June 23, 2019

By Email

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Re: Sunoco's response to the Department's request for information on PA-CU-0136.0003-RD-16 (HDD# S2-0220-16)

Dear Mr. Williamson,

On April 11, 2019, the Department requested additional information from Sunoco regarding its reevaluation ("Report") of the horizontal directional drilling ("HDD") indicated by drawing number PA-CU-0136.0003-RD-16 (the "HDD Site"). Sunoco responded to the April 11, 2019 letter on June 17, 2019, supplementing the Report. 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 regarding Sunoco's June 17, 2019 supplemental response ("June Response"). The comments are numbered to correspond to the numbering in the Department's April 11, 2019 requests and the June Response.

1. Deeping profile to reach higher integrity bedrock

The Department reasonably required Sunoco to discuss the possibility of deepening the proposed drilling profile by 20 feet so it will pass through bedrock that Sunoco's geophysical surveys have confirmed to be of higher integrity than the bedrock it is currently planning to drill through. Sunoco has dismissed this possibility, explaining that the pipe stress tolerance has already reached its limit. Its analysis is incomplete and overly constrained.

Increasing the overall length of the profile by moving the entry and/or exit points could allow the profile to pass through the deeper, safer bedrock. As proposed, the profile is only 1215 feet, relatively short compared to many HDDs along the Mariner route, and nowhere near the limits of HDD technology. There also appears to be ample space for lengthening the profile. Sunoco readily admits in the June Response that the horizontal run of the proposed profile "is only 41 ft in length and leaves no room for corrections before commencing into the exit radius." Lengthening the profile could potentially alleviate that concern as well. This possibility needs to be fully explored.

In addition, Sunoco recently proposed increasing the entry angle at another Cumberland County HDD, the crossing of Appalachian Drive, by modifying the portions of pipe used at the entry/exit of the HDD. Sunoco should discuss whether something similar could allow for a deeper profile here. In its June Response, Sunoco refers to the need for custom bends at both end of this HDD because of the pipe that it already has in the ground. That should not be the primary consideration. Sunoco rushing ahead with nearby installation when it knew it did not have a viable, approved plan for construction of HDD at the Site should not be an excuse for Sunoco to proceed with unsafe HDD plans now. The use of custom pipe bends to achieve a deeper profile should be evaluated, even if that means modifying or removing part of what Sunoco already has in the ground on either side of the HDD. The critical inquiry is what specific environmental impacts such a modification would entail as compared to the current proposal.

As the Department pointed out, the installation of the 20-inch line resulted in persistent and significant loss of circulation and inadvertent returns that continued for the duration of drilling. Sunoco needs to consider all possibilities that could prevent this from happening again. Simply confining itself to its current proposal because it has already limited itself through its own rushed construction is not sufficient.

2. Identifying and planning for vulnerable intervals along the HDD

Sunoco's answer to the Department's second request is non-responsive. The crux of the Department's request was to identify the specific intervals of the profile that are going to be problematic and to demonstrate it has planned accordingly for dealing with these areas. In making this request, the Department referred to the geophysical surveys that were completed, making it entirely unambiguous that they were seeking a data-driven analysis. Sunoco has provided no such analysis.

On the one hand, Sunoco's response is that the entire profile is problematic due to the karst geology. The Department is already well aware of that and was looking for more. On the other hand, Sunoco asserts it will rely on a series of BMPs. After Appellants pointed out Sunoco's use of boilerplate BMPs in dozens of comments, Sunoco has now started referring to its BMPs as "site-specific." Of course, merely adopting this language achieves nothing. The key problem remains: Sunoco needs to explain which BMPs it was using before and how its use of BMPs will be different going forward. If Sunoco was already using the BMPs it describes in the Report or the June Response during the incident-ridden installation of the 20-inch line at the Site, using those same measures for the next HDD can provide no comfort.

The Department should continue to press Sunoco for an analysis of particularly vulnerable intervals of the profile and plans for managing them. To the extent Sunoco insists on relying on BMPs instead of design solutions, the Department should require Sunoco to explain, for each BMP, whether that measure was used before, why it failed, and how it would be different going forward.

3. IR monitoring procedure and response to LOC

In Item 3, the Department asked Sunoco to further discuss: 1) its "monitoring procedure for detecting an IR," and 2) its "standard operating procedures that are implemented upon the loss of circulation with special emphasis on how these provisions will minimize the occurrence and magnitude of an inadvertent return." Sunoco has completely ignored the first portion of this request. Sunoco has explained its operating procedure in relation to drilling in an LOC incident, but not its IR monitoring procedure. Both are needed. Sunoco has already lost tens of thousands of gallons of drilling fluid underground at multiple drill sites. Monitoring for IRs is especially

critical at this Site given the karst geology. In many instances of LOC, Sunoco claims there are no IRs, but to some extent, this is just a function of how hard Sunoco has looked for evidence of IRs. The surfacing of drilling fluid cannot be ruled out when an LOC occurs if Sunoco does not have a robust IR detection procedure. It is important also to note that Sunoco has reason not to want to locate IRs, as an IR could result in drilling at the Site being stopped so the Department can assess the situation and reconsider the plans. Sunoco's history of failing to self-report incidents further substantiates this concern. The Department was right to require Sunoco to provide a plan for detecting IRs and to discuss LOCs in terms of IR prevention. It should continue to press for this information.

4. Vigilance for sinkholes

Sunoco claims its lead geologist will "periodically conduct surveys looking for evidence of subsidence features while the 16-inch HDD is being advanced." It is unclear how these periodic surveys will differ from or improve upon the periodic surveying that supposedly has taken place at other drill sites where sinkholes have erupted, threatening nearby homes, back yards, other pipelines, and roads. Previous sinkholes have gone unreported by Sunoco and grown dangerously large before measures were taken to address them. Sunoco needs to explain how its sinkhole detection and reporting will not result in similar failures this time around.

5. Water Supplies

The Department asked Sunoco to evaluate and discuss how the proposal for the 16-inch profile will "minimize the potential for IR's and impacts to water supplies," as well as provide other information. Sunoco provides no such evaluation or discussion of minimization. While it has provided some additional information regarding nearby private wells, it has no plan for protecting wells going forward.

The information Sunoco has provided about the well raises additional concerns. The June Report includes a summary of well testing results not previously included with the Report. All of the water test results show some level of bacterial contamination. Sunoco does not discuss this. Sunoco has also not provided the full well testing results. Similarly, while Sunoco claims that it concluded it is not responsible for the cloudy water that triggered a complaint from a nearby landowner, it has not provided any of the documentation from its hydrogeologists to support this conclusion.

Sunoco's maps indicate that there are several wells in the area of the Site. Even if most of them are not within 450 feet, they are close enough to potentially be impacted by Sunoco's construction and Sunoco is obligated to protect them. As the Department has pointed out, Sunoco needs to provide a plan to ensure these water supplies are safe. The June Response and the Report both evade this obligation.

Thank you for considering these comments. Please keep Appellants apprised of any next steps.

Sincerely,

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