



MANKO | GOLD | KATCHER | FOX LLP

AN ENVIRONMENTAL AND ENERGY LAW PRACTICE

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Admitted in PA

August 10, 2017

Honorable Bernard A. Labuskes, Jr.
Commonwealth of Pennsylvania
Environmental Hearing Board
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Harrisburg, PA 17105-8457

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PHILADELPHIA, PA
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by appointment only

*Partner responsible - Bruce S. Katcher

Re: Clean Air Council, et al. v. Department of Environmental Protection
and Sunoco Pipeline L.P., EHB Dkt. No. 2017-009-L

Dear Judge Labuskes:

This letter is submitted with the consent of all parties under Environmental Hearing Board Rule 25 Pa. Code § 1021.92. After reviewing the Exhibits to the Stipulated Order that the parties submitted, which was entered by the Board on August 9, 2017, the parties identified certain inaccuracies in the Exhibits that the parties seek to correct. Specifically, the total number of drills subject to re-evaluation as originally calculated from Exhibits 2 and 3 was 69. That number included 47 from Exhibit 2 (the number set forth in the Stipulated Order) and 22 from Exhibit 3, which covers re-evaluation of the second line when there was an inadvertent return ("IR") on the first line. In reviewing Exhibit 2, we found that the first 4 HDDs identified in Spread 1 do not have a 16 inch line so those HDDs are removed on the corrected Exhibit 2.

In addition, for lines 9 and 11 on Exhibit 2 (Lower Piney Creek and Aughwick), we listed both a 20 inch line and 16 inch line to be re-evaluated. Both of those had IRs on the 20 inch line (the first line drilled) so the 16 inch lines are already identified on Exhibit 3. Accordingly, the 16 inch lines for those two HDDs that were originally identified on Exhibit 2 have been removed. The 20 inch lines for those two HDDs remain on Exhibit 2. As a result, the total number of HDDs subject to re-evaluation in paragraph 2 of the Stipulated Order is changed from 47 to 41, and the total number of HDDs to be re-evaluated from Exhibits 2 and 3 changed from 69 to 63.

The parties also noted that on Exhibits 2, 3 and 4 there is a typo for the permit drawing number of the Piney Creek drill. It should be PA-BL-0126,000-RD. The parties also identified it as Piney Creek in one exhibit and Lower Piney Creek in another. The correct name is Piney Creek. And finally, the parties corrected the spelling of Aughwick.

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Honorable Bernard A. Labuskes, Jr.
August 10, 2017
Page 2

The corrected Stipulated Order also reflects Your Honor's line out that was agreed to yesterday and inserts language in the introduction that states that the Corrected Stipulated Order supersedes and replaces the Stipulated Order entered on August 9, 2017. We have attached a Corrected Stipulated Order for your approval and have also provided a redline of the Stipulated Order identifying the proposed changes.

Thank you for your consideration.

Respectfully submitted,

Robert D. Fox
For MANKO, GOLD, KATCHER & FOX, LLP

RDF/kl
Enclosure
cc: All Counsel of Record (w/encl.)

COMMONWEALTH OF PENNSYLVANIA
BEFORE THE ENVIRONMENTAL HEARING BOARD

CLEAN AIR COUNCIL; THE DELAWARE
RIVERKEEPER NETWORK; and
MOUNTAIN WATERSHED
ASSOCIATION, INC.,

Appellants,

v.

COMMONWEALTH OF PENNSYLVANIA,
DEPARTMENT OF ENVIRONMENTAL
PROTECTION,

Appellee,

and

SUNOCO PIPELINE L.P.,

Permittee.

EHB DOCKET NO. 2017-009-L

CORRECTED STIPULATED ORDER

AND NOW this 10th day of August, 2017, the Clean Air Council, the Delaware Riverkeeper Network, the Mountain Watershed Association, Inc. (collectively "Appellants"), Sunoco Pipeline L.P. ("Sunoco"), and the Commonwealth of Pennsylvania, Department of Environmental Protection ("Department"), by and through their respective counsel, hereby agree to resolve the Appellants' Application for Temporary Partial Supersedeas and Petition for Partial Supersedeas, both of which were filed on July 19, 2017, through a negotiated agreement with regard to the following terms and conditions, which shall be entered by the Environmental Hearing Board ("Board") as a Stipulated Order, and which supersedes and replaces the Stipulated Order approved by the Board on August 9, 2017, as follows:

1. Appellants' Petition for Temporary Partial Supersedeas and Petition for Partial Supersedeas are hereby withdrawn without prejudice. The Board's Orders dated July 25, 2017, July 28, 2017, August 1, 2017, August 3, 2017, and August 4, 2017 (attached as Exhibit "1") are hereby vacated. Appellants reserve the right to seek a temporary or permanent supersedeas for conduct after the Board's entry of this Stipulated Order, including any activities related to horizontal directional drilling ("HDD").

