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By Email

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Re: Comments on Report for HDD PA-CU-0136.0020-RD-16 (HDD# S2-0240-16)

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 number PA-CU-0136.0020-RD-16 (the “HDD Site”).

There is a lot wrong with this incomplete re-evaluation report, which is not compliant with the Order, and which downplays the severity of the harm Sunoco caused in installing the 20-inch pipe. For the following reasons, it is not in a place where the Department can approve it.

1. The Report does not comply with Paragraph 5.i. of the Order in that it omits an attachment containing the geophysical survey results, the summary of which suggest that the revised plans could potentially be disastrous if approved.

In the main body of the Report, Sunoco gives a high-level summary of the results of geophysical surveying that it directed at the Site. A few additional morsels of information about the surveying are found separately in Sections 6.0 and 7.0 of the Hydrogeologic Report. Section 6.0 states that “The geophysical survey report is provided as Attachment 4; and a summary of the report is provided below.” Inexplicably, Sunoco has withheld the geophysical survey report that has been made part of the Report from submission with the rest of the Report. As this is not the full Report, its submission does not trigger the 14-day comment period and it is not ripe for Departmental decision.

The Order at Paragraph 5.1. provides that “The Report shall document in detail the information considered for the re-evaluation of the design of the HDD at that site.” Omitting an entire attachment to the Report that was purportedly considered for the re-evaluation violates the Order.

This omission is no mere technicality. The little we know about the results of the geophysical surveying is that the bedrock is karst and multiple potential subsurface voids were detected, in particular below Appalachian Drive. From the Hydrogeologic Report, it appears that the surveying was done during the construction of the 20-inch pipe, as a means of avoiding further sinkholes, which had been destroying the township road, and possibly avoiding a rupture and explosion from the UGI gas line which a sinkhole had exposed. Page 14 of the Hydrogeologic Report notes, “Results of geophysical survey identified two potential voids under Appalachian Drive resulting in the shutdown of drilling activities.”

Sunoco no longer proposes to drill under Appalachian Drive. But sinkholes and drilling fluid spills also pose a threat to railroad tracks and farmland that Sunoco still proposes to drill under. And it is entirely unknown whether Sunoco even did geophysical surveying in those immediately adjacent areas. It is also unknown what the geophysical surveying under Appalachian Drive can tell us about what is likely to be found in the areas Sunoco still proposes to drill, other than the significant possibility of underground voids.

In sum, the public knows this much: (1) Sunoco has put together a report on its geophysical surveying and removed it from the Hydrogeologic Report in violation of the Order; (2) the results that have been summarized show voids that were the likely cause of damaging sinkholes at the Site; (3) Sunoco has not disclosed whether it has done geophysical surveying under the portion of the Site it still plans on drilling through; and (4) a sinkhole opening up under the railroad tracks at the Site could cause a catastrophe. This is a dangerous situation. It is worth emphasizing that the Site is flanked on either side by Leiby’s Manufactured Home Community, which has lots for 236 homes,¹ and Regency South, which has lots for 92 homes.² Despite the farm field, this is a dense residential area.

The risk at this Site is primarily due to the subsurface voids and other features, which is what the geophysical survey report would describe. Obviously, there is no opportunity for the public to evaluate the results, which are crucial for understanding the extent to which the proposed revision of the 16-inch drill has mitigated risk at the Site, if at all.

The Department should demand that Sunoco provide the geophysical survey report that was removed from the Hydrogeologic Report. The Department should not consider the 14-day comment period begun until the complete re-evaluation report has been posted to the Department’s website. The Department should demand that if the geophysical surveying does not include the area which Sunoco proposes to drill, that Sunoco do similar geophysical surveying in that area as well, and make public those results. Approval of the revised plans without those steps being taken would be in violation of the Order and courting disaster.

¹ See <https://www.mobilehomeparkstore.com/mobile-home-parks/53818-leiby-s-manufactured-home-community-in-carlisle-pa>.

² See <https://www.mhvillage.com/Communities/MobileHomePark.php?key=23102>.

2. The Report attempts to address problems on the Appalachian Drive portion of the Site but offers nothing to suggest that the drilled portion of the 16-inch will be more or even as safe as the original plan.

