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REPLY TO:  
Center City

August 13, 2019

*Via Electronic Filing*

Rosemary Chiavetta, Secretary  
Pennsylvania Public Utility Commission  
Commonwealth Keystone Building  
400 North Street, Second Floor  
Harrisburg, PA 17120

Re: BI&E v. Sunoco Pipeline L.P., Docket No. C-2018-3006534  
**FLYNN INTERVENORS' COMMENT IN OPPOSITION TO  
JOINT PETITION OF BI&E AND SUNOCO FOR  
APPROVAL OF SETTLEMENT**

Dear Secretary Chiavetta:

Attached for electronic filing with the Commission is Flynn Intervenors' Comment in Opposition to the Joint Petition of BI&E and Sunoco for Approval of Settlement in above-captioned proceeding.

If you have any questions regarding this filing, please contact the undersigned.

Very truly yours,

  
MICHAEL S. BOMSTEIN, ESQ.

MSB:mik

cc: Judge Barnes (Via email and First Class Mail)  
Per Certificate of Service

**BEFORE THE  
PENNSYLVANIA PUBLIC UTILITY COMMISSION**

Pennsylvania Public Utility Commission,  
Bureau of Investigation and Enforcement

v.

Sunoco Pipeline L.P.

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C-2018-3006534

**FLYNN INTERVENORS' COMMENT IN  
OPPOSITION TO PROPOSED SETTLEMENT**

## TABLE OF CONTENTS

	<u>Page</u>
Introduction.....	2
History of the Case.....	3
Factual Background.....	4
The Morgantown Accident.....	4
The Morgantown Investigation.....	5
The I&E Proceeding.....	7
The Proposed Settlement.....	8
The Proposed Settlement terms are largely illusory.....	9
Any relief provided by the settlement is too narrow to ensure that the Mariner East pipelines will be operated and maintained safely.....	13
The Proposed Settlement lacks transparency regarding key public safety issues.....	16
Under the applicable factors and standards, the Proposed Settlement should not be approved.....	18
Issues that <i>Flynn</i> Intervenors would raise if the Proposed Settlement were rejected.....	35
How <i>Flynn</i> Intervenors would be affected if the Proposed Settlement were accepted.....	41
Effect of I&E Decision on the <i>Flynn</i> case.....	45
Conclusion.....	49

## **I. Introduction**

The PUC Bureau of Investigation and Enforcement (“I&E”) launched an investigation into Sunoco Pipeline L.P.’s (“Sunoco” or “SPLP”) pipeline integrity practices following an accident involving a release of hazardous, highly volatile liquids (“HVLs”) from the Mariner East 1 (“ME1”) pipeline in Morgantown, PA that was discovered by a landowner on April 1, 2017.<sup>1</sup> Ten months later, in February 2018, I&E sought detailed information from Sunoco regarding the hazards associated with ME1, including the population within its immediate and delayed ignition impact zones.<sup>2</sup> Twenty months later, obviously dissatisfied with Sunoco’s response to the investigation, I&E filed its Complaint in the instant proceeding.

The I&E Complaint asserts that data furnished by Sunoco demonstrates the leak was caused by corrosion, and that the corrosion was brought on by ignoring both federal regulations and standard (NACE) engineering practices.

Sunoco denies the allegations, but notably fails to explain the cause of the corrosion or the cause of the leak. The company even goes so far as to suggest, implausibly, that the absence of metal does not imply the presence of corrosion.

The parties (I&E and Sunoco) on April 3, 2019 jointly filed a petition for approval of a proposed settlement. While the Complaint explicitly expresses concern that the entire ME1 pipeline might be corroded, the proposed settlement appears to be geographically limited to one

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<sup>1</sup> Sunoco is a unit of Energy Transfer (“ET”), a company that also has other pipeline subsidiaries. ET reported \$54 billion in revenue in 2018.

<sup>2</sup> It bears noting that I&E lacked this important safety information more than three years after ME1 began to transport HVLs in 2014.

small segment of the pipeline.<sup>3</sup> Moreover, even though the equally ancient 12-inch “Point Breeze to Montello” workaround pipeline is in the same right of way as ME1, and is now being used by Sunoco to transport hazardous, highly volatile liquids, it is not part of the proposed settlement.

I&E and Sunoco now seek Commission approval of the proposed settlement in its entirety. They ask that the entire settlement be rejected if any part of it is rejected.

52 Pa. Code § 69.1201 sets forth standards for evaluation of a proposed settlement. The Commission is given ten factors to consider in its evaluation. In addition, ALJ Barnes has invited all intervenors to comment on the issues they would raise if the settlement were rejected and to explain how their interests would be affected if the settlement were accepted.

*Flynn* Intervenors (“*Flynn* Intervenors” or “the Intervenors”) also contend that the Commission’s decision on the proposed settlement must factor in the effect it may have on the pending *Flynn* case.

Below, Intervenors address all of the issues noted above and argue that the proposed settlement must be rejected.

## **II. The History of the Case**

Meghan Flynn, Rosemary Fuller, Michael Walsh, Nancy Harkins, Gerald McMullen, Caroline Hughes and Melissa Haines hereby adopt by reference the history of this proceeding detailed in the Commission’s Opinion and Order and entered June 10, 2019, and as further set forth in the ALJ’s July 15, 2019 Order granting Petitions to Intervene (“the Order”). The Order

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<sup>3</sup> The I&E Complaint states that the ME1 pipeline has five segments. (¶ 14). Segment 11190 runs from Twin Oaks to Montello. (¶ 18). An Inline Inspection (“ILI”) run was conducted on Segment 11190 in 2017. (¶ 36). The proposed settlement calls for development of an ME1 corrosion growth rate based on that most recent ILI run; *i.e.*, data gleaned from the limited 2017 ILI run for Segment 11190. That suggests either that (a) the parties will be limiting the scope of the Remaining Life Study to Segment 11190—which does not include Chester County or Delaware County—or (b) the parties plan to draw inferences regarding system-wide corrosion growth rate based on data from only one of the five segments, without performing an ILI run for the remaining four.

granted petitions to intervene of the *Flynn* Intervenors as well as West Goshen Township, West Whiteland Township, Upper Uwchlan Township, Edgmont Township, Josh Maxwell, and Thomas Casey. The Order further permitted all intervenors not agreeing to the proposed settlement to (1) state the reasons why; (2) delineate the issues they would raise if the settlement were rejected; and (3) outline how their interests would be affected if the settlement were accepted.

*Flynn* Intervenors are the Complainants in the proceeding docketed in the Commission at C-2018-3006116 and P-2018-3006117. Their complaint raises public safety concerns over the construction and operation of the Mariner East pipelines in Delaware and Chester Counties. More particularly, *Flynn* Intervenors complain *inter alia* that Sunoco's "public awareness program" is inadequate; the siting of pipelines in their vicinity is reckless and dangerous; and the existing ME1 and 12-inch workaround pipelines are not being maintained safely.<sup>4</sup>

*Flynn* Intervenors' request for relief in their Second Amended Formal Complaint includes relief with respect to the condition of the ancient 8-inch and 12-inch pipelines. The request is very similar in some respects to I&E's prayer for relief in the instant proceeding. For all the reasons set forth below, *Flynn* Intervenors request that the proposed settlement be rejected.

### **III. Factual Background**

#### ***a. The Morgantown Accident***

On April 1, 2017, at 3:57 p.m., the ME1 pipeline segment identified as the 8-inch Twin Oaks to Montello (identification number 11190) was discovered by a resident to have experienced a leak at station 2449+12 at 5530 Morgantown Road, Morgantown, Berks

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<sup>4</sup> Intervenors' brief description above is not a substitute for or modification of their Second Amended Formal Complaint, which pleading speaks for itself.

County, Pennsylvania. The pipeline was transporting an ethane/propane mixture at the time the accident was discovered.

The resident first noticed the leak by observing hazardous vapor “hissing” out of the ground. The resident informed Sunoco, which dispatched a technician to the site shortly thereafter. The technician arrived at 5:04 PM on April 1, 2017, and confirmed the leak.

*At no time on April 1<sup>st</sup> did Sunoco notify neighborhood residents that ME1 was leaking combustible gas.*

Pursuant to 49 CFR § 195.50(b) of the federal pipeline safety regulations (relating to reporting accidents in which there is a release of five (5) gallons or more of hazardous liquids), SPLP filed an accident report with PHMSA that reported a release of twenty (20) barrels (840 gallons).<sup>5</sup>

The leak occurred between the Beckersville pump station and the Elverson block valve – a distance of approximately seven (7) miles – and was isolated by shutting down the pump station and block valve. Importantly for the public safety concerns noted herein, the act of closing valves at either end of a failed HVL pipeline will not stop the release of these materials, as it did not do in this case.