2. Sunoco will perform a re-evaluation of the 41 HDDs listed on Exhibit "2" attached hereto. Exhibit "2" provides the rationale for selecting these HDDs for re-evaluation as well as the nature of the re-evaluation.

3. Sunoco will also perform a re-evaluation of the HDDs listed on Exhibit "3." These HDDs constitute drills for which an inadvertent return ("IR") occurred during the installation of one pipe (20" or 16" diameter) and where a second pipe will hereafter be installed in the same right-of-way ("ROW"). In addition, Sunoco will perform a re-evaluation of HDDs for which an IR occurs in the future during the installation of one pipe where a second pipe will thereafter be installed in the same ROW.

4. In re-evaluating the design of the HDD techniques for the sites referenced in Paragraphs 2 and 3 herein, Sunoco shall:

- i. Re-examine the geology at each site using information and data gathered during HDD operations at that and other sites during construction of the pipelines subject to the permits in the above-captioned Appeal;
- ii. Consider data that is specific to the needs of each HDD being reevaluated, including at a specific HDD: geologic strength at profile depth, overburden strength, HDD depth, entry angle, pipe stress radius, open cut alternatives, a

re-route analysis for all HDDs (including those on Exhibit “2”) and analysis of well production zones;

iii. Conduct, as appropriate, additional geotechnical evaluation at each site using techniques generally recognized within the scientific community which may include:

- Additional field drilling and sampling;
- Seismic surveys;
- Ground penetrating radar; and
- Electromagnetic surveys/electrical resistivity tomography.

iv. In karst areas, Sunoco shall consider the use of seismic surveys and electromagnetic surveys/electrical resistivity tomography for the re-evaluation undertaken pursuant to this Order, and if it does not use these evaluation methodologies, it will provide the Department with an explanation for why they were not used at that site.

5. Upon completion of Sunoco’s re-evaluation of each HDD site referenced in Paragraphs 2 and 3 herein, Sunoco shall provide for each such site a report signed and sealed by a Professional Geologist, describing and presenting the results of its study for that location (“Report”). The Professional Geologist shall be a person trained and experienced in geotechnical and hydrogeologic investigation. The Report shall specify all actions to be taken by Sunoco to eliminate, reduce, or control the release or IR of HDD drilling fluids to the surface of the ground or impact to water supplies at that location during HDD operations.

i. The Report shall document in detail the information considered for the re-evaluation of the design of the HDD at that site.

- ii. The Report shall contain an evaluation of the feasibility of constructing the proposed HDD crossing at that location and, as appropriate, propose modification of the design of the HDD or relocation of the pipeline based upon the results of its study for that location.
6. Sunoco will submit the Reports to the Department for review and approval.
- i. For any recommendation that requires a major permit modification, the Department's procedures for major permit modifications shall apply.
 - 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. Comments on the Reports shall be submitted to the Department at: Karyn Yordy, Executive Assistant, Office of Programs, Department of Environmental Protection, Rachel Carson State Office Building, 400 Market Street, Harrisburg, PA 17101; Email – kyordy@pa.gov; Phone – (717) 772-5906; Fax – (717) 705-4980. Appellants will provide copies of their comments by email to Sunoco to the email address provided to Appellants'

counsel. The Department shall consider comments received and document such consideration.

- 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. Comments on the Reports shall be submitted to the Department at: Karyn Yordy, Executive Assistant, Office of Programs, Department of Environmental Protection, Rachel Carson State Office Building, 400 Market Street, Harrisburg, PA 17101; Email – kyordy@pa.gov; Phone – (717) 772-5906; Fax – (717) 705-4980. Appellants will provide copies of their comments by email to Sunoco to the email address provided to Appellants' counsel. The Department shall consider comments received and document such consideration.

7. At the same time that Sunoco provides the Report to the Department, Sunoco will also provide a copy of the Report to Appellants by email to the address provided to Sunoco's counsel. The Department shall post Sunoco's Report to the Pennsylvania Pipeline Portal website within one business day of receipt. Sunoco shall send a copy of the Report (by U.S. Postal

Service Certified Mail and First Class Mail) to all landowners who have a private water supply that is located within 450 feet of the HDD addressed by the Report.

