

February 9, 2018

By Email

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**Re: Comments on Report for HDDs PA-CA-0016.0000-RD and PA-CA-0016.0000-RD-16**

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 numbers HDD PA-CA-0016.0000-RD and PA-CA-0016.0000-RD-16 (the “HDD Site”).<sup>1</sup>

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<sup>1</sup> The Order reads, in pertinent part:

§ 6(ii) “For all recommendations for which a minor permit modification is required, including, but not limited to, certain changes from HDD to an open cut or certain changes to the Limit of Disturbance (“LOD”), the Department will have 21 days to review the submission and render a determination with respect to such minor permit modification, unless Sunoco agrees to extend the 21-day time period. *Appellants and private water supply landowners, who have received notice pursuant to Paragraph 7 below, shall submit comments, if any, within 14 days of the Department’s posting of Sunoco’s Reports on the Department’s Pennsylvania Pipeline Portal website...The Department shall consider comments received and document such consideration.*” Emphasis added.

§ 6(iii) “For all other recommendations, including, but not limited to, recommendations of no change or of changes that do not require a minor permit modification, the Department will have 21 days to review the submission and render a determination with respect thereto, unless Sunoco agrees to extend the 21-day time period. *Appellants and private water supply landowners who have received notice pursuant to Paragraph 7 below, shall submit comments, if any, within 14 days of the Department’s posting of Sunoco’s Reports on the Department’s Pennsylvania Pipeline Portal website...The Department shall consider comments received and document such consideration.*” Emphasis added.

## The Department's Review

Pennsylvanians rely on the Department of Environmental Protection to protect them from dangerous activities that threaten their air, water, land, and health. The Department has recognized that the construction of Mariner East 2 has done damage to the public already. The purpose of Sunoco's re-evaluations of certain HDD sites is to do a better job avoiding harm to the public and the environment in its HDD construction. The Department's role is to review and assess Sunoco's Report before deciding what action to take on it.

It is the Department's duty to review and assess the Report with the goal of protecting the public and the environment placed first and foremost. Looking at the individual circumstances at the site in question is key. Critically important is accounting for input from those who live nearby, who have a deeper connection with—and greater knowledge about—the land than the foreign company building the pipelines through it.

A meaningful, objective and substantive review and assessment by the Department will ensure that new or further HDD operations at the re-evaluated sites will cause minimal, if any, harm to the public and the environment. Anything less than a full, careful, and objective review would endanger the public and the environment. Pennsylvanians place their trust in the Department to do a thorough, science-based assessment, taking into account these and other comments, and approving Sunoco's recommendation only if it would protect the public and the environment from any further harm.

### Comments on HDDs PA-CA-0016.0000-RD and PA-CA-0016.0000-RD-16

**There is great risk of damage to the pipeline from mine subsidence but no adequate plan to mitigate that risk.** The Hydrogeologic Reevaluation Report in the Report concludes that “pipe design and pipe installation procedures should account for some degree of subsidence associated with eventual collapse of overlying bedrock into the mine void space.” The trough subsidence zone includes half of the HDD alignment. Sunoco in the body of its Report cherry-picks language from what apparently is another review done by “SPLP mine geologist and mine engineers.” Sunoco did not include the entirety of this review in the Report. Given the gravity of this issue, the Department and the public should be aware of everything the mine geologist and mine engineers reported, not just the language chosen by Sunoco.

The danger to the public from pipelines rupturing due to mine subsidence is real. All areas that are undermined, despite any amount of overburden that remains, will likely experience some amount of subsidence. The pressure and stress that subsidence places on existing pipelines can cause them to rupture or explode. When a pipeline is 30-50 feet below ground like it is proposed to be at the Site, it is even more difficult to remedy such damage.