Sunoco has clearly attempted to address the sinkholes and well water contamination at the Site by proposing to open-cut the northern portion of the HDD Site. It would have a much harder time open-cutting the railroad on the southern portion, and has instead proposed to do a “guided bore.” No analysis supports its plans for the guided bore or how they might be more protective than the drilling that was done for the 20-inch pipe. In fact, given the history of the Site, the plans appear dangerous and short-sighted.

A host of loss of circulation incidents occurred during the installation of the 20-inch, including ones that damaged one or more water supplies. The Report proposes no new measures to address this risk along the drill profile. The constant pumping of drilling fluid into voids and channels in the limestone can be very harmful to the underground transmission of water that the water wells in the neighborhood rely on. Sunoco should have a proposal that feasibly solves this problem. The Report simply does not have any such proposal.

Section 8.0 of the Hydrogeologic Report claims that “The portion of the originally proposed 16-inch HDD profile that pass-through [sic] areas where several LOCs, subsidence features, and IRs were encountered during the 20-inch HDD operations has been modified to employ open cut construction methods.” Verifying this has been made more difficult by the exclusion of markers on Figures 1 and 2 indicating where incidents occurred on the 20-inch drill. Recent re-evaluation reports have had such markers, and it is curious that this one does not.

Attempting to identify the locations of these incidents by the descriptions in Section 7.0, it appears that certain incidents in fact did occur in the vicinity of the planned guided bore. The third and fourth full losses of circulation identified on December 5 and December 20, 2017, occurred at 1,185 feet from the northwestern entry point, which appears to be approximately where the guided bore begins. The fifth full loss of returns occurred 5.5 feet from the southeastern entry point, which remains about in the same location as the bore pit for the guided bore.

Crucially, the reason that fewer incidents occurred on the southern portion of the drill is because the occurrence of the incidents led Sunoco to “utilize[e] air rotary drilling techniques with minimal usage of water” there. It was not because the geology was safer—it was because it used safer drilling techniques. The statement in the Hydrogeologic Report that the area with the problems has been changed to open-cut is misleading; the Report contains no reason for the Department to conclude that if Sunoco continues to use drilling techniques with drilling fluid under high pressure (such as the planned guided bore), the drill will be any safer in the southern portion of the HDD Site.

Sunoco clearly has not addressed the problem in terms of environmental impact. Likely it has converted the northern portion to open cut to address the road closure and water supply contamination issues, which is a legitimate and reasonable decision. However, it masks that decision here by claiming that the geology is safer, which simply does not appear to be so. Sunoco could have shown that by not removing the geophysical survey report, but it did not.

And Sunoco inexplicably fails to consider using the potentially safer air rotary drilling technique, which minimized incidents on the southern portion of the drill—perhaps devaluing rail safety as opposed to well water purity.

Sunoco’s guided bore profile is shallower overall than the original planned HDD. The exact depth is unclear because the note for the depth under the railroad tracks is “25’ (10’ MIN).” A depth of somewhere between 10 and 25 feet is very broad and not sufficiently precise to evaluate. A borehole drilled in karst ten feet below railroad tracks would be potentially unstable and not appropriate to approve without a detailed explanation of the safety of it—something not to be found in the Report. It is unclear how the shallower depth of the drill under the railroad will be protective against drilling fluid spills and/or sinkholes endangering the railroad and any trains that travel above it. Sunoco proposes nothing to deal with the karst at the Site, and there is no indication that the geophysics Sunoco did will be used to guide work at the Site.

These are not the only ways the revised plans in the Report fail to address the problems experienced at the HDD Site. The BMPs that Sunoco proposes for the use of the guided bore are the same BMPs that it has proposed in re-evaluation reports consistently. The Hydrogeologic Report even remarks in the Executive Summary that “The redesigned 16-inch guided bore profile and proactive HDD best management practices during drilling operations will be used to reduce the risk of an IR.” This makes clear that these are *HDD* BMPs for a guided bore. It is unclear from the Report that the BMPs were thought-through to be site-specific rather than being another cut-and-paste job. The Department should require clarification from Sunoco.