8. Ten days before HDD operations start at an HDD location, or re-start at an HDD location at which there was an IR (as listed on Exhibit "4"), Sunoco will identify all landowners within 450 feet of HDD alignments, and notify all such landowners (by U.S. Postal Service Certified Mail and First Class Mail) and offer such landowners the opportunity to have their water supplies within 450 feet of the HDD alignment sampled before, during, and after start or re-start of such HDD in accordance with the parameters in the water supply testing plan (Appendix B of the Water Supply Assessment, Preparedness, Prevention and Contingency Plan). For any such water supplies, the drill path will be compared to the well depth and geology of the area. Those water supplies in geologies with potentially significant interconnected secondary porosity (solution openings and structural features) will be considered for monitoring during HDD installs depending on specific individual water supplier requirements.

9. At the 22 HDDs identified on Exhibit "5," water supplies within 150 feet shall receive 72 hours' notice (by U.S. Postal Service Certified Mail and First Class Mail) in advance of restarting these HDDs, and Sunoco will provide notice to landowners (by U.S. Postal Service Certified Mail and First Class Mail) between 150 feet and 450 feet of the HDD within 30 days of the HDD restarting. Such notice shall offer the landowner with the opportunity to have a water supply located within 450 feet of the HDD alignment sampled in accordance with the parameters in the water supply testing plan (Appendix B of the Water Supply Assessment, Preparedness, Prevention and Contingency Plan) within 10 days of the landowner's request.

10. Sunoco shall provide copies of the Certified Mail receipts and landowner responses to the Department, and copies of the Certified Mail receipts to Appellants.

11. Sunoco will immediately notify a landowner with a water supply within 450 feet of an HDD when Sunoco or the Department has determined that there is a substantial possibility that the operation of the HDD will impact his or her water supply.

12. Within 14 days of the Board's entry of this Stipulated Order, Sunoco will provide the Department with a complete list of drilling instructions and specifications provided to all drillers performing HDD operations associated with the permits that are subject to the above-captioned Appeal, which provide the general operational parameters and best management practices to be utilized by the drillers during the performance of HDD operations under said permits.

13. The Department may review the drilling instructions and specifications, and suggest modifications to be incorporated into the instructions and specifications. If appropriate, the Department and Sunoco will discuss the feasibility of incorporating the Department's suggested modifications into the drilling instructions and specifications.

14. Within 14 days of the Board's entry of this Stipulated Order, Sunoco will provide the Department with as-builts for six HDDs that have been completed and at which an IR occurred to assure that the HDDs are being built in accordance with approved plans. To the extent possible, the as-builts shall represent the work of at least three different drilling contractors for HDD work performed in at least three different spreads of the pipelines subject to the permits in the above-captioned Appeal.

15. The parties have agreed to revisions to: the HDD Inadvertent Return Assessment, Preparedness, Prevention and Contingency Plan; the Water Supply Assessment, Preparedness, Prevention and Contingency Plan; and, the Void Mitigation Plan for Karst Terrain and

Underground Mining (collectively, the "Plans"), as revised, such revisions dated August 8, 2017.

Sunoco agrees to abide by these Plans, as revised.

16. Sunoco shall inform, as appropriate, its officers, agents, employees, and contractors of the August 8, 2017 revisions to the Plans and ensure that the Plans as revised are present onsite during drilling operations and are made available to the Department.

SUNOCO PIPELINE L.P.:

/s/ Robert D. Fox

Robert D. Fox, Esq.

THE COMMONWEALTH OF
PENNSYLVANIA, DEPARTMENT OF
ENVIRONMENTAL PROTECTION:

/s/ Nels J. Taber

Nels J. Taber, Esq., Regional Counsel

CLEAN AIR COUNCIL:

/s/ Joseph O. Minott

Joseph O. Minott, Esquire

DELAWARE RIVERKEEPER
NETWORK:

/s/ Aaron J. Stemplewicz

Aaron J. Stemplewicz, Esquire

s/ Maya K. van Rossum

Maya K. van Rossum

MOUNTAIN WATERSHED
ASSOCIATION:

/s/ Melissa Marshall

Melissa Marshall, Esquire

APPROVED AND SO ORDERED

ENVIRONMENTAL HEARING BOARD

s/ Bernard A. Labuskes, Jr.

BERNARD A. LABUSKES, JR.

