21(a)(1)]*

    Response: The area is identified as an additional temporary workspace (ATWS) and is proposed for use as a pullback area to support the downslope HDD activities. E&S Plan drawing sheet ES-1.24 in Attachment 11 of both the Potter County and Tioga County applications has been revised to include E&S BMPs to protect the ditch and prevent release of sediment into the tributary stream and wetland.

19. *Please verify on Sheet ES-0.09 of the E&S Plan that no soil augmentations should be applied to wetlands. [25 Pa. Code §§105.21(a)(1) and 102.4(b)(5)(ix)]*

    Response: Sheet ES-0.08 of the E&S Plan drawings in Attachment 11.REV of both the Potter and Tioga county applications states in the Wetland Crossing Construction Sequence Notes "Soil amendments (i.e., lime, fertilizer, etc.) shall not be applied within a wetland area." In addition, the site stabilization schedule notes and seed mixture notes on sheet ES-0.09 have been revised to identify that "No fertilizer or other soil augmentations shall be applied to delineated wetland areas."

20. *Please review all resource crossings and verify trench plug placement. [25 Pa. Code §105.14(b)(4) and 102.4(b)(5)(ix)]*

    Response: The resource-specific Site Plans (Attachment 06.REV) and E&S Plan drawings (Attachment 11.REV) have been reviewed and updated, where necessary, to verify trench plug placements at all resource crossings along the pipeline alignment are per DEP requirements.

Tioga County (DEP Application No. E5983220-013)

21. *On the Site Specifics Plan, Wetland W14 (Figure 16) shows a temporary impact to the PSS portion of the wetland that is not identified on the ARIT. Please address. [25 Pa. Code §105.21(a)(1)]*

    Response: The ARIT in Attachment 08.REV has been updated to include the approximately 0.003 temporary impact associated with temporary placement of timber mats in the PSS area during construction.

22. *Please verify on Sheet ES-0.09 of the E&S Plan that no soil augmentations should be applied to wetlands. Please address. [25 Pa. Code §§ 102.4(b)(5)(ix) and 105.14(b)(4)]*

    Response: Sheet ES-0.08 of the E&S Plan drawings in Attachment 11.REV of both the Potter and Tioga county applications states in the Wetland Crossing Construction Sequence Notes "Soil amendments (i.e., lime, fertilizer, etc.) shall not be applied within a wetland area." In addition, the site stabilization schedule notes and seed mixture notes on sheet ES-0.09 have been revised to identify that "No fertilizer or other soil augmentations shall be applied to delineated wetland areas."

23. *Please review all resource crossings and verify trench plug placement. [25 Pa. Code §§ 102.4(b)(5)(ix) and105.14(b)(4)]*

    Response: The resource-specific Site Plans (Attachment 06.REV) and E&S Plan drawings (Attachment 11.REV) have been reviewed and updated, where necessary, to verify trench plug placements at all resource crossings along the pipeline alignment are per DEP requirements.

24. *The ARIT identifies the proposed work for Wetlands 57-58 as HDD but are not displayed as such in the site specifics plan. Please verify the impacts to these resources and update the application accordingly. [25 Pa. Code §§ 105.21(a)(1) and 105.13(e)(1)(i)(G)]*

    Response: The site-specific plan for Wetland 57 (Figure 26 in Attachment 06.REV) is accurate and the ARIT table provided in Attachment 08.REV (Project Description and ARIT) has been corrected to indicate that the "Work Proposed" will involve temporary matting only, not HDD.

    Wetland 58 will be crossed via open cut construction and has been corrected in the ARIT to reflect a 10' permanent ROW in PEM wetlands, rather than the 2' HDD permanent impact, and an associated reduced area of temporary impacts. The site-specific plan for Wetland 58 (Figure 27 in Attachment 06.REV) has been updated to include additional timber mats to accommodate the HDD work and the impact acreages have also been updated to reflect the open cut construction method. In addition, the impacts presented in Tables S3.C-1 and S3.C-3 in Attachment 10B.REV (Aquatic Resource Tables) and throughout the EA (Attachment 10.REV) have been updated in both the Potter County and Tioga County applications.

