

February 24, 2017

Ms. Roberta Zwier
Transcontinental Gas Pipe Line Company, LLC
2800 Post Oak Boulevard, Level 6
Houston, Texas 77056

Re: Technical Deficiency #2
Atlantic Sunrise Pipeline - Columbia County
APS ID# 878953, AUTH ID# 1087339
DEP Application No. E19-311
Cleveland, Greenwood, Franklin, Jackson, Montour, Mt. Pleasant, Orange, Hemlock and Sugarloaf
Townships
Columbia County

Dear Ms. Zwier:

On July 29, 2016 the Department of Environmental Protection (Department) sent to Transcontinental Gas Pipe Line Company, LLC (Transco) a technical deficiency letter for the above referenced Project. The Department received a response to that technical deficiency letter on November 21, 2016, and determined that the application, including the resubmission, continues to be technically deficient. The Pennsylvania *Dam Safety and Waterway Management Regulations*, 25 Pa. Code § 105.1, *et seq.*, (Chapter 105 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, and the guidance sets forth the Department's preferred means of satisfying the applicable regulatory requirements.

As you are aware, Department staff in two different regional offices are reviewing a combined total of eight (8) Chapter 105 permit applications associated with this Project. While the regional offices have coordinated the review of the applications and the identification of deficiencies, it is possible that deficiencies raised in the Department's other deficiency letters may be applicable to this permit, even though not stated herein. The Department recommends that Transco evaluate 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.

Note: Due to multiple reviewers and the size of the document there may be some duplication of deficiencies.

Technical Deficiencies

1. Original Comment # 1: Upon further evaluation by the Department and in accordance with the Chapter 105 Regulations, 25 Pa. Code § 105.13(e), complete delineation of impacts to wetlands, streams and floodways needs to be provided for the Department to perform the required

environmental review of the application and make a proper permit decision. The impacts to wetlands, streams and floodways cannot be based on remote sensing. The Chapter 105 Regulations, 25 Pa. Code § 105.13, require a complete demarcation of the floodplains and regulated waters of this Commonwealth on the site. This requirement will not be waived under 25 Pa. Code § 105.13(k), as remote sensing or national wetland inventory data alone may not identify all wetlands, streams and floodways present, nor does it adequately identify any unique characteristics of the wetlands, or the functions that they provide. As such, the remotely sensed impacts will require in-field verification, and all relevant portions of the application will need to be revised prior to making a permit decision. 25 Pa. Code § 105.13(e).

The Department's review of proposed project water obstruction and encroachment activities in regulated waters of this Commonwealth (e.g., floodways, watercourses and wetlands) was based on remote sensing, which failed to allow for an evaluation of individual and cumulative adverse effects. Identification by remote sensing neither provided a concise demarcation of regulated waters nor identification of unique regulated waters characteristics or functions for the Department to evaluate whether any impact posed a potential adverse effect on life, health, safety, welfare, property or the environment. 25 Pa. Code § 105.13(e) (1) (A through G).

2. Original Comment #4: Provide agency clearance letters and copies of correspondence from the Pennsylvania Fish and Boat Commission (PFBC), Pennsylvania Game Commission (PGC), Pennsylvania Department of Conservation and Natural Resources (PDCNR), and U.S. Fish and Wildlife Service (USFWS) for the proposed pipeline, including no-access parcels, and the mitigation area, and identify any mitigation measures that are recommended or required. Please be advised that additional deficiencies may be generated pending responses from resource agencies. 25 Pa. Code § 105.14(b)(4).

Provide final clearance letters for all agencies for the associated areas within the Swatara Creek PRM site. Provide clearance letters or PNDI receipt for all other agencies besides USFWS. 25 Pa. Code § 105.14(b)(4).

Provide clearance from USFWS for the Northern Long-Eared Bat and Indiana Bat. As PGC deferred comments on these species to USFWS, clearance from USFWS will complete the clearance for PGC. 25 Pa. Code § 105.14(b)(4).