Judge

DATED: August 10, 2017



COMMONWEALTH OF PENNSYLVANIA
ENVIRONMENTAL HEARING BOARD



CLEAN AIR COUNCIL, THE DELAWARE
RIVERKEEPER NETWORK, AND
MOUNTAIN WATERSHED ASSOCIATION,
INC. :

v. :

EHB Docket No. 2017-009-L

COMMONWEALTH OF PENNSYLVANIA, :
DEPARTMENT OF ENVIRONMENTAL :
PROTECTION and SUNOCO PIPELINE, L.P., :
Permittee :

ORDER

AND NOW, this 25th day of July, 2017, following two conference calls during which the parties presented extensive argument in support of their respective positions, it is hereby ordered that the Appellants' application for a temporary partial supersedeas is **granted**. The permits that are the subject of this appeal are hereby superseded effective immediately to the extent they authorize the Permittee to conduct horizontal directional drilling. However, this Order may be modified in part if the Permittee provides the Board with detailed affidavits explaining why it would cause equipment damage, a safety issue, or more environmental harm than good to stop drilling at the 55 locations where drilling is actively underway. This temporary partial supersedeas shall expire at 9:00 a.m. on August 7, 2017, unless further extended by the Board. The hearing on the Appellants' petition for a partial supersedeas shall commence in the Board's Harrisburg hearing room on the date requested by the parties; namely, **9:00 a.m. on August 7, 2017.**



ENVIRONMENTAL HEARING BOARD

s/ Bernard A. Labuskes, Jr.
BERNARD A. LABUSKES, JR.
Judge

DATED: July 25, 2017

c: For the Commonwealth of PA, DEP:

William J. Gerlach, Esquire
Gail Guenther, Esquire
Margaret O. Murphy, Esquire
Curtis C. Sullivan, Esquire
Nels J. Taber, Esquire
(*via electronic filing system*)

For Appellant, Clean Air Council:

Alexander G. Bomstein, Esquire
Kathryn L. Urbanowicz, Esquire
Joseph O. Minott, Esquire
(*via electronic filing system*)

For Appellant, Delaware Riverkeeper Network:

Aaron J. Stemplewicz, Esquire
(*via electronic filing system*)

For Appellant, Mountain Watershed Association, Inc.:

Melissa Marshall, Esquire
(*via electronic filing system*)

For Permittee:

Robert D. Fox, Esquire
Neil S. Witkes, Esquire
Diana A. Silva, Esquire
Jonathan E. Rinde, Esquire
Terry R. Bossert, Esquire
(*via electronic filing system*)

Court Reporter:

Premier Reporting, LLC
(*via electronic mail*)



COMMONWEALTH OF PENNSYLVANIA
ENVIRONMENTAL HEARING BOARD



**CLEAN AIR COUNCIL, THE DELAWARE
RIVERKEEPER NETWORK, AND
MOUNTAIN WATERSHED ASSOCIATION,
INC.**

v.

EHB Docket No. 2017-009-L

**COMMONWEALTH OF PENNSYLVANIA,
DEPARTMENT OF ENVIRONMENTAL
PROTECTION and SUNOCO PIPELINE, L.P.,
Permittee**

ORDER

AND NOW, this 28th day of July, 2017, in consideration of the Permittee's emergency motion to modify our July 25, 2017 Order and the affidavit submitted in support thereof, and the Appellants' response in opposition to the Permittee's motion, which also included an affidavit, it is hereby ordered that the motion is granted in part. The temporary partial supersedeas imposed by our previous Order of July 25, 2017 is lifted with respect to the following three horizontal directional drilling locations as identified in the Permittee's motion:

- The HDD at Harrisburg Pike in Cumberland County, where the only drilling work to be completed as of July 25, 2017 was the final cleaning ream
- The HDD at Wetland 161 in Lebanon County, where the reamed hole was 95 percent completed
- The HDD at Creek 110 in Lebanon County, where 1,500 feet of the total hole of 1,527 feet (98 percent) of the reamed hole was completed

The Board takes the Permittee's motion with respect to the other 14 locations listed in the motion under advisement.



ENVIRONMENTAL HEARING BOARD

s/ Bernard A. Labuskes, Jr.

BERNARD A. LABUSKES, JR.

Judge

DATED: July 28, 2017

c: For the Commonwealth of PA, DEP:

William J. Gerlach, Esquire
Gail Guenther, Esquire
Margaret O. Murphy, Esquire
Curtis C. Sullivan, Esquire
Nels J. Taber, Esquire
(*via electronic filing system*)

For Appellant, Clean Air Council:

Alexander G. Bomstein, Esquire
Kathryn L. Urbanowicz, Esquire
Joseph O. Minott, Esquire
(*via electronic filing system*)

For Appellant, Delaware Riverkeeper Network:

Aaron J. Stemplewicz, Esquire
(*via electronic filing system*)

For Appellant, Mountain Watershed Association, Inc.:

Melissa Marshall, Esquire
(*via electronic filing system*)

For Permittee:

Robert D. Fox, Esquire
Neil S. Witkes, Esquire
Diana A. Silva, Esquire
Jonathan E. Rinde, Esquire
Terry R. Bossert, Esquire
(*via electronic filing system*)



COMMONWEALTH OF PENNSYLVANIA
ENVIRONMENTAL HEARING BOARD



CLEAN AIR COUNCIL, THE DELAWARE
RIVERKEEPER NETWORK, AND
MOUNTAIN WATERSHED ASSOCIATION,
INC.

v.