Overall, the Report fails to offer a revision of the HDD plans that fixes the problems that plagued the installation of the 20-inch. As such, the plans remain unreasonably dangerous. If and when Sunoco completes its Report, the Department should reject it for this reason.

3. The Alternatives Analysis ignores what may be the most promising technique to mitigate the dangers at the Site, and is flawed in other ways.

There are several flaws in the Alternatives Analysis. As noted above, Sunoco had the most success with safe construction during the installation of the 20-inch when it used “air rotary drilling.” Air rotary drilling is similar to HDD, but uses air in circulation rather than fluid in circulation.³ Despite using air rotary drilling at the HDD Site already, the Alternatives Analysis lacks any mention of air rotary drilling. This is an obvious alternative that the Department should require Sunoco to analyze.

Instead, the Report states, “Due to a greater understanding of the geology below the western half of the 20-inch HDD, SPLP has concluded that similar conditions that resulted in multiple IRs during installation of the 20-inch HDD could occur at the same location during drilling to install the 16-inch pipeline.” Nonetheless, Sunoco then concludes that it should use guided bore, which is similar enough to HDD that it plans to use the exact same BMPs as for HDD. As the Report explains, “A guided bore utilizes smaller, lower capacity, versions of HDD equipment; therefore this method and the redesign into a guided bore will not prevent all IRs.” No downsides or upsides of guided bore and open trench are discussed. Rather, the analysis only

³ See Cascade Environmental, “Technologies,” available at <https://www.cascade-env.com/technologies/drilling/rotary/>.

suggests avoiding HDD and concludes that guided bore should be used, without an analysis of multiple alternatives. This analysis is incomplete and irrational. Historically, Sunoco only ever mentions guided bore as an option where it *concludes* it should be used. This also demonstrates the farce of Sunoco's alternatives analyses. The options on the table are usually many, but Sunoco does not do any analysis of the most of them.

The Report should have analyzed different depths for the bore. According to Sunoco, the original permitted bore already used the right depth of the bore: "The geotechnical results, as well as other data points, were used to determine the entry/exit angles, and depths to pass through *the best substrates* while maintaining the pipe integrity (e.g., no large bends)." (emphasis added).⁴ Since Sunoco is proposing a change to the depth, the new profile may no longer travel through "the best substrates." The Department should require Sunoco to do a legitimate analysis of installing the pipe at the different depths.

Because the Report's Alternatives Analysis is insufficient, its conclusions should be rejected, and the proposal denied.

4. The Report contains almost nothing on nearby water supplies despite water wells already having been contaminated at the Site overlying karst.

The Report continues Sunoco's retreat in describing in its re-evaluation reports what communications have been made with water supply owners and what has been done to ensure protection of water supplies at the HDD sites. This is particularly egregious in this instance, where Sunoco has already damaged one or more water supplies during its installation of the 20-inch pipeline, in a site with voids discovered underground. Sunoco presents almost no information on its interaction with the water supply owners at the Site. There is no discussion of when landowners were surveyed about their water supplies, whether any residents wanted their water tested, whether they wanted replacement water during drilling, and what has been done since installation of the 20-inch.

The Hydrogeologic Report has the most information:

In February 2019, other Sunoco subcontractors provided a map depicting the locations of researched private water supplies located within a 450-foot radius of the proposed Appalachian Drive guided bore. A total of nine water wells were identified within the 450-foot radius as shown on Attachment 3. Information was not available pertaining to the total depth of these wells, depth to water or pump setting.

How can Sunoco compare the drill path to "the well depth and geology of the area," as Paragraph 8 of the Order requires when it does not know this information about the wells? Since the date of the survey is also undisclosed, it may very well be out-of-date.