The Report states: “SPLP pipeline engineering concludes from the analysis above that any future affects from mine subsidence would have minimal affects to the pipelines installed by HDD at this location ... [as] any such subsidence would only decrease stress on the pipe segments, and would not jeopardize their integrity.” This is not a safe assumption for two reasons. First, this conclusion assumes that movement lessening the curvature of the pipeline will make the pipeline less likely to rupture. If the movement is abrupt, it may cause strain on

the pipe regardless of the pre-existing direction of stress. Second, this conclusion assumes that vertical stress is the only stress from mine subsidence. This is contradicted by the literature. Mine subsidence causes horizontal, compressive, and tensile forces to act on the pipeline as well. See, e.g., <http://www.meacorporation.com/wp-content/uploads/project-bulletin-25.pdf> and <http://kiefner.com/wp-content/uploads/2013/05/PipelinersPerspectiveLongwallMining.pdf>. The Report even acknowledges the existence of a “horizontal movement zone.”

While it is true that the information Sunoco presents suggests that the mine void is far enough below the surface that large impacts normally would not be felt, as the Department notes, “Subsidence impacts may be extended where mining is close to vertical fracture zones.” <http://www.dep.state.pa.us/msi/technicalguidetoms.html>. The Hydrogeologic Reevaluation Report has identified through a fracture trace analysis several possible zones of enhanced vertical fracturing. The Report gives no indication that Sunoco has investigated any of these potential zones in connection with its mine subsidence analysis. In fact, due to the absence of karst, Sunoco conducted no geophysical assessment. A zone of potential mine subsidence is precisely the sort of high-risk area in which geophysical assessments are most valuable. There are plenty of potential steps Sunoco could take to mitigate the risk from mine subsidence, including the use of thicker pipe and special borehole design, and the creation of a formal subsidence mitigation plan. Compare REX’s mine subsidence mitigation measures at page four of: <https://www.ferc.gov/legal/court-cases/opinions/2011/09-1207.pdf>. Sunoco does not take these steps. The Department should require more.

The risk is especially great with Sunoco, due to its poor compliance history for pipeline safety and integrity. Sunoco has already been cited this year by the Pipeline and Hazardous Materials Safety Administration for failing to ensure the integrity of its Mariner East 2 pipes. See [https://primis.phmsa.dot.gov/comm/reports/enforce/documents/120185002/120185002\\_NOPV%20PCO\\_01112018\\_text.pdf](https://primis.phmsa.dot.gov/comm/reports/enforce/documents/120185002/120185002_NOPV%20PCO_01112018_text.pdf).

This drill plan does nothing to address or prevent pipeline failure in the event of subsidence. It is not sufficient.

**The revised profile depth still leaves too little protective bedrock between the boreholes and the wetlands.** Sunoco’s revision to the profile to increase the depth below sensitive surface features is a good development, but it falls short. As Sunoco’s hydrogeologists note, “The bedrock portion of the overburden at these [stream and wetland] locations is estimated to be 6 to 10 feet, and both the rock and soil strength are variable across the profile. As such, the HDD drilling plan should specifically account for these conditions.” Sunoco, however, does not account for these conditions. The danger inherent in the thinness of this protective layer is increased by the fact that a spring is located in or near these features, which likely protect the spring. An inadvertent return here would pose a high risk to that water supply.

The Department should require Sunoco to revise the proposed HDD plan to deepen the HDD further at these locations to ensure better protection.

**Sunoco continues to fail to analyze the production zones for water supplies near the alignment.** Despite identifying several water supplies near the Site, including one nearly

directly on the alignment, Sunoco has again failed to do any investigation to determine where the water in those supplies comes from, and whether the HDD may affect it. Sunoco's plan is not one of prevention, but rather to simply do the harm and pay up at the back end:

Prior to the start of these HDDs, SPLP will contact this water supply owner to discuss the potential effects of the HDD to this water supply, and offer temporary water supply during the construction activity. If postconstruction, impacts to this water supply attributable to pipeline construction are observed, then SPLP will provide for replacement water supply service until the water supply from this spring returns to preconstruction conditions.

Of course, some water supply impacts are permanent and not temporary. Sunoco notes that aquifers in the area "can also occur as perched water." Disruption to the aquifer from the HDD may drain these perched aquifers and permanently dry up water supplies.

The Department should require Sunoco to investigate the risks by doing an actual water supply production zone analysis, and then develop a reasonable plan for prevention, not simply cleanup.

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

Sincerely,

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