EHB Docket No. 2017-009-L

COMMONWEALTH OF PENNSYLVANIA,
DEPARTMENT OF ENVIRONMENTAL
PROTECTION and SUNOCO PIPELINE, L.P.,
Permittee

ORDER

AND NOW, this 1st day of August, 2017, in consideration of the Permittee's affidavit correcting certain information provided in its July 27, 2017 affidavit and seeking confirmation that it may resume drilling at the horizontal directional drilling locations subject to the Board's Order of July 28, 2017, it is hereby ordered that the temporary partial supersedeas continues to be lifted with respect to the following horizontal directional drilling locations as identified in the Permittee's affidavit:

- The HDD at Harrisburg Pike in Cumberland County, PA-CU-0136.0000-RD
- The HDD at Wetland S161 in Lancaster County, PA-LA-0014.0000-SR

ENVIRONMENTAL HEARING BOARD

s/ Bernard A. Labuskes, Jr.

BERNARD A. LABUSKES, JR.

Judge

DATED: August 1, 2017



c: For the Commonwealth of PA, DEP:

William J. Gerlach, Esquire
Gail Guenther, Esquire
Margaret O. Murphy, Esquire
Curtis C. Sullivan, Esquire
Nels J. Taber, Esquire
(via electronic filing system)

For Appellant, Clean Air Council:

Alexander G. Bomstein, Esquire
Kathryn L. Urbanowicz, Esquire
Joseph O. Minott, Esquire
(via electronic filing system)

For Appellant, Delaware Riverkeeper Network:

Aaron J. Stemplewicz, Esquire
(via electronic filing system)

For Appellant, Mountain Watershed Association, Inc.:

Melissa Marshall, Esquire
(via electronic filing system)

For Permittee:

Robert D. Fox, Esquire
Neil S. Witkes, Esquire
Diana A. Silva, Esquire
Jonathan E. Rinde, Esquire
Terry R. Bossert, Esquire
(via electronic filing system)



COMMONWEALTH OF PENNSYLVANIA
ENVIRONMENTAL HEARING BOARD



CLEAN AIR COUNCIL, THE DELAWARE
RIVERKEEPER NETWORK, AND
MOUNTAIN WATERSHED ASSOCIATION,
INC.

v.

EHB Docket No. 2017-009-L

COMMONWEALTH OF PENNSYLVANIA,
DEPARTMENT OF ENVIRONMENTAL
PROTECTION and SUNOCO PIPELINE, L.P.,
Permittee

ORDER

AND NOW, this 3rd day of August, 2017, in further consideration of the Permittee's emergency motion to modify our July 25, 2017 Order, it is hereby ordered that the temporary partial supersedeas is lifted with respect to all horizontal directional drilling locations identified in the Permittee's motion, except for the HDD at Creek 110 in Lebanon County, PA-LE-0117.0000-WX.

ENVIRONMENTAL HEARING BOARD

s/ Bernard A. Labuskes, Jr.

BERNARD A. LABUSKES, JR.

Judge

DATED: August 3, 2017

c: For the Commonwealth of PA, DEP:

William J. Gerlach, Esquire
Gail Guenther, Esquire
Margaret O. Murphy, Esquire
Curtis C. Sullivan, Esquire
Nels J. Taber, Esquire
(via electronic filing system)



For Appellant, Clean Air Council:

Alexander G. Bomstein, Esquire
Kathryn L. Urbanowicz, Esquire
Joseph O. Minott, Esquire
(via electronic filing system)

For Appellant, Delaware Riverkeeper Network:

Aaron J. Stemplewicz, Esquire
(via electronic filing system)

For Appellant, Mountain Watershed Association, Inc.:

Melissa Marshall, Esquire
(via electronic filing system)

For Permittee:

Robert D. Fox, Esquire
Neil S. Witkes, Esquire
Diana A. Silva, Esquire
Jonathan E. Rinde, Esquire
Terry R. Bossert, Esquire
(via electronic filing system)



COMMONWEALTH OF PENNSYLVANIA
ENVIRONMENTAL HEARING BOARD



CLEAN AIR COUNCIL, THE DELAWARE
RIVERKEEPER NETWORK, AND
MOUNTAIN WATERSHED ASSOCIATION,
INC.

v.