25. *Please provide the proposed HDD profile to the E&S plan drawings between STA ±518 and STA±523. [25 Pa. Code §§ 105.21(a)(1) and 105.13(e)(1)(i)(G)]*

    Response: E&S Plan drawing sheet ES-1.25 (Attachment 11.REV) has been revised to show the profile of the proposed HDD route. Depth of cover varies along the HDD route; however, depth can be estimated at any specific location using the elevations provided on the profile. Notes identifying depth at water resource crossings have been provided in the profile.

26. *In Module S3.D, it states that the limit of the construction ROW will be limited to a width of 75 feet or less in wetland areas. In the Site-Specific Plan and E&S Plan, it appears the limit of disturbance at wetlands W58 and W23 exceed 75 feet. Please address. [25 Pa. Code § 105.21(a)(1)]*

    Response: The proposed LOD width through PEM Wetland 58 is approximately 125 feet wide. However, this width is necessary to allow a safe work area for excavation, installation, and backfill of the pipeline trench, and to support the HDD activities for the Cowanesque River crossing. All work activities and associated impacts in this wetland are temporary and the emergent wetland will be restored to pre-existing conditions following construction. Sheet ES-

1.25 (Attachment 11.REV) and Figure 27 in the Site Plans (Attachment 06.REV) have been updated to show the proposed timber matting in this wetland.

The proposed LOD width at W23 is 100 feet wide. However, as indicated on Sheet ES-1.25 (Attachment 11.REV), no earth disturbance is proposed in this wetland area and activities will be limited to a timber mat travel lane along the ROW to support the HDD. Figure 28 in the Site Plans (Attachment 06.REV) has been updated to show the proposed timber matting in this wetland.

In addition, the Tioga County Module S3.D (Attachment 10.REV) has been revised to indicate that "It may be necessary to widen the ROW width to facilitate construction in certain areas (i.e., certain stream and road crossings, topsoil segregation in agricultural areas, side slopes, and HDD work areas), depending on site-specific needs."

27. *In Module S4.A, Avoidance and Minimization measures, please discuss the potential to further minimize the LOD from 75 feet in resource areas. [25 Pa. Code § 105.14(b)(7)]*

    Response: National Fuel has minimized the LOD within resources to the extent practicable to provide a safe work area to replace/install the larger size of the pipeline. The LOD width is necessary to accommodate the larger equipment needed to safely handle the large diameter pipe and provide a safe travel lane; allow sufficient area to dig the trench, install the pipeline, and install dam and pump bypasses at stream crossings; safely construct on steep slopes adjacent to streams; and, provide the area necessary for topsoil and subsoil stockpiles at wetland crossings. Only the area required to safely construct the pipeline through resources will be disturbed; however, to avoid potential safety and environmental compliance issues National Fuel is proposing a LOD of 75 feet in resource areas.

28. *In Module S4.B, Streams, it states a detailed planting plan will be developed and provided to DEP for review and approval prior to implementation. Please include in the Plan drawings a planting plan for the riparian areas referred to in the application and illustrated in Appendix C, Figures S4.B, Riparian Planting Areas. Please include but not limited to proposed tree/shrub species and sizes, amount, planting schedule and spacing, and indicator status. [25 Pa. Code §§ 105.21(a)(1) and 105.15(a)(1)]*

    Response: National Fuel has prepared a detailed Riparian Buffer Planting Plan for the 50-foot previously forested/scrub-shrub riparian areas. The Plan is provided as Attachment 10E in both the Potter County and Tioga County applications and includes proposed tree/shrub species, sizes, amounts, planting schedule and spacing, and indicator status [Note, Figure S4.B, Riparian Planting Areas has been incorporated into the Plan and is no longer included in Attachment 10C.REV of both applications].

29. *In Module S4.B, Wetlands, it indicates that National Fuel proposes to plant trees/shrubs in wetland areas located within and contiguous to the riparian buffers: specifically, 0.538 acre of PEM, 0.792 acre of PSS and 0.466 acre of PFO will be planted within the non-maintained pipeline corridor to supplement the revegetation of these areas and to promote re-establishment of PSS and PFO wetlands on the ROW. Please include in the Plan drawings, a planting plan for the wetland areas referred to here and illustrated in Appendix C, Figures S4.B. [25 Pa. Code §§ 105.15(a)(1) and 105.21(a)(1)]*

    Response: National Fuel has prepared a Riparian Buffer Planting Plan for the 50-foot previously forested/scrub-shrub riparian areas, including wetland areas located within the buffer. The Plan is provided as Attachment 10E in both the Potter County and Tioga County applications and includes proposed tree/shrub species, sizes, amounts, planting schedule and spacing, and

indicator status [Note, Figure S4.B, Riparian Planting Areas, has been incorporated into the Plan and is no longer included Attachment 10C.REV of both applications].

