

December 10, 2019

Via Electronic Mail

Mr. Scott R. Williamson  
Program Manager, Waterways & Wetlands Program  
Pennsylvania Department of Environmental Protection  
Southcentral Regional Office  
909 Elmerton Avenue  
Harrisburg, PA 17110-8200

**Re: PA DEP HDD Re-Evaluation Report – Request for Additional Information  
Interstate 81 Crossing 16-Inch Horizontal Directional Drill Location (S2-0220-16)  
Permit No. E21-449  
Middlesex Township, Cumberland County**

Dear Mr. Williamson:

In compliance with the Corrected Stipulated Order (Order) dated August 10, 2017, a Re-Evaluation Report for the above-referenced horizontal directional drill (HDD) was submitted to the Pennsylvania Department of Environmental Protection (Department) on February 26, 2019. In a letter dated April 11, 2019, the Department requested further information. On June 17, 2019, Sunoco Pipeline, LP (SPLP) submitted a letter responding to each item in the Department's letter and a Revised Re-Evaluation Report. In response to an August 15, 2019 conference call discussing the responses and Revised Re-Evaluation Report, SPLP submitted a letter providing further information to the Department on August 28, 2019. In response to a third request for further information received on November 15, 2019, SPLP submits the following supplement to the response for Item 2 of the Department's letter.

- 1. The proposed 16-inch pipeline is proposed to be 20 feet or so deeper than the existing 20-inch pipeline. However, the geophysical report indicates that the proposed pathway will encounter problems just east of and near to the previous long-term, repetitive IR marked in the geophysical report as 10146+00. While going deeper passes the proposed drill path beneath the low velocity zone of the seismic survey, the other two geophysical surveys indicate that the drill path will still encounter problems. The resistivity survey shows the drill path passing through two "possible" fracture zones at that location. These were indicated by low resistivity readings indicating the presence of greater amounts of fluids, rather than rock. Thirdly, the microgravity survey indicated the area to be of a decreasing mass which is indicative of voids. Given the history of the drilling for the 20-inch pipeline at this location, and the additional analysis that SPLP conducted, it is clear that the risk of reactivating the IR at this location is high with the currently proposed 16-inch bore path. It is also clear that the drill path cannot go deeper.**

2. Given the above circumstances and classification of the wetlands where the IR previously occurred, the Department requests that SPLP include requirements that SPLP staff, or a designated staff person, be constantly stationed to continuously observe the area of the previous IR when the drill bit approaches and drills through the high-risk area. To address this concern and as required by Paragraph 4. and 5. of the Environmental Hearing Board's August 10, 2017 Corrected Stipulated Order (Order) and the DEP/SPLP COA, dated June 27, 2017, SPLP must fully utilize information gathered during the HDD of the 20-inch bore as part of the HDD Re-evaluation for the 16-inch pipeline. It appears that SPLP did not evaluate the information gathered during the 20-inch HDD to approximate the most high-risk zone where an IR may occur, nor did SPLP suggest increased visual monitoring that may be employed at this location. The Department is requesting that SPLP have the geologist/geophysicist examine the geophysical study and 20-inch pipeline drilling history to delineate the approximate distance from the entrance hole to where continual visual observation of the previous IR location at the ground surface will begin monitoring for IRs. In addition, SPLP should have their geologist/geophysicist identify the approximate point in the drilling profile at which the observer will stand down continual monitoring, presuming the HDD proceeds without incident, thus returning to only the normal monitoring for LOC and IR at HDD sites required by the DEP approved permits and associated plans.

SPLP reminds the Department that as clearly stated in the Re-Evaluation Report, no corrective actions to counteract LOCs and IRs were taken during this HDD, and the 20-inch HDD was started before development and implementation of the drilling best management practices included in the Re-Evaluation Report. The data request items above appear to assume that no corrective actions in the event of an LOC or IR would be employed upon engaging the drilling for installation of the 16-inch pipeline.

SPLP's HDD specialists, geologists and geophysicists have reviewed the available drilling data, as well as the geophysical survey completed between October 24 and November 17, 2018 to identify areas in which continuous observations are necessary based on the heightened risk of IRs. Based on the presence of gravity lows (i.e., potential void spaces) identified in the microgravity survey and/or the potential presence of fractures as identified in the electrical resistivity survey, SPLP will station inspector(s) between 10145+00 and 10148+50 and between 10151+00 to 10151+75 to conduct continuous monitoring for the surfacing of drilling fluids, groundwater or air. Based upon the drilling history and events as discussed in the Re-Evaluation Report, a LOC should be identified and corrective action taken before any IR would develop. In the event an IR is observed, the inspector(s) will immediately notify the drilling contractor and all drilling activities suspended to establish containment around the IR and recovery activities pending authorization to resume HDD operations from the Department. Once the drill has been advanced past both of these areas, monitoring/inspection for IRs will return to "normal" conditions in accordance with the HDD Inadvertent Return Assessment, Preparedness, Prevention, and Contingency Plan dated December 6, 2016, revised April 2018.

- 3. Finally, the Department also has concerns about the drilling methodology used to accurately locate the drill bit while drilling is in process. This concern stems from a past discussion between the Department and the original contractor that was working the drill, who indicated that he was unable to accurately locate the bit. As SPLP is aware, there is more than one method of marking the progress of the bore-hole and at this HDD site, accurately locating the bit is essential to minimizing IRs at the site. DEP requests that SPLP confirm that the contractor will be able to accurately locate the drill bit's depth and horizontal location as drilling progresses.**

The SPLP construction Superintendent and Spread Manager who oversaw the drilling contractor at this HDD cannot comprehend who the Department spoke to that would have made such a statement. At a minimum, anyone with minimal math skills can determine where the bit is located in the profile by simply counting the number of drilling rods currently in the profile extending beyond the end of the drilling unit and adding the azimuth degrees off the drilling log to determine the depth below ground surface and the angle to the drilling rig. Blind drilling was never and is not currently allowed on the Mariner Project. SPLP agrees with the Department that being able to accurately locate the drill bit is vital, especially at this location with its history of IRs and the heightened risk of IRs during completion of the 16-inch HDD. SPLP drilling inspectors will monitor the driller upon the start of this HDD, and if there is a fault in the tracking system, drilling will be suspended until the tracking system is repaired and functioning correctly, as is expected and mandated by our contracts with the construction contractors.

SPLP submits that we have been, and are, in complete compliance with the agreed terms and analysis requirements of the Order, as agreed to by the Department, and that no further analysis is required for the Department to consent to the start of this HDD. SPLP therefore requests that the Department approve the Re-Evaluation Report for the I-81 Crossing HDD (S2-0220-16) as soon as possible.

Sincerely,



Larry J. Gremminger, CWB  
Geotechnical Evaluation Leader  
Vice-President – Environmental, Health & Safety  
Energy Transfer Partners  
Mariner East 2 Pipeline Project

Mr. Scott Williamson  
Response to DEP Comments on S2-0220-16  
December 10, 2019  
Page 4

Pertaining to the practice of geology and information conveyed.



Douglas J. Hess, P.G.  
License No. PG-000186-G  
Skelly and Loy, Inc.  
Director of Groundwater  
and Site Characterization  
Geo-Environmental Services

12/10/2019

Date