Letters from jurisdictional agencies (PFBC, PDCNR, PGC, and USFWS) that had been included with the original 2015 submission were omitted from the November 2016 submission. Please include all letters from the jurisdictional agencies that identify the potential impacts to threatened/endangered species in addition to the clearance letters for each species. These letters are required in lieu of a PNDI search receipt due to the size of the project. 25 Pa. Code § 105.14(b)(4).

3. Original Comment #5: Provide clearance or approval from the Pennsylvania Historical and Museum Commission (PHMC) for cultural, archeological, and historic resources for the proposed water obstructions and encroachments, mitigation area, and areas necessary to

construct the water obstructions and encroachments. 25 Pa. Code §§ 105.13(e)(1)(x), 105.14(b)(4) and 105.14(b)(5).

November 22, 2016 technical deficiency response states that, "Transco is coordinating with PHMC and FERC to develop a Memorandum of Agreement (MOA) to address Section 106 compliance and will include procedures for assessing impacts for inaccessible properties, and protocols for handling chance finds."

Please provide the status of this MOA and any impact assessments conducted or planned for any inaccessible properties.

4. Original comment #8: It appears that several waters of the Commonwealth could be crossed using trenchless installation methods. Provide a revised alternatives analysis that incorporates a discussion of alternative crossing techniques (conventional bore, Horizontal Directional Drilling (HDD), micro-tunneling, etc.) addressing each resource crossing individually and explaining why trenchless installation methods are not appropriate. 25 Pa. Code §§ 105.12(e)(1)(viii), 105.18a.

One crossing for UNT to Roaring Creek was under investigation for conventional boring and two crossings of South Branch Roaring Creek and one crossing of Coles Creek were under investigation for HDD at the time of the comment response. Provide information concerning the outcome of the investigation and justification for the feasibility of the crossing. 25 Pa. Code §§ 105.13(e)(1)(viii), 105.18a.

5. Original Comment #10: Public water supplies are located in the vicinity of the proposed pipeline. The application states that there will not be any impacts to the water supplies as a result of the pipeline. Provide the supporting documentation that led to this conclusion. Additionally, we recommend that you contact any public water supplier in order to help determine if your project will impact the public water supplier and subsequently provide documentation of interactions, through correspondence, with each supplier. Ensure all public water supplies in the vicinity of the proposed pipeline are identified within the location map. Enclosed are instructions on how to utilize the Department's eMapPA to identify public water supplies in the vicinity of your project. 25 Pa. Code §§ 105.13(e)(1)(ii), 105.13(e)(1)(x) and 105.14(b)(5).

The Department's review of Attachment H-2 found that neither project location maps nor site plans identified specific watercourses or watershed boundaries where instream and downstream users could be affected by proposed pipeline water obstruction and encroachment activities. To evaluate whether any proposed pipeline water obstruction and encroachment poses an impact to a public water supply, the Department requests that those identified instream and downstream users reported in Attachment L, and any unidentified users, be included on revised Attachment H-2 project location maps. 25 Pa. Code §§105.13(e)(1)(ii) and 105.14(b)(5).

6. Original Comment #18: An Aids to Navigation (ATON) plan may be required for this project. Contact Thomas Burrell with the Pennsylvania Fish and Boat Commission at 717.705.7838

regarding ATON requirements, and provide a copy of the ATON approval to the Department. 25 Pa. Code § 105.14.

The Department's review for evaluating impact to navigable public waterways found PFBC approvals of an Aids to Navigation plans at Columbia County locations are forthcoming.

Please provide the PFBC Aids to Navigation plan and approval for inclusion with your Joint Permit application materials. 25 Pa. Code § 105.14(b)(2).

7. Original Comment # 22: According to the Hydrologic and Hydraulic Calculations for Waterbody Crossings (H&H) several waterbody crossings are to be crossed by a dam and pump method. Many of these crossings have excessive Peak Flows that could not be managed by pumping. Detail how these crossings will be stable and how the waterbodies will be successfully passed through or around the work area. Provide tables in the plan drawings depicting pump sizing and rate information to be used by contractors. 25 Pa. Code § 105.161.

Using impact WW-T35-11001 as an example, if a Dam and Pump method is chosen, provide supporting data that shows that this be will be a feasible method of crossing. Many of the crossings are in watersheds that have excessive flows during normal or low flow conditions, which may preclude use of dam and pump methods. Explain why a Flume type method was not considered. 25 Pa. Code §§ 105.13 and 105.14.

