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By Email

ra-eppipelines@pa.gov
kyordy@pa.gov



Re: Comments on Report for HDD PA-CH-0256.0000-RR (HDD# S3-0400)

To whom it may concern:

Pursuant to the Corrected Stipulated Order entered on EHB Docket No. 2017-009-L on August 10, 2017 (“Order”), and on behalf of Clean Air Council, Mountain Watershed Association, Inc., and the Delaware Riverkeeper Network (“Appellants”), please accept these comments on Sunoco Pipeline L.P.’s (“Sunoco”) re-evaluation report (“Report”) for the horizontal directional drilling (“HDD”) indicated by drawing number PA-CH-00256.0000-RD-16 (the “HDD Site”).

1. The use of the direct pipe installation method may be proper at the Site, but Sunoco has not done the analysis needed to ensure it would be safe.

Sunoco proposes to use the “direct pipe” installation method instead of HDD. *See* <https://www.trenchlesspedia.com/the-direct-pipe-method-combining-the-benefits-of-hdd-and-microtunneling/2/4153>. Appellants are not opposed to the use of direct pipe at this location necessarily, but Appellants oppose its use without first investigating whether it would be safe at the Site. The Report does not contain the information needed to make that determination.

A. The soil at the Site may be too soft for the installation to succeed or for the installed pipe to be stable.

According to a FERC Environmental Assessment for the Rivervale South to Market Project, installing pipe by the direct pipe method requires a dense microtunnel machine at the tip which has a tendency to sink in soft or loose soils. *See* Section 3.3 of Section C (Alternatives) available at <https://www.ferc.gov/industries/gas/enviro/eis/2018/CP17-490-EA.pdf>. As explained more fully,

For a Direct Pipe installation, the soils beneath the microtunnel machine must be able to bear the weight of the machine (bearing capacity) or the machine would tend to sink under its own weight. Based on the limited geotechnical study performed in the wetland area, the bearing capacity of the soils are likely not sufficient to

support the microtunnel machine. Additionally, pipes installed by the Direct Pipe method can have buoyancy or floating issues in soft soils such as those in the wetland area, which could increase the stresses acting on the installed pipe. These buoyancy issues can also result in a need for the pipeline to be reburied at some future time.

This could be a problem for the use of direct pipe at the Site. The geology of the Site is well explored at this point. Almost all of the direct pipe path is planned for between 20 and 40 feet bgs. Borings at the Site showed that rock at those depths was saprolitic and weathered or completely weathered. Some of the saprolite was characterized as soft. SB-01 and SB-02 were done at roughly the ends of the planned direct bore. SB-01 found sand, silt, and gravel all the way down the 30 feet it went. The same was the case with SB-02 all the way down to 74.4 feet bgs. This is cause for analysis of the safety of use of microtunneling here.

The Department should determine whether the ground at the Site is stable and strong enough to support the microtunnel machine for the direct pipe installation, and whether there would be any buoyancy issues after installation that might stress the pipe. This information was not presented in the Report and is highly relevant to the propriety of the proposed installation method.

B. Sunoco's work at the Site has changed the geology significantly and in ways that have not been explored in the Report.

The massive geologic disruption the installation of the 16-inch pipe caused at the Site should lead Sunoco to be more cautious about the stability of the ground it plans to install the next pipe in. You would not know this from the Report, which scarcely mentions anything happening at the Site after 2017. In fact, Sunoco has been actively working at the Site through 2018 and into 2019. After the sinkholes at the Site deepened, Sunoco began a "grouting" campaign that involved pouring at least 10-11 truckloads of a cement-like "grout" into the ground at the Site. This is a quantity of material that would likely be geologically significant for drilling at the Site. Is it relevant to Sunoco's new plans? Sunoco never spelled that out because it did not even mention the grouting. Nor has it mentioned that it bought most or all of the houses on the west side of Lisa Drive now due to the havoc it has caused the neighbors. Nor has it mentioned that the Site was subject to a Public Utility Commission shut-down order because of the geologic risk the original drilling created for Sunoco's existing operational pipelines there.

Again, this information is needed to determine the propriety of using direct bore at the Site.

C. Direct pipe should only be used if the casing is sized to allow sufficient clearance and for a properly functioning cathodic protection system.

Another unexplored problem with the plans for direct pipe at the Site has to do with the size of the casing. The Report contradicts itself of the casing diameter. The plan / profile notes indicated that the casing would have a 48-inch outer diameter, but Section 4.1 of the HRR says that "[f]or the direct pipe installation, SPLP will install a 42-inch casing." A 48-inch casing would be sufficient for a 20-inch pipe, assuming the carrier pipe were centered inside the casing.

While Section 4.1 of the HRR says that “Spacers will used to prevent the pipe from contacting the inside of the external casing during installation,” it is not clear if those spaces would remain after installation.

A 42-inch casing would not leave enough clearance. It is a matter of safety. The Pipeline and Hazardous Materials Safety Administration (PHMSA) requires at least 12 inches of clearance:

§ 195.250 Clearance between pipe and underground structures.

Any pipe installed underground must have at least 12 inches (305 millimeters) of clearance between the outside of the pipe and the extremity of any other underground structure, except that for drainage tile the minimum clearance may be less than 12 inches (305 millimeters) but not less than 2 inches (51 millimeters). However, where 12 inches (305 millimeters) of clearance is impracticable, the clearance may be reduced if adequate provisions are made for corrosion control.