As identified in Module S4.C (Compensatory Mitigation) of the EA, National Fuel has proactively and conservatively identified all PFO and PSS wetland impacts as permanent conversion to PEM and is proposing compensatory mitigation for the total PFO and PSS wetland impacts as presented in the Project's *Permittee Responsible Mitigation Plan* provided in Attachment 10D.REV. Therefore, only wetland areas located within the previously forested/scrub-shrub riparian areas will be replanted.

Mitigation

30. *In the PRM Plan, please provide accurate coordinates for the PRM site. [25 Pa. Code § 105.21(a)(1) and 105.20a]*

    Response: The coordinates of the project site are 41.991551, -77.327972. This information has been added to Table 1 in Section 1.0 of the revised PRM plan provided in Attachment 10D.REV.

31. *Please provide a site plan for the PRM site that includes but not limited to contours, soils boundaries, stream and wetland boundaries, proposed planting scheme. [25 Pa. Code §105.20a]*

    Response: A revised PRM site plan has been included in Appendix F of the revised PRM plan.

32. *Historical projects indicate larger diameter trees (≥2 inches) have an increased rate of surviving from herbivory or other natural causes. Please consider planting a larger sized diameter trees to achieve performance standards of a palustrine forested habitat. [25 Pa. Code § 105.20a]*

    Response: The RES planting plan includes carefully selected species, planting densities, and sizing of woody materials based on previous successful restoration approaches and outcomes throughout the region. The woody plantings include species that are hardy, establish quickly, and tolerate various conditions. Although some mortality is inevitable, it is RES's experience that the planting survivorship, and resulting diversity, is more successful if RES plants a diversity of species at a higher density during the initial install. As site hydrology and soils can vary substantially, this approach allows for the site conditions to determine what species assemblages it can support and builds in resilience against extreme weather and climate conditions. The ability for the plant assemblage to become adapted to the site would be more difficult if a lower number of larger Balled & Burlapped (B&B) trees were planted. A mix of 3-5-gallon container trees and shrubs are proposed. Appropriate species will be grown in RootPouch fabric containers, which promote the establishment of a more fibrous root system in comparison to traditional containerized stock. Doing so reduces transplant shock, which should result in similar (if not better) transplant success and first year growth in comparison to larger B&B stock as none of the root mass will be lost during harvest. In addition, planting large B&B material can require heavy machinery to deliver and install plants and can result in unnecessary impacts on the existing wetland resources. Survivorship, density, and diversity will be assessed through the maintenance and monitoring period and the need for additional or alternative planting approaches can be addressed as adaptive management at that time.

33. *In the PRM Plan, please consider utilizing protective fencing around trees and shrubs to improve survivorship from herbivory. [25 Pa. Code § 105.20a].*

    Response: The revised PRM site plan includes planting details which show that protective fencing will be installed around the plantings on site (refer to Appendix F: Sheet C100, detail PL-1). As

stated in the PRM Plan (provided as Attachment 10D.REV), "If it is determined that animal damage is preventing the performance standards from being achieved additional measures for tree protection such as installing more robust tree cages will be implemented."

34. *In the EA, S4.C Compensatory Mitigation, states that trees and shrubs will be planted at an approximate density of 500 stems/acre whereas in the PRM Plan (Camp Brook PRM Site) states a density of 300 stems/acre will be planted. Please address. [25 Pa. Code § 105.21(a)(1)]*

Response: The planting density in both Module S4.C of the EA (Attachment 10.REV) and the revised PRM site plan (Attachment 10D.REV) has been corrected to indicate the correct density of 350 stems per acre. In addition, the PRM site plan includes a planting plan detail that identifies the proposed spacing and supplemental plantings, as needed.

35. *Appendix D of the EA, please identify all streams on the Resource Location Map as indicated in the Wetland Delineation Report for the PRM site. [25 Pa. Code § 105.21(a)(1)]*

Response: Figure 3B (Delineated Aquatic Resources) of the revised PRM plan has been updated with all appropriate aquatic resource labels. In addition, all delineated resources have been identified and labeled on the revised PRM site plan, located in Appendix F.