EHB Docket No. 2017-009-L

COMMONWEALTH OF PENNSYLVANIA,
DEPARTMENT OF ENVIRONMENTAL
PROTECTION and SUNOCO PIPELINE, L.P.,
Permittee

ORDER

AND NOW, this 4th day of August, 2017, except as otherwise provided in the Board's Orders of July 25, 2017, July 28, 2017, August, 1, 2017, and August 3, 2017, it is hereby ordered that the temporary partial supersedeas previously set to expire at 9:00 a.m. on August 7, 2017 shall now expire at **9:00 a.m. on August 9, 2017.**

ENVIRONMENTAL HEARING BOARD

s/ Bernard A. Labuskes, Jr.

BERNARD A. LABUSKES, JR.

Judge

DATED: August 4, 2017

c: For the Commonwealth of PA, DEP:
William J. Gerlach, Esquire
Gail Guenther, Esquire
Margaret O. Murphy, Esquire
Curtis C. Sullivan, Esquire
Nels J. Taber, Esquire
(via electronic filing system)



For Appellant, Clean Air Council:

Alexander G. Bomstein, Esquire
Kathryn L. Urbanowicz, Esquire
Joseph O. Minott, Esquire
(via electronic filing system)

For Appellant, Delaware Riverkeeper Network:

Aaron J. Stemplewicz, Esquire
(via electronic filing system)

For Appellant, Mountain Watershed Association, Inc.:

Melissa Marshall, Esquire
(via electronic filing system)

For Permittee:

Robert D. Fox, Esquire
Neil S. Witkes, Esquire
Diana A. Silva, Esquire
Jonathan E. Rinde, Esquire
Terry R. Bossert, Esquire
(via electronic filing system)

**Ex. 2 -Horizontal Directional Drills For Design Review
Sunoco Mariner 2 Project**



Factors For Selecting These HDDs

Sunoco considered a variety of screening factors in identifying HDDs for reevaluation. No one factor was dispositive. These factors included proximity to public and private water supplies, proximity to natural features (e.g. streams and wetlands) and the value of those natural features, proximity to man-made features (e.g. underground utilities and pipelines, railroad crossings), known impacts to rock from historic blasting, geologic conditions, depth of cover, and occurrence of inadvertent returns. In addition to these HDDs that will undergo reevaluation, Sunoco is reevaluating every HDD for the 16 inch line where there was an IR on the HDD for the proximate 20 inch line. In three cases there was an IR on the HDD for the 16 inch line and Sunoco will reevaluate the proximate 20 inch line for that HDD.

Data Review to Perform

In re-evaluating the design of the HDD techniques for the HDDs, Sunoco shall:

- (1) Re-examine the geology at each site using information and data gathered during HDD operations at that and other sites during construction of the pipeline subject to the permits in this Appeal.
- (2) Consider data that is specific to the needs of each HDD being reevaluated, including at a specific HDD, geologic strength at profile depth, overburden strength, HDD depth, entry angle, pipe stress radius, open cut alternatives, a re-route analysis for all HDDs (including those on this Exhibit) and analysis of well production zones.
- (3) Conduct, as appropriate, additional geotechnical evaluation at each site using techniques generally recognized within the scientific community which may include: (i) Additional field drilling and sampling; (ii) Seismic surveys; (iii) Ground penetrating radar; and (iv) electromagnetic surveys/electrical resistivity tomography.
- (4) In karst areas, Sunoco shall consider the use of seismic surveys and electromagnetic surveys/electrical resistivity tomography for the re-evaluation undertaken pursuant to this Order, and if it does not use these methodologies, it will provide the Department with an explanation for why they were not used at that site.

Construction

	Spread	HDD Name	HDD #	PADEP 105 Permit HDD #	County
1	Spread 1	Wheeling and Lake Erie RR	S1B-0120	PA-WA-0171.0000-RR (20")	Washington
2	Spread 1	Gombach Road	S1B-0260	PA-WM1-0111.0000-RD (20")	Westmoreland
3	Spread 1	Hildebrand Road	S1B-0190	PA-WM1-0023.0000-RD (20")	Westmoreland
4	Spread 1	Norfolk Southern	S1B-0250	PA-WM1-0088.0000-RR (20")	Westmoreland
5	Spread 2	Goldfinch Lane	S2-0069	PA-CA-0016.0000-RD (20" & 16")	Cambria
6	Spread 2	William Penn Ave (Route 271)	S2-0070	PA-CA-0023.0000-RD (20" & 16")	Cambria
7	Spread 2	Wetland C-17	S2-0075	PA-CA-0047.0000-SR (20" & 16")	Cambria
8	Spread 2	Spinner Road	S2-0080	PA-CA-0069.0000-RD (20" & 16")	Cambria
9	Spread 3	Piney Creek	S2-0142	PA-BL-0126.0000-RD (20")	Blair
10	Spread 3	Juniata River	S2-0140	PA-BL-0122.0000-WX (20" & 16")	Blair
11	Spread 3	Aughwick Creek	S2-0153	PA-HU-0078.0000-WX (20")	Huntingdon