***b. The Morgantown Investigation***

On April 1, 2017 at approximately 6:30 PM, SPLP notified I&E’s Safety Division of the leak by making a telephone call to the manager of the Safety Division. On April 2, 2017, an I&E pipeline inspector visited the accident site, but was unable to inspect the facility

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<sup>5</sup> Neither Sunoco, PHMSA, nor the PUC has publicly clarified whether this represents the total amount released, or, more probably, just the amount that was released between the time Sunoco learned of the accident and the time it stopped the release, which was apparently sometime the next day, April 2, 2017. Sunoco has not provided an estimate of how long ME1 had been leaking because Sunoco did not detect the accident; it may in fact not know how long the accident had been underway before discovery by the resident, nor the total amount of HVLs released.

because, as noted above, the pipeline was still releasing combustible vapor. At some point on April 2<sup>nd</sup> the line was purged with nitrogen.

On April 3, 2017, I&E pipeline inspectors visited the site again to examine the affected pipeline. SPLP crews excavated and exposed the pipeline, which was then cleaned.

Visual examination of the pipe demonstrated localized corrosion at the bottom of the pipe in the six o'clock position. SPLP cut out a portion of the pipe and an eight-foot section of this portion was sent to a laboratory for analysis. Laboratory analysis of this section of the pipeline attributed the failure to corrosion, and this cause is also reflected in Sunoco's report of the accident to PHMSA. To date, the extent of corrosion in the eight-foot section has not been disclosed publicly.

As alleged in the I&E Complaint, Sunoco repaired the pipeline by welding an eighty-three-foot section into it. Neither Sunoco nor I&E has explained how and why an eighty-three-foot piece of pipe was placed in spot from which an eight-foot section was removed.

Based on the laboratory findings as well as other data accumulated prior to the filing of the Complaint on December 13, 2018, I&E averred in its Complaint against Sunoco that it had reason to believe that *the entire ME1 pipeline* suffered from the same problems disclosed in the Morgantown incident. Specifically, ¶ 39 of the I&E Complaint alleges:

While the data reviewed was largely specific to the site of the leak, SPLP's procedures and overall application of corrosion control and cathodic protection practices are relevant to all of ME1 and, thus, I&E alleges that there is a **statewide concern** with SPLP's corrosion control program and the soundness of SPLP's engineering practices with respect to cathodic protection.

(Emphasis added).

"Statewide concern" necessarily includes Chester County as well as Delaware County.



Intervenors' consulting expert, Dr. Mehrooz Zamanzadeh ("Dr. Zee"), has reviewed the I&E Complaint and concluded, assuming the accuracy of the other allegations in the Complaint, that paragraph 39 of the Complaint is correct. Dr. Zee's condensed bio and Verified Statement with Preliminary Report in support hereof is attached as Ex. "A."

*c. Material Allegations of the I&E Complaint*

I&E filed its Complaint against Sunoco on December 13, 2018, more than twenty months after the Morgantown accident was discovered. The Complaint made numerous allegations of improper pipeline maintenance on ME1.

The I&E Complaint alleged that Sunoco illegally:

- (a) failed to achieve a standard *greater* than a negative cathodic potential of -850 mV;
- (b) failed to monitor external corrosion adequately;
- (c) performed side drain measurements that ignored the fact that current had been flowing away from the pipeline;
- (d) conducted close interval potential surveys ("CIPS") of ME1 that showed that only "on" potentials were measured, leading to incomplete data;
- (e) failed to correct an identified deficiency in corrosion control despite obvious metal loss;
- (f) failed to maintain sufficient records to demonstrate adequate corrosion control;
- (g) failed to perform in-line inspection ("ILI") testing frequently enough;
- (h) failed to explain how CIPS metrics would be obtained, evaluated and accomplished;

(i) failed to identify certain features, such as rectifiers, areas with parallel pipelines and overhead power lines, despite the fact that such information is critical in the determination of the validity and accuracy of the test results;

(j) conducted an inspection using an ILI tool to detect anomalies in the pipeline and measure corrosion but that the tool failed and Sunoco improperly waited another year to conduct the ILI inspection; and

(k) despite the fact that the 2017 ILI inspection indicated metal loss, Sunoco failed to note or mention corrosion anywhere in its reports on the 2017 ILI inspection.

#### **IV. The Proposed Settlement**

I&E's Complaint raises a number of critical public safety concerns related to the Mariner East pipelines. The proposed settlement of the Complaint does not fully address those concerns and does not provide for the future safe, adequate and reasonable operation of the Mariner East pipelines.

In general, the proposed settlement leaves Sunoco with far too much discretion to proceed in whatever way best serves its own interests and provides too little oversight. The terms of the proposed settlement provide largely illusory or non-existent relief to the public.

The relief that the proposed settlement might provide is inadequate to ensure that Sunoco's pipelines will be operated and maintained safely. The proposed settlement relies on a number of Sunoco's unsupported claims. It is unreasonable to base a settlement on such assertions without transparency in regard to supporting documents and evidence.

Given Sunoco's repeated violation of agency orders as well as recent settlement agreements, relying on Sunoco to fulfill its obligations under the proposed settlement is

unreasonable. Moreover, the proposed settlement fares poorly under an analysis of the standards and mandatory factors listed under 52 Pa. Code § 69.1201.

***a. The Proposed Settlement Terms are Largely Illusory and/or Contain No Additional Relief Beyond the Status Quo***

For the settlement to be in the public interest, it must provide significant relief that is beneficial to the public and commensurate with the alleged conduct. While there is some beneficial substance contained in the proposed settlement terms, much of it is illusory, and much of the rest does not impose relief beyond the status quo.

As a whole, the proposed terms do not provide relief commensurate with the alleged conduct. In all pertinent respects the proposed settlement leaves the perpetrator of alleged violations of statute and regulation in charge of all significant decisions relating to pipeline maintenance and remediation.

The terms of the proposed settlement are broken into lettered paragraphs as follows: (A) Civil Penalty; (B) Remaining Life Study; (C) In-Line Inspection and Close Interval Survey Frequency of ME1; (D) Revision of Procedures; (E) Implementation of Revised Procedures; and (F) Pipe Replacement as It Relates to Corrosion. Of these, the latter three (D, E, and F) in fact lack any relief whatsoever.

Specifically, (D) merely claims that before I&E filed its Complaint, Sunoco had already taken action that purportedly "addressed" part of the Complaint's concerns. Because (D) reflects changes that Sunoco made before and independent of the Complaint—let alone the settlement—it provides no new relief. (E) is precisely the same.

(F) is a mere clarification of the terms in favor of Sunoco, and agreement that Sunoco will do what it is already required to do, namely, comply with "applicable Federal regulations," and its own policies. Again, (F) provides no relief.

The civil penalty (A) provides no meaningful relief because it imposes no credible deterrent on Sunoco. Sunoco is a unit of Energy Transfer, a company with \$54 billion in revenue in 2018. *See*, <https://www.sec.gov/Archives/edgar/data/1161154/000116115419000013/eto12-31x201810k.htm#s742AEF7A63FA53DEBA5F77DA15FB3C46>.

Sunoco has already been fined over \$12,000,000 by the Pennsylvania Department of Environmental Protection as of the fall of 2018, yet that did not prove deterrent enough to make Energy Transfer comply with state law after issuance of a compliance order in response to an explosion on one of its pipelines in Pennsylvania. *See* Pennsylvania DEP, “Department of Environmental Protection Issues Hold on All Energy Transfer Clean Water Permit Approvals and Modifications Due to Non-Compliance,” February 8, 2019, available at [www.ahs.dep.pa.gov/NewsRoomPublic/articleviewer.aspx?id=21634&typeid=1](http://www.ahs.dep.pa.gov/NewsRoomPublic/articleviewer.aspx?id=21634&typeid=1). If that much larger payment did not deter future noncompliance, this proposed penalty cannot be expected to do so either.

The relief provided by the Remaining Life Study (B) is largely illusory. Under the terms of the proposed settlement, Sunoco will identify three experts, one of whom I&E will select to conduct the Study.