8. Original comment #62: The pipeline is shown to parallel at least one hundred fifty feet (150') of the UNT to Fishing Creek (WW-T02-15004), generally within 10' of the stream. (The current cover of the stream is primarily Palustrine Forested (PFO)).
 - a. Describe how construction of the pipeline will take place in close proximity to the stream so as to not result in a permanent impact to the stream. This location does not fit a typical stream crossing and may require specific detail. 25 Pa. Code § 105.13.
 - b. As the streambanks will be maintained without their current forested vegetation, describe how stabilization of the stream will occur such that erosion is prevented. Severe erosion at this location has a higher potential to result in the loss of pipeline cover and in the exposure of the pipeline. 25 Pa. Code § 105.14.
 - c. The UNT is a wild trout stream. Loss of PFO cover raises concerns of thermal impacts to the stream, especially since headwater streams are more susceptible to thermal impacts as a result of cover loss. Explain how this impact will be minimized. 25 Pa. Code § 105.14.

The response indicated that a route deviation at this location was under investigation at the time of the response. Adjust route to avoid paralleling the UNT to Fishing Creek (WW-T02-15004) or provide justification as to why a route adjustment is not feasible. Answer questions identified in original comment #62, if they remain applicable. Additionally,

explain how the stream bank will be stabilized following construction and for the long-term if the pipeline is constructed to parallel the stream in close proximity to the stream bank. 25 Pa. Code §§ 105.13(e)(1), 105.14(b)(4) and 105.314.

9. Original comments #109-116: Concerning the Briar Creek mitigation site

In the comment response, it was stated that Swatara Creek in Schuylkill County will be used as the mitigation site for impacts occurring in Columbia County. Therefore, only information concerning Swatara Creek was provided in the application. The Briar Creek mitigation site, however, will be authorized for the project in the Columbia County permit due to the physical location of the mitigation site. Therefore, information for the Briar Creek mitigation site should be included with the Columbia County application. Ensure that all original comments associated with the Briar Creek mitigation site have been addressed along with any additional comments included as part of the review of the Luzerne and Wyoming County applications. 25 Pa. Code § 105.13(e)(1)(ix).

10. In accordance with 25 Pa. Code § 105.13(e)(1)(x) and to ensure all potential impacts to regulated waters are evaluated and approved under applicable Chapter 105 Regulations, provide a revised Attachment H-2 that includes primary, secondary and even tertiary pipeline installation methods (e.g., Cofferd Dam Stream Crossing (CD), Dam and Pump Stream Crossing (DPX), Flume Stream Crossing (FX)), temporary construction crossing methods (e.g., BEC, MAT.1, MAT.3.), and streambank restorative methods (e.g., RSS, SBR). Additionally, provide the Department with a revision of each Attachment H-2 impact table to report the worst case scenario regulated waters impact should the secondary or tertiary method need to be implemented
11. The Soil Erosion and Sedimentation Control Plan/Site Restoration Plan drawings do not have labels noting the methods of crossing and site restoration for each watercourse, wetland or waterbody crossing. Provide updated plans to avoid any potential conflicts during construction. 25 Pa. Code § 105.13(e).
12. The Department's review of attachment O-1 found project municipal notifications had been sent to Cleveland, Greenwood, Franklin, Jackson, Montour, Mt. Pleasant, Orange, Hemlock, and Sugarloaf Townships. Where project water obstruction and encroachment activities are being proposed in floodway areas delineated on FEMA maps (i.e., National Flood Insurance Program maps), provide the Department with revisions that include return correspondence from those affected municipalities commenting on their evaluation of a provided floodplain management analysis and whether that analysis is consistent with their respective floodplain management codes or ordinances. 25 Pa. Code § 105.13(e)(1)(vii).
13. The Department's review of Attachment M, Hydrologic and Hydraulic Calculations for Waterbody found a few watercourses where water obstructions (i.e., culverts, cofferdams, bridges, etc.) were being proposed where the drainage area was less than one square mile. It appears USGS StreamSTATS likely was used as the hydrologic method to address the Chapter 105 Regulations criteria related to hydrologic and hydrologic analysis. USGS StreamSTATS is only an accepted hydrologic method to use for water obstruction design in drainage areas that are over one square mile. Provide the Department with revised water obstruction designs (i.e.,

culverts, cofferdams, bridges, etc.) that utilize acceptable hydrologic and hydraulic methodologies, where the watercourse drainage is less than one square mile and USGS StreamSTATS was used. 25 Pa. Code § 105.161(b).