49 CFR § 195.250 (available at <https://www.law.cornell.edu/cfr/text/49/195.250>).

As noted in the regulatory section, it is due to corrosion concern related to the adequacy of cathodic protection. The carrier pipes within the casing pipe also tend to be more prone to condensation or water infiltration, causing corrosion. *See, e.g., Materials Performance*, “Challenges of Installing a New Pipeline,” March 29, 2018, available at <http://www.materialsperformance.com/articles/cathodic-protection/2018/04/challenges-of-installing-a-new-pipeline>. This does not mean that casings are always to be avoided, but the Department should ensure that Sunoco is installing a casing of adequate diameter.

Not only does the direct pipe proposal have the potential to be in violation of federal safety law, but it also may contradict the permit applications. The Department relied on Sunoco’s commitment to abide by 49 CFR § 195.250 on pages 14 to 15 and page 20 of the Project Description. *See* <http://files.dep.state.pa.us/ProgramIntegration/PA%20Pipeline%20Portal/MarinerEastII/Delaware/09%20-%20Project%20Descr/PPP-Project%20Description%20for%20105%20APP%20120216%20FINAL.pdf>. This needs to be investigated before the Department makes a decision on the proposal in the Report.

2. Sunoco does not address risks that it downplays.

Sunoco vacillates on whether there are risks of subsidence and groundwater return at the Site. It does not address those risks.

In one paragraph of the HRR, it says an advantage of the new proposal is “eliminating IR risk, and greatly reducing groundwater discharge and subsidence risk,” and in the next it says it is “eliminating IR risk, eliminating groundwater discharge risk, and eliminating the risk of creating subsurface voids and surface subsidence along that section of the alignment.” *See*

Section 1.0. Section 4.1 of the HRR says that “Lastly, there is a very small risk for ground subsidence ...” It is reasonable to assume that where Sunoco in one place claims a risk is nil and in another that it is small, it is probably non-zero.

Section 2.3.3 of the HRR actually indicates that the potential for groundwater discharge from the direct bore is *high*, but the volume should be lower than that for the HDD due to the smaller annulus. Nonetheless, Sunoco should have a mitigation plan for the groundwater discharge, but there is no indication in the Report that it does. Section 4.2 of the HRR says “Contractors should plan to manage such a groundwater discharge, if one occurs.”

There has been very significant subsidence and groundwater return of unclear significance. Sunoco should at least address how it is preparing for these possibilities in its new plans.

3. Sunoco proposes to take excessive additional temporary workspace.

The additional temporary workspace Sunoco wants to take at both ends of the direct pipe installation is excessive. Its location expands the right-of-way significantly. Sunoco does not explain why that much space is needed. On the eastern end, one may presume that Sunoco wants to claim that extra space simply because it can. It now owns those properties, and does not need to respond to push-back from the landowners. However much Sunoco has that ability, the Department should not authorize earthmoving on an excessive expanse of land.

4. It is unclear how, if at all, Sunoco used the geophysical surveying results in planning the direct pipe bore.

Sunoco did geophysics at the Site in October 2017, but the results do not appear to be factored into the proposal in the Report except as follows: “SPLP has completed additional geotechnical and geophysical investigations of the drilling area to assess if the HDD could be redesigned to pass through better bedrock conditions; however, the data revealed inconsistencies in rock quality and other problematic geologic factors at depths through and below the HDD design limitations.” Sunoco should explain how, if at all, the geophysics was used for the new direct pipe plans.

5. The Report contains additional irregularities.

There are some discrepancies in the plan view and profile view for PA-CH-0249.0000-RR contained in the Report. First of all, the location is elsewhere identified as PA-CH-0256.0000-RR. Clarity is needed here. Next, the direct pipe drill entry pit is drawn such that it would excavate the as-installed 16-inch pipeline. This obviously should not be.

Section 2.3.5 of the HRR seems to contain a mistaken sentence: “Aqua America operates a municipal surface water intake on Chester Creek 170 ft southwest of the ROW, 216 feet upstream from where tributary S-I4 discharges to Chester Creek.” Chester Creek is in Delaware County, not Chester County, and is far from the Site. This may have displaced an intended sentence that is now missing--it is unclear.

Thank you for considering these comments. Please keep us apprised of your next steps on the HDD Site.

Sincerely,

s/ Melissa Marshall, Esq.
Melissa Marshall, Esq.
PA ID No. 323241
Mountain Watershed Association
P.O. Box 408
1414-B Indian Creek Valley Road
Melcroft, PA 15462
Tel: 724.455.4200
mwa@mtwatershed.com

s/ Aaron J. Stemplewicz
Aaron J. Stemplewicz, Esq.
Pa. ID No. 312371
Delaware Riverkeeper Network
925 Canal Street, 7th Floor, Suite 3701
Bristol, PA 19007
Tel: 215.369.1188
aaron@delawareriverkeeper.org

s/ Joseph Otis Minott, Esq.
Joseph Otis Minott, Esq.
Executive Director & Chief Counsel
PA ID No. 36463
joe_minott@cleanair.org

Alexander G. Bomstein, Esq.
PA ID No. 206983
abomstein@cleanair.org

Kathryn L. Urbanowicz, Esq.
PA ID No. 310618
kurbanowicz@cleanair.org

Clean Air Council
135 South 19th Street, Suite 300
Philadelphia, PA 19103
Tel: (215) 567-4004

cc: jrinde@mankogold.com
dsilva@mankogold.com
ntaber@pa.gov