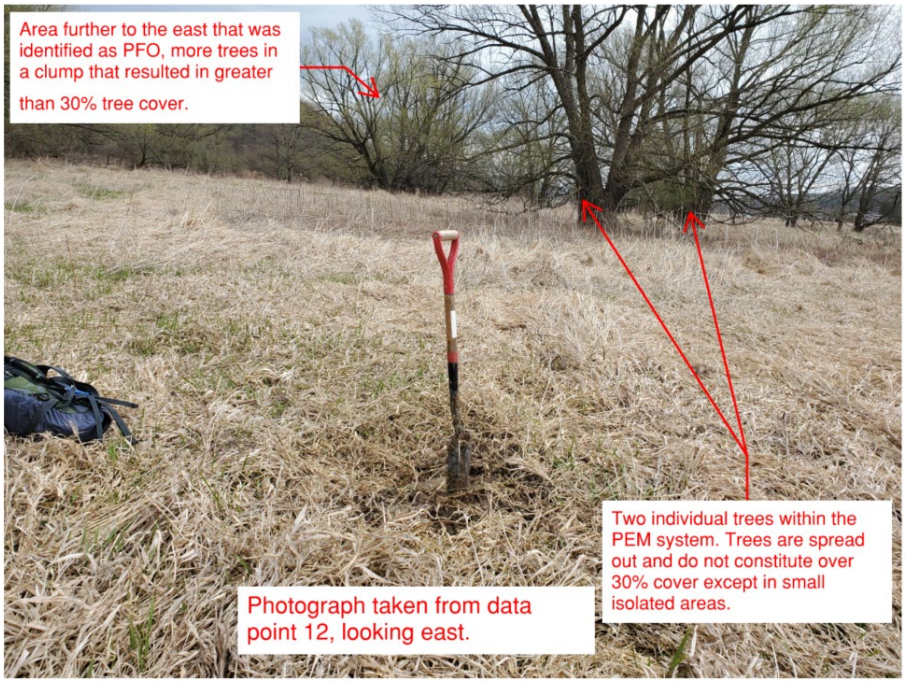
36. *EA Module S4.D states, "Post-Construction Wetland and Watercourse Monitoring shall occur annually for a period of 5 years following construction." Please verify monitoring will occur in the spring and fall the first three years at mitigation area, to reflect the Department's guidance for Wetlands Replacement/Monitoring, Department document 363-0300-001. [25 Pa. Code §§ 105.21(a)(1) and 105.20a(b)]*

Response: Neither the Tioga nor Potter County applications include a Module S4.D in the EA (Attachment 10.REV); however, Module S4. B states that National Fuel will monitor the restored PEM wetlands within the pipeline LODs. Specifically, "National Fuel will conduct annual post-construction monitoring (for both wetland and stream restoration and invasive plant species) for a minimum of three years to document the successful restoration of PEM wetlands and streams. If post-construction monitoring finds that any wetland or stream requires corrective actions to restore wetland or stream status, stability, or function, then National Fuel would implement such actions where needed." In addition, National Fuel has proactively and conservatively identified all PFO and PSS impacts as a permanent conversion to PEM and has developed a PRM Plan to compensate for the PFO and PSS wetland impacts.

With regard to the PRM Plan (Attachment 10D.REV), Section 9.0 of the Plan (Monitoring Requirements) has been updated to include the requested monitoring schedule.

37. *From the aerial images in the PRM Plan it appears that existing PEM and PFO habitat may be overestimated and underestimated, respectively. Please address. [25 Pa. Code § 105.21(a)(1) and 105.20a(b)]*

Response: While aerial imagery can be useful for an informal site examination, determining the Cowardin classification includes factors (plant cover, type, soil composition, etc.) that can only be ascertained on site during the field delineation. The RES ecologists who performed the wetland delineation were consulted and indicated that the dominant cover type within the area identified as PEM are herbaceous, except for two individual trees. The wetlands in this location do not function as forested wetlands identified elsewhere on-site. An annotated photograph has been included below to further support the findings.



We believe the responses provided adequately satisfy the comments and requested corrections. Feel free to contact me at (484) 541-8077 or at Robin.Dingle@tetratech.com if you require any additional information.

Regards,

TETRA TECH, INC.

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