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By Email

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Re: Comments on Report for HDD PA-DE-0100.0000-RR (HDD# S3-0620)

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-DE-0100.0000-RR (the “HDD Site”).

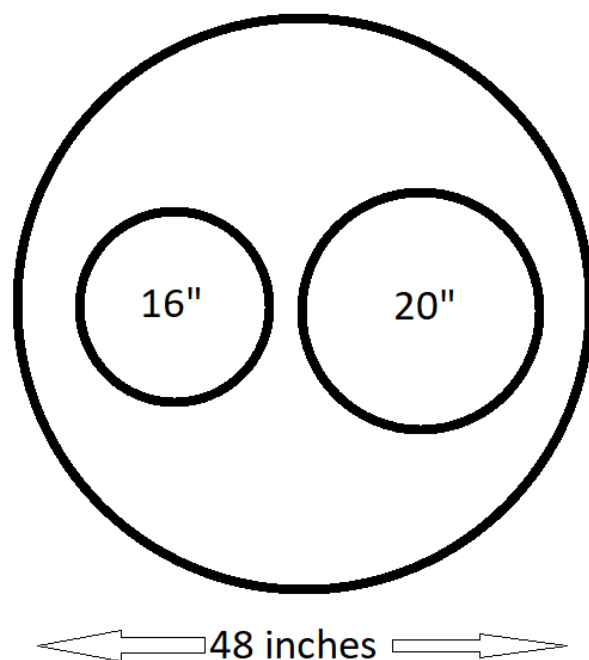
Most importantly, the Department should be aware that Sunoco’s proposed re-evaluated plans for the Site illegally cluster together pipes that federal law requires be separated for safety reasons. For that reason alone, this proposal cannot be approved as is.

1. Sunoco’s plans for use of direct pipe and cased auger bore with a single, too-small casing pipe present serious safety risks.

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>. From the perspective of avoiding inadvertent returns and difficult bedrock, this has significant advantages.

However, Sunoco’s proposed use of a casing pipe with a 48-inch interior diameter would violate PHMSA safety regulations and pose a grave danger to those living near the ends of the direct pipe zones.

Direct pipe requires a larger pipe than the 16" and 20" themselves, since it sends cuttings and slurry back through the interior of the pipe along an apparatus. Sunoco is planning on installing a 48" interior diameter pipe through direct pipe and then snaking in the 16" and the 20". The cross-section would look something like this:



There is no way to arrange these three pipes so that they are not within at most four inches of each other at any given point. Given Sunoco's description that the carrier pipes would be suspended within a spider gasket, they will necessarily be closer than 12 inches apart.

The Pipeline and Hazardous Materials Safety Administration (PHMSA) requires more than that level 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>).

It would not be impracticable to install the two pipes separately. That is exactly how Sunoco has planned to install the pipes *in every other location*. Using the same sized casing pipe would leave enough clearance to comply with the federal safety regulations.

Nonetheless, a compliant pipe diameter is not what is planned here. This presents safety issues including corrosion and cathodic protection. The carrier pipes within the casing pipe tend to be more prone to condensation or water infiltration, causing corrosion, and the closeness between the pipes can interfere with the cathodic protection system. 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 Sunoco’s plan to bundle the two carrier pipes within one casing over long distances in a residential neighborhood where the pipes could be laid separately appears foolhardy. Also, assuming a rupture did occur, the gas would likely collect in the casing pipe and funnel out at the entry or exit of the direct bore. For the segment under the railroad, that would be in a residential neighborhood on one end and at the other end in the middle of the high-density Tunbridge Apartment complex.

Not only is the direct pipe proposal in violation of federal safety law, but it also contradicts 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_for_105%20APP%20120216%20FINAL.pdf.

Sunoco’s plans for the cased auger bore crossing Glen Riddle Road are the same: one 48-inch interior diameter casing pipe holding both carrier pipes. This presents the same problems. There is no need to deviate from the standard separate crossings for each pipe, and doing so breaks the law, violates the permits, and puts neighbors at grave risk.

The Department should not authorize this re-evaluation proposal, which is dangerous, clearly illegal, and would violate the permits.