This perfunctory process leaves most of the decision to Sunoco with no articulated standards for I&E oversight. Foxes and henhouses come readily to mind. Transparently, Sunoco will choose friendly options. It is unclear how Sunoco managed to extract this concession from I&E, but it casts significant doubt over the entire proposed Study.

When suggesting the pool of self-selected experts, the proposed settlement requires Sunoco to disclose whether the individual has worked on ME1, but not other Sunoco or Energy

Transfer pipelines, or even the various other Mariner East pipelines. Any such work presents a conflict of interest.

In describing the selection process, I&E and Sunoco use the term “independent” to characterize a choice made by a party whose misconduct has been called into question in this proceeding. Sunoco has a significant stake in the outcome of this case. Giving Sunoco control over the process and calling that “independent” is an abuse of the English language. In all pertinent respects the proposed settlement leaves the alleged perpetrator of violations of statute and regulation in charge of all significant decisions relating to pipeline maintenance and remediation.

It is entirely beside the point that Sunoco must identify three possible experts. Sunoco has no business doing the initial choosing. I&E can easily select an expert and Sunoco can disclose its prior relationships.<sup>6</sup>

Even if the “independent” expert were to conduct a legitimate study, the expert has no enforcement authority to ensure necessary action is taken to repair or retire unsafe sections of pipe, and the Joint Settlement Proposal creates no process for I&E to verify, validate, or direct improvements based on the study. The proposed settlement would leave all of that in Sunoco’s hands. Similarly, the proposed annual updates to the study do not set forth any requirements for ongoing evaluation, but merely require Sunoco to report the evaluation process it is using.

In addition to these flawed provisions, the Remaining Life Study is not additional relief above and beyond what Sunoco was already going to have to do independent of this proposed settlement. Governor Wolf, in coordination with DEP, already has caused the Commonwealth to stop issuing additional permit approvals to Energy Transfer entities such as Sunoco due to “a

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<sup>6</sup> Intervenors’ own expert, Dr. Zee, can also identify other experts if I&E is interested. Alternatively, I&E can identify a disinterested party to make the selection.

failure by Energy Transfer and its subsidiaries to respect our laws and our communities.” The Governor also called upon the PUC to require a remaining life study of ME1 and thoroughly evaluate the safety of ME1. *See* press release, “Governor Wolf Issues Statement on DEP Pipeline Permit Bar, February 8, 2019, available at [www.governor.pa.gov/governor-wolf-issues-statement-dep-pipeline-permit-bar](http://www.governor.pa.gov/governor-wolf-issues-statement-dep-pipeline-permit-bar).

Under the proposed settlement, Sunoco’s only post-Study obligation is to (a) prepare an annual report setting out its plans for the next year; (b) conduct a Close Interval Survey of ME1; and (c) seek to collaborate with I&E to agree upon a mutually acceptable ILI interval period. *See* Section (C) of the proposed settlement.

No provision is made for resolution of disagreements with I&E on these limited obligations. If Sunoco and I&E do not reach “a mutually acceptable ILI interval period” pursuant to Section C.a. of the proposed settlement, there is nothing barring Sunoco from simply choosing to never do an ILI run again. In other words, the second paragraph of Section C.a. of the proposed settlement provides only illusory relief.

In fact, given that Sunoco argues on page 7 of SPLP’s Statement that In-Line “inspections on an annual basis would not provide meaningful information in terms of corrosion control,” it is foreseeable at the outset that Sunoco and I&E will not agree on an ILI interval period, and Sunoco will simply do what it would have in the absence of this settlement. The substance of Section C is therefore largely illusory as well.

Remarkably, Sunoco itself disparages the terms of the settlement in its Statement. At pages 6 and 7 of the Statement, Sunoco writes, “Regarding the remaining life study...the concept is wholly inconsistent with the federal safety regulations...”

At page 7 of its Statement, Sunoco writes that annual ILI “would not provide meaningful information in terms of corrosion control.” The proposed settlement terms call for two ILI runs at an 18-month interval, scarcely different than the annual inspections Sunoco disparaged.

In the Morgantown accident, Sunoco’s notification to residents in the vicinity (a high consequence area) consisted of sending an agent the next day to knock on the doors of some, but not all, nearby occupied structures. Sunoco’s actual practice in connection with the Morgantown leak makes a mockery of its one-size-fits-all “public awareness program” (“What should I do if I suspect a leak? Leave the area immediately on foot...”). One does not leave an area immediately when one does not even hear about a leak until the next day or, in the case of those who were never notified, one does not leave the area at all.

Looking at the terms of the proposed settlement, there is very little meaningful content for the benefit of the public. The substance consists mostly of a trivial fine, a *pro forma* study by an expert selected by Sunoco, and a few more inspections. The settlement fails to provide an analysis of the public safety risk of Mariner East or how that risk would be mitigated by application of the proposed settlement terms. Quite simply, the proposed settlement has no “teeth” through which to require fixes to identified problems in order to make the public safer.

***b. Any Relief Provided is too Narrow to Ensure Sunoco’s  
Pipelines Will Be Operated and Maintained Safely***

To the extent any relief provided in the complaint is not wholly illusory, it is clearly inadequate. The I&E Complaint seeks a remaining life study on ME1 due to a corrosion-caused leak on an 8-foot segment of a 300-mile-long 87-year-old pipeline. It also requests annual ILI runs for all “SPLP bare steel and poorly coated pipelines in Pennsylvania.”

While the proposed settlement touches on each of these requests, it does not satisfy them. I&E’s Complaint at ¶ 39 alleged:

While the data reviewed was largely specific to the site of the leak, SPLP's procedures and overall application of corrosion control and cathodic protection practices are relevant to all of ME1 and, thus, I&E alleges that **there is a statewide concern** with SPLP's corrosion control program and the soundness of SPLP's engineering practices with respect to cathode protection. (Emphasis added).

While I&E has expressed a "statewide concern," it is unclear from the proposed settlement whether the focus of the proposed ILI runs is limited to Segment 11190 or the entire ME1 pipeline. Nothing in the Joint Petition suggests that the remainder of the ME1 pipeline is going to be examined or replaced if necessary, as part of the ILI process.

The ILI program in the proposed settlement appears to be carefully designed to keep Sunoco from being responsible for detecting corrosion. It provides no assurance that the entire pipeline will be examined to develop a baseline corrosion measurement. Moreover, the decision as to whether to replace pipe (or not) is left in Sunoco's hands, much as it always has been, and the settlement changes nothing in that regard.

The proposed settlement also ignores the fact that Sunoco has failed to detect anomalies in previous ILI runs. As I&E reported in ¶ 36 of its Complaint, in 2016 Sunoco conducted an ILI but "the tool failed and no data was available from the 2016 inspection." Further, an inspection was done in 2017—just prior to the discovery of the leak—in which metal loss was found but "corrosion is not noted or mentioned anywhere in SPLP's reports regarding the 2017 ILI inspection."

Thus, in one instance the tool failed completely and in the next the tool worked but Sunoco did not pay attention to what it found. More important for present purposes is Sunoco's evasive answer to I&E's straightforward allegation that loss of metal near the leak in Morgantown demonstrates corrosion. Instead of admitting the loss of metal demonstrates



corrosion, the company responds that metal loss only shows inadequate protection at that one point. The obvious existence of corrosion was of great concern to I&E and the agency suggested it might mean a system-wide problem. *The fact that I&E asserted (a) there obviously was corrosion and (b) Sunoco never mentioned it in its report, is never addressed.*

This kind of evasive parsing of language underscores why Sunoco cannot be trusted. Moreover, if the 2016 ILI failed completely, and the 2017 run produced results Sunoco chose to ignore, there is no reason to believe that ILI inspection can be relied upon to resolve I&E's very real concerns. For any ILI program to be successful going forward, the proposed settlement must address why it was not successful in the past. The proposed settlement fails to address this critical issue.

Regarding the remaining life study, the obvious rationale for this request in the Complaint is that problems related to age could well pervade the entire 300 miles length of the pipeline. The 12-inch pipeline that now has become part of the workaround pipeline also went into service in the 1930s. The 12-inch workaround pipeline has also experienced hazardous liquids accidents in both Chester and Delaware Counties, as recently as June 2018. There is no reason to believe that the 12-inch workaround pipeline is in any better condition than ME1.