**Ex. 2 -Horizontal Directional Drills For Design Review
Sunoco Mariner 2 Project**



Construction		HDD Name	HDD #	PADEP 105 Permit HDD #	County
Spread					
12	Spread 3	Horse Valley	S2-0157	PA-PE-0002.0000-RD (20" &16")	Perry
13	Spread 4	Creek Rd	S2-0181	PA-CU-0125.0001-WX (20" &16")	Cumberland
14	Spread 4	Yellow Breeches Creek	S2-0250	PA-CU-0203.0000-WX (20" &16")	Cumberland
15	Spread 5	Wetland J-47	S3-0090	PA-LE-0001.0000-SR (20" &16")	Lebanon
16	Spread 5	Route 897	S3-0170	PA-LA-0024.0000-RD (20" &16")	Lancaster
17	Spread 6	N. Pottstown Pike	S3-0370	PA-CH-0212.0000-RD (20" &16")	Chester
18	Spread 6	Swedesford Rd	S3-0381	PA-CH-0219.0000-RD (20" &16")	Chester
19	Spread 6	Chester Rd	S3-0541	PA-CH-0421.0000-RD (20" &16")	Chester
20	Spread 6	Gradyville Rd	S3-0580	PA-DE-0032.0000-RD (20" &16")	Delaware
21	Spread 6	Valley Rd	S3-0591	PA-DE-0046.0000-RD (20" &16")	Delaware
22	Spread 6	Devon Dr. - Shoen Rd.	S3-0360	PA-CH-0199.0000-RD (16")	Chester
23	Spread 6	Eagleview Blvd.	S3-0321	PA-CH-0135.0000-RD (16")	Chester
24	Spread 5	Joanna Road	S3-0250	PA-BR-0181.0000-RD (20" & 16")	Berks
25	Spread 6	Bow Tree Drive	S3-0520	PA-CH-0413.0000-RD (20")	Chester

Ex. 3 - HDDs for Reevaluation



	Construciton Spread	Drill Name	HDD #	PADEP 105 Permit HDD #	First HDD Pipe Diameter	Second HDD Pipe Diameter
1	2	Loyalhanna Lake	S2-0010	PA-WM2-0064.0000-WX	20	16
2	2	Livermore Rd	S2-0016	PA-WM2-0093.0000-RD	20	16
3	2	Kendall Rd/Norfolk Southern RR	S2-0040	PA-IN-0019.0000-RR	20	16
4	3	Old US 220	S2-0109	PA-BL-0001.0027-RD	20	16
5	3	Everett RR	S2-0121	PA-BL-0001.0048-RR	20	16
6	3	Piney Creek	S2-0142	PA-BL-0126.0000-RD	20	16
7	3	Aughwick Creek	S2-0153	PA-HU-0078.0000-WX	20	16
8	4	Letorte Springs Run	S2-0210	PA-CU-0136.0002-WX	20	16
9	4	I-81	S2-0220	PA-CU-0136.0003-RD	20	16
10	4	Hwy 15	S2-0247	PA-CU-0176.0019-RD	20	16
11	4	Lewisberry Road	S2-0260	PA-YO-0016.0000-RD	20	16
12	5	Laural Lane	S3-0091	PA-LE-0005.0000-RD	20	16
13	5	T307 & Creek S-C86	S3-0110	PA-LE-0117.0000-WX	20	16
14	5	Wetland K32 & S-K35	S3-0111	PA-LA-0004.0000-SR	20	16
15	5	Wetland A54 & A55	S3-0161	PA-LA-0014.0000-SR	20	16
16	5	Hwy 222	S3-0200	PA-BR-0075.0000-RD	20	16
17	6	Milford Rd. S3-0290	S3-0290	PA-CH-0100.0000-RD	20	16
18	6	Wetland C43 - Park Road S3-0300	S3-0300	PA-CH-0111.0000-RD	20	16
19	6	Bow Tree Dr. S3-0520	S3-0520	PA-CH-0413.0000-RD	20	16
20	6	Glen Riddle/SEPTA S3-0620 (16")	S3-0620	PA-DE-0100.0000-RR	16	20
21	6	Chester Creek (Gun Club) S3-0631 (16")	S3-0631	PA-DE-0104.0008-WX	16	20
22	6	Commerce Drive S3-0670 (16")	S3-0670	PA-DE-0104.0023-RR	16	20