2. The Report contains many errors and omissions.

Appellants have concerns about the quality and depth of analysis that went into the Report, given the numerous errors and omissions. Appellants are concerned that the Department and the public may not be able to rely on the information in the Report. These errors and omissions include:

- In Attachment A, Plan and Profiles, Sunoco claims to be comparing the “Direct Bores and Auger Bore Plan and Profiles” with the “permitted” versions of the plans and profiles. But that’s not what Sunoco compares its new plans to. The included versions of the “permitted” plans were never permitted and are missing information contained in the permitted plans. What was included is dated May 10, 2016 and given the revision no. EP1. The permitted version is dated September 30, 2016, was “revised per PADEP comments received 09-06-16,” contains geotechnical boring information, adjacent building information, right-of-way markings, depth to bedrock, and other useful information lacking in the version of the plans in the Report. See <http://files.dep.state.pa.us/ProgramIntegration/PA%20Pipeline%20Portal/MarinerEastII/Delaware/07%20-%20Site%20Plans/Tab%207B%20HDDs/PA-DE-0100.0000-RRa.pdf>.

It is unclear why Sunoco is using for comparison an outdated set of plans. The plans for the new proposal lack the adjacent building information, depth to bedrock, and, curiously geotechnical bore SB-04. All of this information would be useful for evaluating the safety and impact of the revised proposal.

- Section 1.0 of the Hydrogeologic Re-evaluation Report (HRR) misidentifies the subject of the re-evaluation, stating “This HRR is for the 20-inch pipe installation.” The HRR *should* be for both the 16- and the 20-inch pipes. Similarly, Section 3.1 of the HRR refers--presumably erroneously--to a 24-inch line.
- The direct pipe drawing showing the Glen Riddle Road crossing shows the 16-inch and 20-inch pipes crossing the road at least ten feet apart, contradicting the auger bore (cased) drawing, which shows both pipes passing through one casing pipe.
- The Hydrogeologic Report states that “Well WL-09202017-608-01 is located relatively far from the HDD alignment (3392 feet)” but this must be in error, because it falls within the 450 foot radius from the alignment. Figure 4 within that report lists 392 feet. This is more likely accurate.
- Sunoco cannot even get the name of the township of the Site right. Sunoco calls it Upper Chichester Township, though it is Middletown Township, which is separated from Upper Chichester by Aston Township. Sunoco also refers to Glen Riddle Road as “Glenn Riddle Road” in several locations.

Likely there are other errors that Appellants have not caught.

Among the more important errors in the Report is Sunoco’s understatement of the problems at this Site¹ by describing only “several IRs in which drilling fluids entered Waters of the Commonwealth,” and claiming the IRs were “contained and cleaned up.” Sunoco’s attempted and ultimately failed installation of its Mariner East pipes at this Site lasted well over a year and caused nearby residents massive headaches in the form of constant noise, IRs, subsidence, stream contamination, and constant construction activity. The HRR reveals that the “several IRs” mentioned in the Report included “Several upland and water resource IRs, groundwater discharges, and two land subsidence features.” Several of the IRs appeared directly within

¹ Sunoco identifies the cause of these problems as “the deeply weathered and fractured metamorphic bedrock of the Ultramafic Rock and Wilmington Complex rock and the elevation difference along the profile between the upland area northwest of Glen Riddle Road and lowlands associated with flood plain of stream S-I2 and Chester Creek.” Had Sunoco competently investigated the Site before planning the HDD, it could have identified these risks. Instead, Sunoco identified the Site as “low” risk.

<http://files.dep.state.pa.us/ProgramIntegration/PA%20Pipeline%20Portal/MarinerEastII/Delaware/12%20-%20E&S%20Plan/Tab%2012C%20-%20IR%20Assess%20PPC%20Plan/Appendix%20C/App%20C%20IR%20Risk%20DE/PA-DE-0100.0000-RR.pdf>.

Chester Creek and were carried away with the water downstream rather than being cleaned up.² The Department had to issue several NOV's documenting *many* IRs for just the one location over the course of the drilling.³

3. The Alternatives Analysis is inadequate.

There at least two major problems with the Report's Alternatives Analysis. First, alternative routes exist which Sunoco is currently using, but which the Report does not mention. Second, the Report lacks discussion of the impacts of the various alternatives and does not consider alternatives for avoidance of the stream and Exceptional Value wetland besides open trench.