The Commission is not required to wait for I&E to file a new petition for the 12-inch workaround pipeline; it has plenary authority to initiate its own investigation and take such other action as may be needed to assure safe, adequate and reasonable service. *See*, 66 Pa.C.S. §§ 501 and 1501. Nothing prohibits the Commission from imposing operating requirements above and beyond minimum state and federal regulatory standards.

The fact, therefore, that no regulation specifically requires remaining life studies on ancient pipelines should not prevent the Commission from taking whatever steps are reasonably

required to mitigate the probability that Sunoco HVL pipeline failures will continue to occur. This proposed settlement falls short of taking those necessary steps.

*c. The Proposed Settlement Lacks Transparency Regarding Key Public Safety Issues*

How an eight-foot section came to be replaced by a new 83-foot section is not even hinted at in the I&E complaint, and is certainly not resolved through the proposed settlement.

It is unclear from the I&E complaint whether Sunoco (a) initially removed 83 feet of pipe and sent only 8 feet to the laboratory, or (b) initially removed only 8 feet but later removed an additional 75 feet. In either event, the condition of the other 75 feet is not described in the Complaint and the whereabouts of that additional 75-foot portion of pipe is not disclosed either.

Intervenors believe and therefore aver that Sunoco either has concealed or destroyed the missing 75-foot section of pipeline. Intervenors believe and therefore aver that the true condition of the 75-foot pipe segment at the time it was removed was poor, corroded, and constituted proof of violation of state and federal laws and regulations.

Intervenors believe and therefore aver that the missing or destroyed 75-foot section of pipeline was concealed or destroyed in order to prevent officials from examining the pipeline and learning its true condition. The condition of the 75-foot segment was material evidence that Sunoco has prevented the Commission from considering in the instant enforcement proceeding.

Intervenors also believe that, if Sunoco destroyed the remaining 75 feet of ME1 pipeline under the circumstances described in the Complaint, it would have violated generally accepted (NACE) engineering practices.

Intervenors believe and therefore aver that at all pertinent times Sunoco was aware that the entire 83-foot section that was removed could be the subject of Commission action based

upon Sunoco's violation of the aforesaid statutes and regulations. Intervenors believe and therefore aver that if the Commission had become aware of the true condition of the 75-foot segment that it may have shut the pipeline down indefinitely.

Sunoco's conduct with respect to the missing 75-foot pipe section is nothing less than a coverup and an important reason not to approve the proposed settlement.

An additional reason for concern based on lack of transparency is that both I&E and Sunoco seem anxious not to address the condition of ME1 beyond either the 8-foot section. Moreover, the condition of the 12-inch pipeline has not been addressed in the proposed settlement, even though that line is almost as old as the 8-inch line and it is in the same right-of-way.

Sometime between the date of the detection of the Morgantown leak on April 1, 2017 and December 13, 2018, when the I&E Complaint was filed, Sunoco allegedly revised certain unspecified practices which, presumably, were associated with development of the leak and/or the corrosion that was examined in the lab.

The Joint Petition, however, makes a point of not being more specific as to what Sunoco practices were problematic; why it was necessary to revamp those practices; and whether the practices also involved the remaining 1,500,000 feet of ME1.

The Joint Petition also fails to disclose how much of the 300 miles of line previously was replaced. Even in the unlikely event it was as much as half, that implies that over 750,000 feet of pipeline could still experience corrosion due to age, poor cathodic protection or contact with soil.

PHMSA's web site also contains data about accidents on Sunoco pipelines, as self-reported by Sunoco to PHMSA. During the period January 2005 through June 2019, Sunoco reported 322 hazardous liquids pipeline accidents.

Sunoco reported that corrosion was the cause of 135 of these accidents, or 42%. Corrosion, incorrect operation, and material/weld/equipment failure (all things within Sunoco's control) collectively accounted for the cause of 286 of the accidents, or 89%--again, according to Sunoco itself. These accidents collectively (yet again, according to Sunoco) spilled more than 1,823,000 gallons of hazardous liquids and caused more than \$74 million dollars in property damage.<sup>7</sup>

In Appendix B of the Joint Petition, Sunoco claims that PHMSA in 2010 and 2013 found that ME1 passed muster and that PHMSA endorsed Sunoco practices that the I&E Complaint unreasonably called into question. It should be noted, however, that HVLs were not flowing through ME1 until 2014.

Sunoco has consistently lacked transparency with the public, local governments, and agencies overseeing the Mariner East project. The large information gaps in the proposed settlement would pave the way for that dangerous practice to continue.

***d. Under the Factors and Standards for Evaluating Litigated and Settled Proceedings, the Settlement should not be Approved***

(1) Overview

The core aspect of the proposed settlement is that the facts of the Morgantown accident need not be determined and that, going forward, Sunoco can be trusted to select a contractor to make recommendations as to the future of ME1 and the 12-inch workaround pipeline. Section 69.1201 of the Public Utility Code sets forth factors and standards that must be considered by the

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<sup>7</sup> PHMSA web site accessed August 5, 2019. To access the dynamic source for these data, visit [https://opsweb.phmsa.dot.gov/primis\\_pdm/pub\\_op\\_dashboard.asp?val1=18718](https://opsweb.phmsa.dot.gov/primis_pdm/pub_op_dashboard.asp?val1=18718); then click "Continue to PDM Reports;" then click the "Incidents" tab at the top of the page.

Commission in evaluating a proposed settlement. Though the application of these standards and factors is not as strict in a settlement as in a litigated proceeding, 52 Pa. Code § 69.1201(b), in both types of proceedings, the Commission still *must* consider the listed factors, 52 Pa. Code § 69.1201(a) and (c).

Sunoco and I&E have not provided enough information for the Commission to apply these mandatory factors. For that reason alone, the Commission may not approve this settlement. Intervenors further submit that I&E's statement in Appendix A of the Joint Petition for Approval Petition contains important factual misstatements.

First, while the Terms of Settlement provide in Section B that "SPLP shall provide I&E with a list of three (3) proposed independent experts...I&E will select one (1) expert from the list," I&E misleadingly states in Appendix A only that "SPLP has agreed to retain an independent expert, selected by I&E." (Appendix A at 12). I&E has agreed to select only from a list provided to it by Sunoco. Thus, the process is controlled by the party whose misconduct is at the heart of the case.

Second, I&E states in Appendix A that "prior to the initiation of the instant I&E enforcement proceeding, SPLP had already revised its procedures pertaining to corrosion control and cathodic protection. Such revisions occurred in 2017 and SPLP fully implemented the revised procedures by the second quarter of 2018." (Appendix A at 11-12).

While the I&E Complaint does state "SPLP's procedures have since been revised." (Complaint, ¶ 28), it also states that, "[w]hile **the data reviewed was largely specific to the site of the leak**, SPLP's procedures and overall application of corrosion control and cathodic protection practices are relevant to all of ME1 and, thus, I&E alleges that there is a statewide concern with

SPLP's corrosion control program and the soundness of SPLP's engineering practices with respect to cathodic protection." (Emphasis added).

The "site of the leak" that was evaluated was an eight-foot piece of corroded pipe, or perhaps a segment a little longer than that. The revision of procedures touted by I&E, therefore, related to procedures along that small segment only. The condition of the rest of the pipelines and Sunoco's practices remain unknown more than two years following the Morgantown accident. Below, *Flynn* Intervenors look closely at the fourth, fifth, sixth and seventh factors and argue that those factors alone militate strongly against approval of the proposed settlement.

## (2) The Fourth Factor

The fourth factor relates to Sunoco's "efforts to change its practices and procedures to prevent similar conduct in the future." (Appendix A at 11). Regarding this factor, I&E's claim is a red herring. I&E focuses on whether or not it could have won an order requiring Sunoco to conduct a "remaining life study."

I&E's own Complaint makes clear that it has *no idea* what Sunoco's practices have been or what the present conditions are of the two ancient pipelines other than on the eight (8) foot Morgantown segment. Determining the *present* condition of the two ancient pipelines, however, does *not* require a remaining life study. An order directing that an independent contractor simply determine the present condition of the two ancient pipelines does not go beyond the relief that I&E could have expected if it elected to continue prosecution of the case against Sunoco.

At page 12 of SPLP's Statement, it writes that "SPLP voluntarily revised these procedures [complained of in the Complaint] prior to the Complaint being filed in this matter, demonstrating good faith and cooperation with I&E concerning pipeline safety." According to I&E itself, this statement is untrue.