14. The proposed temporary equipment crossing does not have any measures to prevent sediment from falling off the sides of the equipment crossing into the stream. Please provide a one-foot high side rail that will also be wrapped by the geo-textile. 25 Pa. Code § 105.13(g).
15. Correctly identify the FEMA detailed Floodway and Floodplain Boundaries. Several locations in the Impact Maps have two boundaries that are labeled as FEMA Floodway Boundary vs FEMA Floodway and Floodplain boundaries. 25 Pa. Code § 105.13(e)(1)(i).
16. CS-HDD-CO-180 involves several impacts to waters of the Commonwealth. This area is located in the route change and the survey has not been completed. Detail how this alignment differs from the original alignment and how this has minimized the impacts to the waters of the Commonwealth. The plans detail fill placed in a small tributary to support HDD operations. Provided detailed analysis that explains how this is minimization of impacts. 25 Pa. Code § 105.13, §105.14(b)(7).
17. Regarding CS-HTA-CO-Roaring Creek, it appears that there will be an excess amount of cut removed for the storage facility. The southern end of the pad is at roughly 2 feet of fill and the northern end of the pad is in roughly 8.5 feet of cut. Explain where the fill will be stored or where it will be removed to and describe how this process will be restored to its pre-existing grades and drainage patterns as noted on sheet 2 of 2, 24-1600-70-28-A/LL113_9. 25 Pa. Code § 105.13.
18. The hydraulic calculations for the flume crossings only provides the Water Surface Profile Plot for Culvert. Please provide the HY-8 Report providing the water surface elevations for the existing and proposed conditions, overtopping characteristics, etc. 25 Pa. Code § 105.161(d).
19. Attachment H-2 County specific impact mapping, details impacts to WW-T70-12011, WW-T70-12006, W-T70-12010A-1 and W-T70-12010A-2 for the pipeline trench construction installation. The mapping does not detail the actual impacts shown in the plan drawings with respect to the operations and impacts required for the Hydraulic Directional Drill workspace. Provide detailed descriptions of how these resources will either be protected or restored from impacts associated with the drilling activities. 25 Pa. Code §§105.13 and 105.14(b)(7).
20. It appears that there may be a structure located in Hemlock Township between stations 5645+00 – 5650+00 that will be impacted by the Pipeline. This area also appears to be remotely sensed. Confirmation is needed to ensure the line alignment is accurate on the drawings and a realignment will not be necessary. 25 Pa. Code § 105.13.
21. Confirm that any of the bore activities located at station 5820+00 will not impact stream WW-T06-13002 and station 6505+00 will not impact stream WW-T17-14003. Detail how the streams will be protected during those activities. 25 Pa. Code § 105.14(b)(4).