⁴ Sunoco, Risk Assessment for HDD PA-CU-0 136.0020-RR, available at <http://files.dep.state.pa.us/ProgramIntegration/PA%20Pipeline%20Portal/MarinerEastII/Cumberland/12%20-%20E&S%20Plan/Tab%2012C%20-%20IR%20Assess%20PPC%20Plan/Appendix%20C/App%20C%20IR%20Risk%20CU/PA-CU-0136.0020-RR.pdf>

The Report's treatment of water well complaints is cursory. It states that "There were two well complaints during the drilling and completion of the 20-inch pipeline of which one was determined to not be related to the HDD, and SPLP has replaced the water well for the other complainant." This mere passing, passive reference to a determination that one water well complaint was not related to the HDD omits all the important details. Had Sunoco offered pre-drilling water well testing? If so, what did it show? Who made the determination that Sunoco was not at fault? The fact of two water well complaints in karst terrain during drilling of the 20-inch pipe in the same neighborhood, one of which was Sunoco's fault, is strong circumstantial evidence by itself that the drilling caused the other problem. Furthermore, even if a complaint were not due to the HDD, it does not mean it is not due to the construction.

The Department should require Sunoco to fill in these gaps to ensure that Sunoco has complied with the Order and has up-to-date information, and most importantly, knows how to avoid damaging more water supplies.

5. The Report downplays the damage done during the drilling of the 20-inch.

The Report also makes the damage done during installation of the 20-inch pipe sound less severe than it actually was. An article was recently published in *The Sentinel*⁵ shining a light on the disaster that Sunoco has caused in Silver Spring Township.⁶ Construction of the 20-inch HDD at the Site destroyed much of the overlying road, shut down traffic for months, damaged neighbors' houses, and destroyed their water wells. As the article explains, "Water service for many residents has been interrupted, and in some cases new wells had to be dug. Some residents still have temporary water tankers in their yards." Many mobile homes in the community were damaged by vibrations from the 20-inch HDD:

"Every time they would work across the street my whole house would shake," said Tanya Deeny, who owns a mobile home directly across from the work site.

The vibration cracked her heat-exchanger, Deeny said, causing her to eventually have to replace her entire furnace system. A neighbor eventually moved out after cabinets were rattled off their mountings and cracks began to appear in the walls of mobile homes, Deeny said.

⁵ Zack Hoopes, "Silver Spring Township road to be closed 2 months for pipeline installation," *The Sentinel*, March 4, 2019, available at https://cumberlandlink.com/news/local/communities/mechanicsburg/silver-spring-township-road-to-be-closed-months-for-pipeline/article_fabdd8b1-1a6c-5d86-b06d-cd206159507b.html#tracking-source=home-top-story-2

⁶ The Report, despite describing the HDD Site as in Middlesex Township, acknowledges in the Alternatives Analysis that it is in Silver Spring Township: "Appalachian Drive is a township road, and Silver Spring Township has informed SPLP that it will permit the open cut of this road, so long as SPLP completes the crossing in a single work effort and restores the road to existing or better condition." This is another example of Sunoco's slipshod work in its recent, rushed re-evaluation reports.

Sunoco's assessment claimed that the damage was not due to drilling vibration, Deeny said, a finding she disputes but has little recourse to correct.

These are serious problems the Department should consider in weighing whether to approve the revised plans after Sunoco completes its Report.

The news article on the work at the Site mentions that *multiple* "sinkholes began appearing along Appalachian Drive." The Hydrogeologic Report only mentions one, in Section 7.0. It is unclear if the hydrogeologists were aware of the others and had considered their significance.

Sunoco is very likely misrepresenting the reasons for its abandonment of the HDD. The Report states, "Due to these IR events, and with a greater understanding of the geology below the western half of this HDD, Sunoco Pipeline, L.P. (SPLP) concluded that similar conditions would occur during drilling to install the 16-inch pipeline; therefore, SPLP is abandoning the HDD and revising the plan of construction as presented in the Conclusions section below." It is hard to believe that its change in plans is due to inadvertent returns rather than sinkholes, road closure, damaged homes, and destroyed wells.

Again and again, Sunoco has shown that its statements cannot be taken at face value.

Conclusion

This Report is incomplete and for that reason alone must be completed before the comment period opens. Assuming Sunoco completes it and the full report is posted to the Department's website, only then can the close of the comment period be set. Appellants will provide an additional comment at that time.

Meanwhile, the proposed revisions to the Site lack supporting analysis and present serious dangers to the public. The Department may not legally approve these plans as they stand.

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

Sincerely,

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