



pennsylvania

DEPARTMENT OF ENVIRONMENTAL PROTECTION

Southwest Regional Office

July 19, 2018

Mr. Larry Gremminger
Sunoco Logistics, L.P.
535 Fritztown Road
Sinking Spring, Pennsylvania 19608

RE: Hydrogeological Re-Evaluation Report
HDD S2-0080, E11-352
Spinner Road Crossing
Munster Township, Cambria County

Dear Mr. Gremminger:

The Department of Environmental Protection (DEP) has reviewed the Horizontal Directional Drill (HDD) Hydrogeological Re-evaluation Report (Report) submitted by Sunoco Logistics, LP (SPLP) for S2-0080, E11-352 posted on DEP's Mariner East II pipeline portal webpage on May 24, 2018. DEP received responses from SPLP to DEP's June 14, 2018 comment letter on June 28, 2018. DEP also received and reviewed public comments submitted jointly by Clean Air Council, Mountain Watershed Association, and Delaware Riverkeeper Network to these Sunoco submissions. In response to comments received, DEP undertook further evaluation and concluded that the concerns raised were adequately considered.

SPLP's report concluded that the risk of inadvertent returns (IRs) could be reduced if the original HDD design for the 16 and 20-inch pipelines was redesigned to increase the depth of the HDD. The redesigns adjust the HDD profile deeper to place the HDD pathway through bedrock having better structural integrity than a shallower profile and increases the overall length of the HDD due to pipe design requirements.

DEP acknowledges the incorporation of the following best management practices noted in SPLP's report that it will follow:

1. SPLP will alter the drilling of the pilot hole into an "intercept drill" using a HDD rig at each end, so that only entry and horizontal profile pressures develop within the annulus of the profile. This lowers the pressures required to maintain return flows to the entry points, compared to a single HDD pilot hole through the exit radius to the land surface.
2. SPLP will mandate the use of annular pressure monitoring during the drilling of the pilot hole, which assists in immediate identification of pressure changes indicative of loss of return flows or over pressurization of the annulus, managing development pressures that can induce an IR.

3. SPLP inspectors will ensure that an appropriate diameter pilot tool, relative to the diameter of the drilling pipe, is used to ensure adequate "annulus spacing" around the drilling pipe exits to allow good return flows during the pilot drilling.
4. SPLP will mandate short-tripping of the drilling tools to ensure an open annulus is maintained to manage the potential inducement of IRs.
5. Required monitoring of the drilling fluid viscosity, such that fissures and fractures in the subsurface are sealed during the drilling process.
6. If necessary, the pilot hole and reaming phases at the point of entry for the HDD may utilize casing, hammered into the substrate down to structurally better rock, to prevent vertical or lateral movement of drilling fluids at shallow depths.
7. During the reaming phase, the use of Loss Control Materials (LCMs) can be implemented if indications of a potential IR are noted or an IR is observed.
8. If LCMs prove ineffective to mitigate loss of returns or IRs, then grouting of the pilot hole may be implemented.
9. It is recommended that SPLP provide the drilling crew and company inspectors the location(s) data on potential zones of higher risk for fluid loss and IRs, including the mine vent borehole general locations, and potential zones of fracture concentration identified by the fracture trace analysis along the drill path, so that monitoring can be enhanced when drilling through these locations.

In addition, DEP is adding the following condition:

10. SPLP shall monitor the mine pool elevation during the HDD operation to ensure the HDD does not intercept the mine pool.

Considering the aforementioned, the supplemental information is adequate. SPLP should contact the Cambria County Conservation District regarding a red line field change of any revised drill pit location within the limit of disturbance. SPLP may proceed with the permitted activity in the manner proposed in SPLP's reevaluation and in accordance with all applicable permit terms and conditions.

If you have any questions regarding the matter, please contact me at 412.442.4149, or by email at dadrake@pa.gov.

Sincerely,



Dana Drake, P.E.
Environmental Program Manager
Waterways & Wetlands Program

cc: Cambria County Conservation District – via email