On page 10 of I&E’s Statement in Support of the Joint Petition for Approval of Settlement (“I&E’s Statement”), it explains that SPLP adopted the unidentified “improved” procedures due to its purchase by Energy Transfer—not due to a change of heart or effort to mend its ways. Nonetheless, both I&E (at pages 11-12 of I&E’s Statement) and Sunoco (at page 12 of SPLP’s Statement) assert this change in an attempt to show, pursuant to the fourth factor, Sunoco “made efforts to modify internal practices and procedures to address the conduct at issue and prevent similar conduct in the future.” 52 Pa. Code § 69.1201(c)(4).

Because this change in practice was not undertaken “to address the conduct at issue and prevent similar conduct in the future,” it cannot weigh in favor of approval of the settlement.

### (3) The Fifth Factor

The fifth factor is “[t]he number of customers affected and the duration of the violation.” I&E’s Statement at page 13 remarks that “The April 1, 2017 leak led to a brief shut-down of ME1, which impaired the ability of SPLP’s customers to ship product using the pipeline.”

Nowhere does either party state the “number of customers affected,” however. Without this information, the Commission cannot evaluate the proposed settlement.

### (3) The Sixth Factor

#### a. *Overview*

Sunoco’s compliance history is the sixth factor identified by I&E in Appendix A. I&E inexplicably suggests that Sunoco is a good citizen. It writes, “[t]o I&E’s knowledge, the Commission has not expressly found SPLP in violation of any law or regulation, or directed SPLP to pay a civil penalty in connection with a violation.” (Appendix A at 14).

In fact, both the Commission and other Commonwealth agencies have found Sunoco to be a regular, repeat violator. The big picture is one of a scofflaw company which considers fines and regulatory enforcement merely a cost of doing business.

In the *Dinniman* case, Judge Barnes noted on page 21 of her Interim Emergency Order and Certification of Material Question of May 21, 2018 in Docket Nos. P-2018-3001453 and C-2018-3001451 (“Interim Emergency Order”), “Sunoco has made deliberate managerial decisions to proceed in what appears to be a rushed manner in an apparent prioritization of profit over the best engineering practices available in our time that might best ensure public safety.”

ALJ Barnes in her Interim Emergency Order found that PHMSA had issued Sunoco a notice of probable violation. Significantly, she noted that DEP had assessed \$12,300,000 in penalties for “inadvertent returns” and the ME2 pipeline construction was shut down for more than a month.<sup>8</sup> The Environmental Hearing Board (“EHB”) also separately shut down horizontal directional drilling to build ME2 for violations. (Interim Emergency Order at 11–12).

Since the date of Judge Barnes’ May 18, 2018 Interim Emergency Order, the DEP on May 14, 2019 found that Energy Transfer, in connection with construction of the Revolution Pipeline, had eliminated at least twenty-three (23) streams, changed the length of at least one hundred and twenty (120) streams and eliminated at least seventeen (17) and altered seventy (70) wetland areas in violation of The Clean Streams Law, the Dam Safety Act and the Oil and Gas Act.

[http://files.dep.state.pa.us/ProgramIntegration/PA%20Pipeline%20Portal/RevolutionPipeline/Compliance%20and%20Enforcement%20Information/May\\_14\\_2019\\_Stream\\_and\\_Wetland\\_Order.pdf](http://files.dep.state.pa.us/ProgramIntegration/PA%20Pipeline%20Portal/RevolutionPipeline/Compliance%20and%20Enforcement%20Information/May_14_2019_Stream_and_Wetland_Order.pdf)<sup>9</sup>

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<sup>8</sup> DEP order may be found at [http://files.dep.state.pa.us/ProgramIntegration/PA%20Pipeline%20Portal/MarinerEastII/Summary\\_of\\_Order/Sunoco%20Pipeline%20LP.%20Consent%20Order%20and%20Agreement%20-%20February%208.%202018.pdf](http://files.dep.state.pa.us/ProgramIntegration/PA%20Pipeline%20Portal/MarinerEastII/Summary_of_Order/Sunoco%20Pipeline%20LP.%20Consent%20Order%20and%20Agreement%20-%20February%208.%202018.pdf)

<sup>9</sup> Sunoco has taken an appeal to the EHB and the case is now pending.



ALJ Barnes was not alone in her pronouncement. In February of this year, the Governor himself wrote that “There has been a failure by Energy Transfer and its subsidiaries to respect our laws and our communities. This is not how we strive to do business in Pennsylvania, and it will not be tolerated.” See press release, “Governor Wolf Issues Statement on DEP Pipeline Permit Bar, February 8, 2019, available at [www.governor.pa.gov/governor-wolf-issues-statement-dep-pipeline-permit-bar](http://www.governor.pa.gov/governor-wolf-issues-statement-dep-pipeline-permit-bar).

The proposed settlement entrusts Sunoco to abide by law and contract when it has a demonstrated history of flouting the law, making settlement agreements, and then violating the agreements. Indeed, the allegations made by I&E in the instant proceeding, if grounded in data, also strongly suggest the company has habitually failed to abide by law and regulations designed to protect the residents of the Commonwealth.

Below, Intervenor briefly identifies eleven examples of Sunoco’s deceitful, dishonest and unlawful conduct.

b. *Eleven Examples of Sunoco’s Deceitful, Dishonest and Unlawful Conduct*

*First Example: Violation of Settlement Agreement and Order*

Sunoco deliberately and deceitfully violated a previous settlement agreement and judicial order through a side agreement made in contravention of the settlement and judicial order.

On or about February 13, 2017, Clean Air Council, Delaware Riverkeeper Network, and Mountain Watershed Association initiated a proceeding in the Environmental Hearing Board (“EHB” and “the EHB Case”) against Sunoco and the Department of Environmental Protection (“DEP”). The Notice of Appeal docketed at No. 2017-009-L alleged that, because of numerous deficiencies in Sunoco’s applications, the permits DEP issued for water crossings and erosion and sediment control were unlawful.

Through negotiations, an agreement was entered into among all parties and approved as a stipulated order by EHB judge Bernard A. Labuskes, Jr. A copy of the Corrected Stipulated Order filed August 10, 2017 (“the EHB Order”) is attached hereto and marked as Ex. “B.”

In ¶ 15 of the EHB Order, the parties agreed to certain plan revisions related to HDD inadvertent returns; water supply issues; and void mitigation for karst terrain and underground mining (“the Plans”). A copy of the Plans is attached to the EHB Order.

DEP subsequently cited Sunoco for dozens of “egregious and willful” violations of the Clean Streams Law and other environmental laws (“the DEP Proceeding”). Negotiations ensued in the DEP Proceeding, but neither appellants nor the EHB judge were included.

Dealing only with DEP, Sunoco entered into a Consent Order and Agreement with DEP (“COA”) related to HDD frac-outs (“inadvertent returns” in DEP parlance); water supply issues; and void mitigation for karst terrain and underground mining. The new plan, however, rolled back Sunoco’s obligations, significantly reducing environmental protections guaranteed by the Plans in the EHB case.

The New Plan was an obvious circumvention of the EHB Order and a breach of Sunoco’s contractual commitment. A redlined document showing the differences between the approved Plans and the New Plan can be found at the following URL link:

<http://ehb.courtapps.com/efile/documentViewer.php?documentID=41643>

The EHB Appellants subsequently challenged the New Plan before the Commonwealth Court. During argument, Judge Brobson stated as follows:

JUDGE BROBSON: I’m struggling to understand how you can be in litigation in front of the Environmental Hearing Board dealing with the HDD plan and having separate side agreements to modify it. I don't understand. Maybe it's something unique to the Environmental Hearing Board, Mr. Byer; but I’ve been around long enough to know that you try not to did (sic) that kind of stuff.

(Oral Argument before Hon. Kevin Brobson, March 19, 2018, in *Clean Air Council, et al. v. Sunoco Pipeline L.P., et al.*, 101 MDA 2018 at 34-35).

Judge Brobson understood quite well that what Sunoco had done was dishonest.

*Second Example: Scheme to Circumvent the Law at Marcus Hook*

In 2016, Clean Air Council challenged DEP's approval of a permit issued to Sunoco for construction of an apparent stand-alone project that the Council alleged was actually part of a larger project subject to more stringent environmental regulatory requirements.

The EHB in its adjudication opinion at No. 2016-073-L agreed with Clean Air Council and concluded that the "nominally separate projects are actually parts of a larger project whose emissions should be aggregated for applicability purposes." (Excerpt from Opinion of Judge L. Labuskes, Jr., 1-9-19 at 61, hereinafter "EHB Opinion," copy attached as Ex. "C").