Ex. 4					
	Spread	Drill Name	HDD #	PADEP 105 Permit HDD #	Diameter
1	Spread 1	LINDEN ROAD	S1B-0080	PA-WA-0119.0000-RD	20
2	Spread 1	WHEELING AND LAKE ERIE RR	S1B-0120	PA-WA-0171.0000-RR	20
3	Spread 3	Old US 220	S2-0109	PA-BL-0001.0027-RD	20
4	Spread 3	Everett RR	S2-0121	PA-BL-0001.0048-RR	20
5	Spread 3	Piney Creek	S2-0142	PA-BL-0126.0000-RD	20
6	Spread 3	Aughwick Creek	S2-0153	PA-HU-0078.0000-WX	20
7	Spread 4	Letorte Springs Run	S2-0210	PA-CU-0136.0002-WX	20
8	Spread 4	I-81	S2-0220	PA-CU-0136.0003-RD	20
9	Spread 4	Hwy 15	S2-0247	PA-CU-0176.0019-RD	20
10	Spread 4	Lewisberry Road	S2-0260	PA-YO-0016.0000-RD	20
11	Spread 5	Laural Lane	S3-0091	PA-LE-0005.0000-RD	20
12	Spread 5	T307 & Creek S-C86	S3-0110	PA-LE-0117.0000-WX	20
13	Spread 5	Hwy 222	S3-0200	PA-BR-0075.0000-RD	20
14	Spread 6	Milford Rd.	S3-0290	PA-CH-0100.0000-RD	20
15	Spread 6	Wetland C43 - Park Road	S3-0300	PA-CH-0111.0000-RD	20
16	Spread 6	Bow Tree Dr.	S3-0520	PA-CH-0413.0000-RD	20
17	Spread 6	Riddlewood Dr	S3-0620	PA-DE-0100.0000-RR	16

Ex. 5					
	Spread	Drill Name	HDD #	PADEP 105 Permit HDD #	Diameter
1	Spread 1	Norfolk RR	S1B-0250	PA-WM1-0088.0000-RR	20
2	Spread 1	Old William Penn	S1B-0270	PA-WM1-0144.0000-RD	20
3	Spread 2	Grange Hall Rd	S2-0064	PA-IN-0086.0000-RD	20
4	Spread 3	Raystown Lake	S2-0150	PA-HU-0020.0008-WX	20
5	Spread 4	Pipeline/Double Gap Rd	S2-0160	PA-CU-0015.0000-RD	20
6	Spread 4	Wildwood Road	S2-0180	PA-CU-0067.0000-RD	20
7	Spread 4	Appalachian Trail	S2-0230	PA-CU-0136.0012-RD	20
8	Spread 4	Arcona Rd, Lisburn Rd	S2-0249	PA-CU-0189.0000-RD	20
9	Spread 4	S Market Street	S2-0246	PA-CU-0174.0001-RD	20
10	Spread 4	Waltonville Road	S3-0080	PA-DA-0056.0000-RD	20
11	Spread 5	Peach Tree Lane	S3-0201	PA-BR-0079.0000-RD	20
12	Spread 5	Gebhart School Road	S3-0230	PA-BR-0138.0001-RD	20
13	Spread 5	Joanna Road	S3-0250	PA-BR-0181.0000-RD	20
14	Spread 6	Pennsylvania Drive	S3-0310	PA-CH-0124.0000-RD	20
15	Spread 6	Dairy Queen Parking Lot	S3-0331	PA-CH-0138.0000-RD	20
16	Spread 6	Devon Dr. - Shoen Rd.	S3-0360	PA-CH-0199.0000-RD	20
17	Spread 6	Exton Bypass	S3-0400	PA-CH-0256.0000-RR	20
18	Spread 6	Hollyview Ln.	S3-0421	PA-CH-0290.0000-RD	20
19	Spread 6	Greenhill Road	S3-0460	PA-CH-0326.0000-RD	20
20	Spread 6	Carriage Dr.	S3-0461	PA-CH-0326.0004-SR	20
21	Spread 6	Village Square Dr.	S3-0471	PA-CH-0326.0006-RD	20
22	Spread 6	Highway 23		PA-CH-0002.0000-RD	20