22. The minor route revisions associated with the June 2015 route showed several areas of improvement. Although it appears that there were more temporary impacts to streams and wetlands, overall the permanent impacts to other resources were avoided. Provide documentation that the entire route has been assessed to determine the best possible route has been selected. Provide data in the resubmission to support the findings. 25 Pa. Code §§ 105.13 and 105.14(b).
23. It appears that the Contractor Staging Area CS-CSA-CO-4-002.1 sediment basin is situated in a wetland. Drainage patterns and signatures on aerial mapping indicate that there may be wetland features in this area. Since the basin will be situated in a deep cut, water infiltration would be expected into the basin, thus changing the design characteristics. Provide site investigation details that determine the area in question is not a wetland or detail how the sediment basin and contractor staging area will be revised if wetlands are present. 25 Pa. Code §§ 105.13, 105.14(b) and 105.17.
24. It appears that the Contractor Staging area CS-CSA-CO-4-003 North west corner is located in a wetland. Drainage patterns and signatures on aerial mapping indicate that there may be wetland features in this area. Provide site investigation that determines the area in question is not a wetland or detail how the sediment basin and contractor staging area will be revised if wetlands are present. 25 Pa. Code §§ 105.13 105.14(b) and 105.17.
25. For CN-CSA-CO-1-001, on drawing F-AS-CPLN-A-01, sheet 137C, it states that the survey has not been completed. However, the Erosion and Sedimentation drawings show resources in the area of this contractor staging area. In addition, aerial images show several potential wet areas in and around this contractor staging area. Verify that resources have been delineated within the staging area and provide the location of the resources in the vicinity of the staging area. 25 Pa. Code § 105.13(e)(1)(i)(A).
26. In the re-submission, stream names for resources WW-T02-15008, WW-T91-15004, and WW-T02-15009 were changed from UNTs to Coles Creek to UNTs to Fishing Creek. Both WW-T91-15004 and WW-T02-15009 should be identified as UNTs to Coles Creek. Designations as CWF, MF and Wild Trout Waters are correct. WW-T02-15008 is located on the saddle between watersheds. The flow direction indicated in Attachment H-2 indicates that it is most likely an UNT to East Branch Fishing Creek which is HQ-CWF and MF. It is also a wild trout water. 25 Pa. Code § 105.13(e)(1).
27. Plan drawings provided in H-1 need to be updated to be consistent with H-2. 25 Pa. Code § 105.13(e)(1)(i).
28. Please reference the Department's "Design Criteria for Wetlands Replacement" regarding mitigation area monitoring, frequency, and inspection report content. Wetland replacement areas must be monitored for a period of not less than five years with inspections conducted at a minimum of twice per year for the first three years and once per year thereafter. Please revise your application materials as needed to ensure all mitigation areas associated with your project, including wetland and riparian replanting, wetland enhancement, and wetland restoration areas meet these criteria. 25 Pa. Code § 105.20a(b).

29. Activities proposed as mitigation for environmental impacts will be a permit requirement if included as part of your Joint Application submittal. Please remove all references to voluntary mitigation efforts as found in Attachment L and any other areas throughout your application. 25 Pa. Code § 105.13(e)(1)(ix).

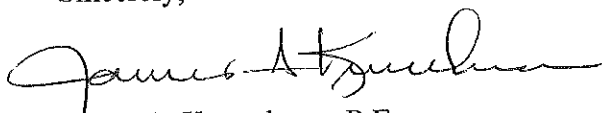
You may request a time extension, in writing, before **April 25, 2017** to respond to deficiencies beyond the sixty (60) calendar days. Requests for time extensions will be reviewed by the Department and considered. You will be notified in writing of the decision either to grant or deny, including a specific due date to respond if the extension is granted. Time extensions shall be in accordance with 25 Pa. Code § 105.13a(b).

Pursuant to 25 Pa. Code § 105.13a of the Chapter 105 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 **April 25, 2017** or the Department may consider the application to be withdrawn by the applicant.

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 the Department to make a decision based on the information with regard to the subject matter of that deficiency that you have already made available. If you choose this option with regard to any deficiency, you should explain and justify how your current submission satisfies that deficiency. Please keep in mind that if you fail to respond, your application may be withdrawn or denied.

Should you have any questions regarding the identified deficiencies, please contact George Grose at 570-988-5504, and refer to Application No. E19-311, Authorization No. 1087339 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 the Department. 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,



James A. Kuncelman, P.E.
Chief, Permits Section
Waterways and Wetlands Program

cc: Mr. Michael Dombroskie/US Army Corps of Engineers, Baltimore District
Ms. Jamie Davis/US Environmental Protection Agency
Mr. John Zimmer, TRC Environmental
Mr. Aaron Blair/Transcontinental Pipe Line Company, LLC
PA Fish and Boat Commission, Division of Environmental Services

Columbia County Conservation District
Cleveland Township
Greenwood Township
Franklin Township
Jackson Township
Montour Township
Mt. Pleasant Township
Orange Township
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