Citing to three separate "open season" announcements that referred to a plan for single, large project, Judge Labuskes also concluded there was evidence to support the conclusion that Sunoco's scheme was designed to illegally circumvent the law. (Opinion at 61 - 63).

In particular, the judge wrote: "We are unable to credit the suggestion that Sunoco planned anything less than a facility designed to store, fractionate, and export multiple components of NGLs. Although Sunoco began by permitting two tanks for ethane and propane (Project 1), we cannot credit the notion that Sunoco ever thought that would be the end of site development..." (Opinion at 61).

Clearly, Sunoco repeatedly misled the DEP about its intentions in order to circumvent environmental regulations designed to protect against excess air pollution.

*Third Example: Coverup of Improper Welding Practices*

On April 28, 2016, PHMSA served Sunoco a Notice of Probable Violation and Proposed Compliance Order in connection with the company's use of unqualified welders and unqualified welding procedures on its Permian Express II ("PEX II") pipeline in Texas. "Welders made approximately 3,000 welds on the PEX II project before it was discovered that the welder qualification testing was not conducted to the requirements [of] Part 195 and API Standard 1104. Sunoco welder qualification records showed that the welders had not followed the qualified welding procedure, WPS No.: SP-332Sc-6G, but were still shown as passing the welder qualification tests. When this errant practice was discovered, Sunoco attempted to back-qualify welders through the retesting of welders to welding procedure WPS No.: SP-332Sc-6G, of which several of the welders, who were retested, failed to qualify with multiple retesting attempts. These same failed welders had each participated in the welding of numerous production welds prior to attempting requalification."

[https://primis.phmsa.dot.gov/comm/reports/enforce/documents/420165011/420165011\\_NOPV%20PCP%20PCO\\_04282016\\_text.pdf](https://primis.phmsa.dot.gov/comm/reports/enforce/documents/420165011/420165011_NOPV%20PCP%20PCO_04282016_text.pdf) at 7.

"Not only did Sunoco fail to properly qualify welders before allowing [them] to weld on the PEX II project, as required by Part 195, but [it] made multiple attempts to qualify welders after they had already made welds on the PEX II pipeline project in violation of Part 195 and Sunoco's specifications...By allowing welders who were not properly qualified according to the requirements of API 1104 to weld on the PEX II project and then having a small select sample of welds made by these welders fail destructive testing, all of the welds on Spread 24-3 of the PEX II project are suspect as to whether they meet the required strength and mechanical properties as required by the design of this pipeline." *Ibid.* PHMSA issued Sunoco a proposed civil penalty of

\$1,278,100 for these alleged violations, but, astonishingly, did not take action to prevent Sunoco from placing PEX II in service.

Unsurprisingly, PEX II failed just four months later near Sweetwater, Texas. Shortly after the accident, on September 14, 2016, PHMSA issued fresh enforcement action to Sunoco, this time a Corrective Action Order<sup>10</sup>, in which it noted “While the Failure is not in a high consequence area (HCA), the area is considered a “could affect” area with regard to the Drinking Water Unusually Sensitive Areas (USAs) criteria. Continued operation of the pipeline poses potential risks to municipal drinking water intakes along the pipeline route...The Permian Express II line runs 279.5 total miles, 93.2 miles of which are in an HCA.”<sup>11</sup>

Sunoco failed to confirm the PEX II accident was underway *for eleven days* after the Sunoco Control Center noted initial indications of a problem. The release was initially reported by Sunoco as 33,600 gallons of hazardous liquids (crude oil); this figure was subsequently revised by an order of magnitude to more than 361,000 gallons. (Just as in the Morgantown accident, the fact that Sunoco failed to detect the accident was occurring means that its reported quantity of hazardous liquids released is suspect).

The Corrective Action Order drily noted that PHMSA had previously “identified issues regarding the welding of the pipe, and there is an open NOPV, issued by the Southwest Region, related to this construction project (CPF No. 4-2016-5011). While a visual examination of the pipe has not been completed, the initial observation appears to show the leak site is in the vicinity of a girth weld.” *Ibid.*

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<sup>10</sup> “A [PHMSA] Corrective Action Order finds that a pipeline facility is or would be hazardous to life, property, or the environment, and specifies corrective measures that must be taken.” See [www.phmsa.dot.gov/sites/phmsa.dot.gov/files/docs/regulatory-compliance/pipeline/enforcement/69421/section-3-selection-administrative-enforcement-actions-april-27-2018.pdf](http://www.phmsa.dot.gov/sites/phmsa.dot.gov/files/docs/regulatory-compliance/pipeline/enforcement/69421/section-3-selection-administrative-enforcement-actions-april-27-2018.pdf) at 6.

<sup>11</sup> See [https://primis-stage.phmsa.dot.gov/comm/reports/enforce/documents/420165030H/420165030H\\_Corrective%20Action%20Order\\_09142016\\_text.pdf](https://primis-stage.phmsa.dot.gov/comm/reports/enforce/documents/420165030H/420165030H_Corrective%20Action%20Order_09142016_text.pdf)

*Fourth Example: Fine for Failure to Test Pipeline Coatings properly*

Sunoco failed to follow its own procedures for testing pipeline coatings applied in the field. An inspection in 2016 by PHMSA found that Sunoco was failing to use the proper voltages when testing field-applied pipeline coatings for voids. The procedures in Sunoco's own maintenance manuals were not being followed, resulting in insufficient voltages being used to check for voids. Sunoco did not contest the charges and was fined \$25,900.

[https://primis.phmsa.dot.gov/Comm/reports/enforce/documents/120175016/120175016\\_Final%20Order\\_09152017.pdf](https://primis.phmsa.dot.gov/Comm/reports/enforce/documents/120175016/120175016_Final%20Order_09152017.pdf)

The pipeline involved was the 12-inch Point Breeze-Montello line—the same pipeline that has been pressed into service as the workaround pipeline to transport hazardous, highly volatile “natural gas liquids” around sections of ME2 that Sunoco has found itself unable to complete.

*Fifth Example: Failure to Report a Serious Accident Involving Hazardous Liquids Release, Ignition, and Injuries*

On August 12, 2016, Sunoco experienced a serious accident at its terminal facility in Nederland, TX. “The accident involved a release of crude oil, ignition of the crude oil, and seven injuries, four of which required in-patient hospitalization.”<sup>12</sup> PHMSA on April 6, 2017, issued Sunoco a Notice of Probable Violation and Proposed Compliance Order which alleged that Sunoco violated 49 CFR § 195.50 Reporting accidents; § 195.52 Immediate notice of certain accidents; and § 195.54 Accident reports. Sunoco did not respond to PHMSA's docket of this matter, and on June 15, 2018, PHMSA issued to ETP on behalf of Sunoco a Final Order which noted “Sunoco is a subsidiary of Energy Transfer Partners, LP... The [accident] investigation

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<sup>12</sup> See

[https://primis.phmsa.dot.gov/Comm/Reports/enforce/documents/420175011/420175011\\_NOPV%20PCO\\_04062017\\_text.pdf](https://primis.phmsa.dot.gov/Comm/Reports/enforce/documents/420175011/420175011_NOPV%20PCO_04062017_text.pdf)

revealed that Sunoco and its contractors were performing pipeline modifications at the [Nederland] Terminal, when a release and ignition of crude oil occurred and seven people were injured...As a result of the investigation, the Director, Southwest Region, OPS (Director), issued to Respondent [Sunoco], by letter dated April 6, 2017, a Notice of Probable Violation and Proposed Compliance Order (Notice).” The Final Order goes on to make Findings of Violation, and that “In its Response, Sunoco did not contest the allegations in the Notice that it violated 49 C.F.R. Part 195...”<sup>13</sup>

*Sixth Example: 2014 PHMSA Proposed Safety Order*

Following only one of numerous ETP accidents, PHMSA in 2014 issued a notice of Proposed Safety Order relative to ETP’s Panhandle Eastern Pipe Line Company. PHMSA wrote that “PHMSA and/or State Pipeline Safety partners have repeatedly addressed concerns with ETP/PEPL on various pipelines within the ETP/PEPL pipeline system associated with corrosion, coupling failures, inadequate procedures, and controls. To remedy these issues, PHMSA has engaged in a number of inspections and has even issued Corrective Action Orders to ETP/PEPL. However, significant improvements associated with corrosion, coupling failures, inadequate procedures, and controls have not occurred.”