The Re-Route Analysis contains a major oversight. Sunoco writes,

SPLP evaluated other routes around the area but reasonable alternatives are not existent due to the density of roads and developments surrounding the existing route. Residential and commercial development dominates the landscape for miles to the east and west of the existing SPLP easement with no other identifiable existing utility easements that could be considered as alternatives.

In fact, Sunoco is *currently* using a workaround path for Mariner East 2, which is *in service*. Section 3.1 of the HRR acknowledges this: "This allowed start of service for one of the two planned ME II pipelines in Spread 6, using a section of an existing 12-inch pipeline that connects

² Some photos of what Sunoco did to Chester Creek are available here, at Exhibit A-488: <http://ehb.courtapps.com/efile/documentViewer.php?documentID=42581>.

³ See Sept. 12, 2017 NOV (<http://files.dep.state.pa.us/ProgramIntegration/PA%20Pipeline%20Portal/MarinerEastII/NOV/Delaware%20County%20-%20E23-524%20and%20ESG0100015001%20-%20September%2012,%202017.pdf>), Nov. 3, 2017 NOV (<http://files.dep.state.pa.us/ProgramIntegration/PA%20Pipeline%20Portal/MarinerEastII/NOV/November%203,%202017%20Delaware%20County.pdf>), Dec. 21, 2017 NOV (<http://files.dep.state.pa.us/ProgramIntegration/PA%20Pipeline%20Portal/MarinerEastII/NOV/December%2021,%202017%20Delaware%20County.pdf>), May 3, 2018 NOV (<http://files.dep.state.pa.us/ProgramIntegration/PA%20Pipeline%20Portal/MarinerEastII/NOV/2018/May%203,%202018%20Delaware%20County.pdf>), June 14, 2018 NOV (<http://files.dep.state.pa.us/ProgramIntegration/PA%20Pipeline%20Portal/MarinerEastII/NOV/2018/June%2014,%202018%20Delaware%20County.pdf>), July 19, 2018 NOV (<http://files.dep.state.pa.us/ProgramIntegration/PA%20Pipeline%20Portal/MarinerEastII/NOV/2018/July%2019,%202018%20Delaware%20County.pdf>), July 31, 2018 NOV (<http://files.dep.state.pa.us/ProgramIntegration/PA%20Pipeline%20Portal/MarinerEastII/NOV/2018/July%2031,%202018%20Delaware%20County.pdf>), and August 29, 2018 NOV (<http://files.dep.state.pa.us/ProgramIntegration/PA%20Pipeline%20Portal/MarinerEastII/NOV/2018/August%2029,%202018%20Delaware%20County.pdf>).

to the valve station.” Sunoco also has an alternative right-of-way it owns which houses the Mariner East 1 pipeline.

Why are these alternatives not acceptable? Sunoco does not mention or consider them.

Moreover, there is no discussion of an alternative for routing through the southern portion of the Site besides open trenching. There is a very sensitive stretch containing an Exceptional Value wetland, a reach of a stream largely parallel to the right-of-way, and an aboveground structure. It is unclear why Sunoco would conclude that open trench is most appropriate here simply because HDD has failed. Sunoco has chosen to use direct pipe for other portions, and it would appear natural to do so under these features as well. Regardless, the Report contains no consideration of alternatives.

There is no aerial site plan provided for the proposal to use open trench to cross the Waters of the Commonwealth toward the southern end of the Site, either. Sunoco writes, “To address the additional impacts associated with these proposed changes in construction methods, a Chapter 102 & Chapter 105 permit modification package has been submitted to PADEP for review.” Presumably this information will be located in those packages, but it should also be located here to enable evaluation of alternatives. Likewise, there should be some discussion of alternatives and impacts for the temporary access road that Sunoco proposes off of War Trophy Lane, which is nowhere discussed in the Report.

Sunoco claims that the use of direct pipe or “microtunneling” will “minimize” the risk of IRs. The HRR goes even further in Section 1.0, saying “direct bore pipe installations eliminate the risk of IRs through total control of the drilling fluid pathway.” That does not appear to be the case. Microtunneling still uses drilling fluids at the cutting face. As one article on the technology notes, “Where there is shallow cover it becomes much more likely for the slurry pressure to overcome the overburden pressure resulting in hydraulic fracturing of the ground. Or, on the flip side, too little pressure is applied causing a sink hole.” Most of the route of the planned microtunneling would have a shallow cover. Sunoco should have disclosed and weighed the risk of IRs or sinkholes from its new proposal in its alternatives analysis rather than simply claiming there is none.