[https://primis.phmsa.dot.gov/Comm/reports/enforce/documents/320141008S/320141008S\\_Notic e%20of%20Proposed%20Safety%20Order\\_12242014.pdf](https://primis.phmsa.dot.gov/Comm/reports/enforce/documents/320141008S/320141008S_Notic e%20of%20Proposed%20Safety%20Order_12242014.pdf)

PHMSA went on to cite seventeen separate violations, some of which were repeated from earlier federal enforcement actions issued to ETP/PEPL. Six of the violations involved corrosion. (Copy of violation list attached hereto as Ex. “D.”).

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<sup>13</sup> See

[https://primis.phmsa.dot.gov/Comm/Reports/enforce/documents/420175011/420175011\\_Final%20Order\\_06152018\\_text.pdf](https://primis.phmsa.dot.gov/Comm/Reports/enforce/documents/420175011/420175011_Final%20Order_06152018_text.pdf)

*Seventh Example: Installation of Damaged Pipe*

Sunoco was caught in the act of installing damaged pipe by a PHMSA inspector during the week of March 27-31, 2017. This incident involved Mariner East 2 construction near Hopedale, in eastern Ohio. PHMSA served a Notice of Probable Violation and Proposed Compliance Order on Sunoco on January 11, 2018.

[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). The NOPV stated “During the inspection, the PHMSA inspector observed pipe being installed in a trench near the Markwest Hopedale Cryogenic Plant off Jewett Hopedale Road near Hopedale, Ohio. Upon inspecting the pipe that was strung out, the PHMSA inspector observed numerous coating scrapes on at least 5 segments of pipe. Several segments of pipe had severe coating damage, and at least one joint of pipe had a gouge that extended into the wall of the pipe. Markings on the pipe identified the segments as having been subjected to field bending.” Sunoco provided PHMSA a report by the Sunoco field inspector, who had somewhat remarkably noted no defects in field bent pipe.

*Eighth Example: Repeated Violations of DEP Permits*

In January 2018, the DEP provided Sunoco a long list of Sunoco violations of DEP permits and state law. In taking enforcement action against Sunoco, DEP wrote that “Sunoco’s unlawful conduct ...demonstrates a lack of ability or intention on the part of Sunoco to comply....Suspension of the permits...is necessary to correct the egregious and willful violations described herein.” January 3, 2018 Administrative Order at page 16, available at <http://files.dep.state.pa.us/ProgramIntegration/PA%20Pipeline%20Portal/MarinerEastII/OrderSuspendingConstructionActivities010318.pdf>.



*Ninth Example: Undisclosed Changes in Operating Pressures*

When “2100 psi” started showing up in some of Sunoco’s planning documents for Mariner East, a Sunoco spokesperson claimed that ME2X was always intended to operate at 2100 psi. <https://stateimpact.npr.org/pennsylvania/2019/03/21/sunoco-mariner-east-pipeline-safety/>

Design documents signed by engineer and Project Manager Matt Gordon, however, clearly show that 1480 psi, a much lower pressure, was originally planned.

- gas release volumes from the equipment.
11. Propane physical properties:
- |   |  |
|---|--|
| Density at pipe pressure ( $\rho_{pipe}$ ):         | 33.74 pounds per cubic feet (lb/ft <sup>3</sup> ) at 40°F and 1,480 psig |
| Density at atmospheric conditions ( $\rho_{atm}$ ): | 0.12 pounds per standard cubic feet (lb/scf) at 60°F and 1 atm           |
| Density at Booster Pump Inlet ( $\rho_{BPi}$ ):     | 0.12 lb/ft <sup>3</sup> at 60°F at 1 atm                                 |
| Density at Booster Pump Outlet ( $\rho_{BPO}$ ):    | 0.00   |
- Source
- a. The density of propane at atmospheric conditions taken from the National Institute of Standards and Technology website of isothermal properties for propane.  
<http://webbook.nist.gov/cgi-bin/chemistry/propane>
- b. The higher heating value (HHV) of Butane based on 40 CFR Part 98 Subpart C, Table C-1;
12. There are no hazardous air pollutants in butane, propane, or ethane.
13. Flare designed capacity ( $C_{flar}$ ) 10 MMBtu/hr

<b>1.4 Certification of Truth, Accuracy and Completeness</b>	
Note: This certification must be signed by a responsible official. Applications without a signed certification will be returned as incomplete.	
I certify under penalty of law that, based on information and belief formed after reasonable inquiry, the statements and information contained in this application are true, accurate, and complete.	
(Signed) _____	Date: <u>2/27/2016</u>
Name (Typed): <u>Matt Gordon</u>	Title: <u>Project Manager</u>

Similarly, the seals used in Dragonpipe pumping stations are designed for a maximum pressure of 1480 psi. Here is an example of the specifications from the seal manufacturer, provided as part of a Sunoco submission:



**Thomas Schullik**  
 District Manager  
**OEM & Project Sales**  
 Seals and Support Systems

August 30, 2018

Mr. Troy Maxwell  
 Best PumpWorks  
 8885 Mineral Rd.  
 Houston, TX 77061

SUBJECT: Sunoco Mission Plant Project  
 Estimated Seal Performance Data.

Below are answers to a series of questions posed to Flowserve's Seal Engineering Team. Answers are based on the customer conditions of service at time of quoting.

- Best PumpWorks (B) - PMW Model - 42" x 12H Size - 6000 rpm - Running at 1000-1500 RPS
- Light Hydrocarbon - Seal Model of Choice and Proposal is 1000-1500
- Specific Gravity of 0.26 @ 52 - Viscosity of 0.1 cP
- Maximum Pressure - 500 PSIG. Design - 1480 PSIG. (Maximum) Operating Pressure of 400 PSIA
- Seals Designed for Max Potential Back Pressure of 1480 PSIG
- Seal Model - LHTA 05L

Moreover, the two risk assessments done at the behest of pipeline opponents were based upon the 1480 psig figure. The reason is that Sunoco has always represented to the public and to regulators that that was the pressure.

Thus, Sunoco made up the story that 2100 psi had always been planned.

*Tenth Example: Misleading Statements about Safety Record*

After a 2018 Sunoco/ETP pipeline explosion in western Pennsylvania, a Sunoco spokesperson told the Pittsburgh Post-Gazette said she couldn't recall a single similar incident involving Energy Transfer.

<https://www.post-gazette.com/local/west/2018/09/10/gas-explosion-in-center-township-Beaver-County/stories/201809100067> In fact, the very same spokesperson spoke with the San Antonio Business Journal after a similar explosion in 2015. At that time she stated that one of the company's 42-inch pipelines ruptured creating a massive fire.

<https://www.bizjournals.com/sanantonio/blog/eagle-ford-shale-insight/2015/06/pipeline-explosion-in-cuero-has-residents-rattled.html>

*Eleventh Example: Untrue Statement About Use of Methane for Power Generation*

In 2017 a Sunoco spokesperson claimed that Sunoco was providing *ethane* to power the Fairview Energy Center, a gas-powered generation facility currently under construction. If true, it would suggest that some of the fracked liquids were not being sent overseas and, in turn, support Sunoco's contention that the Mariner pipelines were intrastate in nature (a matter in dispute at the time). The ethane claim has since been repeated in other contexts. In fact, the Fairview Energy Center is not yet in operation and, according to its website, it will run on *methane* (which the Mariner system does not transport), and not on ethane.

<http://www.cpv.com/our-projects/cpv-fairview/about/>

In light of the foregoing examples, I&E's assertion that the sixth factor, compliance history, militates in Sunoco's favor is utter nonsense.

(4) The Seventh Factor

The seventh factor also militates in favor of a stronger settlement than that proposed by the parties. The seventh factor is "[w]hether the regulated entity cooperated with the Commission's investigation. Facts establishing bad faith, active concealment of violations, or attempts to interfere with Commission investigations may result in a higher penalty." 52 Pa. Code § 69.1201(c)(7).

The settlement, by Sunoco's own analysis, was achieved in bad faith. Sunoco writes on page 11 of SPLP's Statement: "...SPLP has agreed to take steps above and beyond statutory and regulatory requirements that SPLP believes *the Commission could not unilaterally order SPLP to undertake involuntarily if this Complaint had been fully litigated.*" (Emphasis added). But

Sunoco elsewhere has claimed that settlements which achieve results that could not be reached through adjudication of a lawsuit are by definition pursued and made in bad faith.