Without having information on resource impacts and discussion of alternatives, no alternative analysis can be complete.

4. Sunoco should not install the pipes through the stream and Exceptional Value wetland by open trench.

Building upon the discussion above, the Report’s explanation for the direct bore locations is simply that “The construction specialists who operate this boring equipment identified two segment of this alignment to employ the direct pipe bore method of construction. These include a section of the alignment where residences are too close to the existing easement to provide workspace for open trench construction, second area with residences in near proximity, and the crossing of a railroad.” Why are these appropriate for direct pipe but others not? There is no explanation.

Sunoco claims that it has “developed an alternate installation method that minimizes impacts to Waters of the Commonwealth” by open trenching through Exceptional Value wetlands. It is hard to see how that could be construed as minimizing impacts. Especially given Energy Transfer’s recent history of wholesale elimination of streams and wetlands it told the Department it would restore, the Department should be very cautious in scrutinizing its plans for this rare habitat in suburban Delaware County. *See* Order re ETC Northeast Pipeline LLC -- Revolution Pipeline, dated May 14, 2019, available at http://files.dep.state.pa.us/ProgramIntegration/PA%20Pipeline%20Portal/RevolutionPipeline/Compliance%20and%20Enforcement%20Information/May_14_2019_Stream_and_Wetland_Order.pdf.

The sensitive resources in the southern portion of the Site can and should be avoided, not trenched through, unless there is a science-based reason that avoidance methods would be impossible. Sunoco has not made that case.

5. Despite a clear need, Sunoco has not presented any groundwater discharge plan, let alone a plausible one.

The Report writes, “The geology at this location presents no risks to the construction methods planned in replacement of the HDDs.” It presents no explanation for that conclusion. The HRR comes to a different conclusion. Section 2.3.3 of the HRR discusses the risk of groundwater discharge from the direct pipe bore that would traverse the slope downward toward Chester Creek. “Given this geometry, there is a potential to create a groundwater discharge at the southeast end of the bore. However, because the direct pipe method pulls a large diameter pipe string as the cutting head advances and the annulus between this pipe and borehole is small, there is less probability of a groundwater discharge, than with conventional HDD drilling where a large annulus is created between the borehole and drill string.” This comment is *comparative*. There is a 100% probability that the conventional HDD would cause a groundwater discharge, as it happened, lasted a long time, and involved large quantities of water that Sunoco was unable to contain and which made its way into the woods and Waters of the Commonwealth. Delaware Riverkeeper Network biologist visited the site during the troubles caused by the discharge and reported on them in an affidavit accompanied by Site photographs available here: <http://ehb.courtapps.com/efile/documentViewer.php?documentID=38258>.

Simply reducing to chance of groundwater discharge to something less than 100% is not comforting. If Sunoco wants to use direct pipe down the slope, it needs to have a plausible plan for preventing groundwater discharge and spills into the creeks and wetland. The HRR agrees in Section 4.1: “the contractor should plan to manage a groundwater discharge, if it occurs.” Hoping for the best, or planning to use the failed containment options it employed for the HDD are not acceptable options.

6. Geophysical analysis

Sunoco included in the Report one of the three reports of the geophysical surveys it conducted at the Site. As the first page of the attached Quantum Geophysics December 14, 2018 report explains, “Earlier investigations are described in reports dated June 14, 2018 and September 10,

2018.” Given that these reports are also for the Site, there should be no reason for the Report to lack them. In fact, the author of the HRR seems to have believed that all three reports would be attached, writing in Section 2.4 that “The reports for the three geophysical survey events are provided in Attachment C.” The HRR goes on to discuss them at a summary level.

It is possible that some of the information from the earlier reports has been incorporated into the December report, but that is not clear.

Paragraph 5.i. of the Order states: “The Report shall document in detail the information considered for the re-evaluation of the design of the HDD at that site.” Because the HRR considered these reports, and they appear to contain useful information, they should be included within the Report.

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

Sincerely,

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