In the appeal of Mariner-related environmental permits docketed as No. 2017-009-L before the Pennsylvania Environmental Hearing Board, Sunoco sought attorneys' fees and costs from the appellants on the grounds that the appeal was purportedly pursued in bad faith.

There, Sunoco justified its outrageous inclusion of these confidential settlement materials by stating that Sunoco "is using these settlement communications to demonstrate Appellants' *bad faith and abuse of process* by continuing to pursue their appeal to seek relief that Appellants did not seek and *could not obtain in the appeal.*" Sunoco Memorandum, November 28, 2018, at 1 – 2) (emphasis added).

Sunoco goes on to refer to the settlement approach in that case, which resulted in relief that could not have been granted through a hearing in front of the Environmental Hearing Board, as an "**ulterior purpose**" and "**improper goal**, from the outset of the appeal." *Id.* at 7.

Since the proposed settlement is based on what Sunoco describes in its own words as "bad faith," an "abuse of process," an "ulterior purpose," and an "improper goal," a "higher penalty" is required under the seventh factor than what the proposed settlement offers.

This example further supports Intervenors' contention that any proposed settlement or resolution of this proceeding needs to be focused on actions that are not left in Sunoco's hands. The instant proposed settlement is largely based on trust in Sunoco's actions. That trust is unwarranted, and so the proposed settlement is not in the public interest.

**V. Issues that *Flynn* Intervenors would raise if the Proposed Settlement were rejected.**

A. Relationship of I&E Case to the *Flynn* Complaint Proceedings

The Second Amended Formal Complaint (“the *Flynn* Complaint”) alleges that Complainants and their immediate families are persons in Chester and Delaware Counties who have been and will be adversely affected by Sunoco’s Mariner East project.

As noted in the June 6, 2019 Procedural Order in the *Flynn* case, the *Flynn* Complaint raises six central issues, among which are (1) the safety and integrity of ME1, ME2, ME2X, and the 12-inch workarround pipeline, and (5) SPLP’s integrity management protocols. (June 6, 2019 Procedural Order at 4). These issues also are at the heart of the Complaint filed in the instant I&E proceedings (“the I&E Complaint”).

After reviewing the I&E Complaint, *Flynn* Complainants sought leave to file a Second Amended Formal Complaint that would use I&E’s analysis of Sunoco’s defective safety and integrity practices but limit its claims to Chester and Delaware Counties. (*Flynn* Complaint at ¶¶ 70-93).

In her June 6, 2018 Reconsideration Order, however, the ALJ ruled that Petitioners’ adoption of the I&E claims would not be allowed even though they were limited to Chester and Delaware Counties, because the *Flynn* Complainants do not have standing to assert a statewide claim and it would be unfair to require Sunoco to have to defend against the same claims in two separate proceedings. (Reconsideration Order at 6)

In her discovery rulings of the same date, the ALJ also ruled that Sunoco should not have to answer the *Flynn* Complainants’ Interrogatories Nos. 14-103 and 197-205, some (but not all of which) stemmed from the allegations in the I&E Complaint in this proceeding.

The Order of June 15, 2019 in this case, however, has granted intervenor status to the seven *Flynn* Complainants. The Order further delineates the scope of permissible intervention.

All of the practices challenged by I&E in its Complaint against Sunoco are challenged by *Flynn* Complainants in their Complaint, quite apart from the specific averments relating to the Morgantown accident which were stricken by the ALJ.

Count IV of the *Flynn* Complaint, *e.g.*, goes into great detail setting out how Sunoco's integrity management program has failed and is causing danger to the public. Paragraphs 137-144 allege Sunoco's violation of state and federal regulations that require Sunoco to protect the public from danger and reduce hazards from its equipment and facilities.

The *Flynn* Complaint also cites 49 CFR § 195.452(b) of the PHMSA regulations, enforceable by the Commission, which require a pipeline operator to take measures to prevent and mitigate the consequences of a pipeline failure that could affect a high consequence area, including:

conducting a risk analysis of the pipeline segment to identify additional actions to enhance public safety or environmental protection. Such actions may include, but are not limited to, implementing damage prevention best practices, better monitoring of cathodic protection where corrosion is a concern, establishing shorter inspection intervals, installing EFRDs on the pipeline segment, modifying the systems that monitor pressure and detect leaks, providing additional training to personnel on response

procedures, conducting drills with local emergency responders and adopting other management controls.  
49 C.F.R. § 195.452(i).

Under this regulation, after completing a baseline integrity assessment, an operator must continue to assess the pipeline at specified intervals and periodically evaluate the integrity of each pipeline segment that could affect a high consequence area. 49 CFR § 195.452(j).

The *Flynn* Complaint asserts that Sunoco has failed and continues to fail (a) to use every reasonable effort to properly protect the public from danger and take reasonable care to reduce the hazards to which employees, customers and others may be subjected by reason of its equipment and facilities; (b) to develop a written integrity management program that addresses the risks on each segment of pipeline, and which includes a baseline assessment plan (49 CFR § 195.452(c)); and (c) to take measures to prevent and mitigate the consequences of a pipeline failure that could affect a high consequence area, such as the area where all Complainants reside.

The *Flynn* Complaint goes on to aver that ME1 as well as the 12-inch segment of the workaround pipeline must be evaluated more closely, but Complainants do not believe that Sunoco can be entrusted with the responsibility to evaluate its own pipelines. Only an independent contractor can possibly be trusted to conduct a remaining life study of these 1930s-era pipelines.

*Flynn* Complainants allege that this integrity management obligation applies just as much to Chester and Delaware Counties as it does to Morgantown and everywhere else in the Commonwealth. It is an obligation that may be enforced by *Flynn* Complainants in their own PUC proceeding independently of I&E's enforcement proceeding in the Morgantown accident.

*Flynn* Intervenors believe and aver that that the allegations set forth in the I&E Complaint are accurate with respect to Morgantown and apply equally to Chester and Delaware Counties.

Indeed, in her June 15, 2019 Order in this case, the ALJ wrote, "I am not persuaded to find that an individual must sustain personal injury or property damage or be a resident of the town where the incident occurred prompting the investigation, Morgantown, Berks County, in order to have an immediate, direct and substantial interest in this I&E complaint proceeding seeking to improve a pipeline operator's pipeline integrity practices across the Commonwealth." (Order at 13).

In the I&E proceeding, it has been and remains Sunoco's contention that the I&E Complaint incorrectly interprets the company's regulatory obligations and seeks to hold the company to a higher standard than legally required.

In fact, the ALJ has suggested in the June 15, 2019 Order that *because* Sunoco is proposing to do more than it is legally required to do, including a remaining life study and corrective action, hearings will not be scheduled *at this time*. (Order at 14, Italics added)).

While the Joint Petition dwells on the remaining life study, the actual I&E Complaint also seeks other relief: (a) revision of Sunoco's corrosion control practices; (b) development of procedures to determine adequacy of cathodic protection; (c) implementation of new and revised cathodic protections; and (d) such other remedy as the Commission may deem appropriate.

With respect to integrity management, the *Flynn* Complaint seeks appointment of an independent contractor paid for by Sunoco to do a remaining life study and the granting of other appropriate relief. The Complaint in Count IV also suggests that there must be a baseline assessment of the 8-inch and 12-inch pipelines, development of a proper integrity management program, and actions under 49 C.F.R. § 195.452(i) including "a risk analysis of the pipeline segment to identify additional actions to enhance public safety or environmental protection. Such actions may include, but are not limited to, implementing damage prevention best practices, better monitoring of cathodic protection where corrosion is a concern, establishing shorter inspection intervals, installing EFRDs on the pipeline segment, modifying the systems that monitor pressure and detect leaks, providing additional training to personnel on response procedures, conducting drills with local emergency responders and adopting other management controls."



b. Issues that Intervenors Would Raise if the Settlement were Rejected

The pleadings apparently have closed. If the proposed settlement is rejected, either the I&E case moves forward or it does not. Should I&E withdraw the proceeding, intervenors would have no right to move ahead in this enforcement proceeding.

In the event I&E elects to move ahead, the ALJ already has ruled that the record has been closed. Without the ability to seek evidence and introduce evidence, *Flynn* Intervenors can send up flares and warning signals but their role as intervenors would not be much more than symbolic. Even if they are permitted to present “comment,” comment holds no evidentiary value and on appeal it means nothing.

The deficiencies in the proposed settlement have been laid out above. If the settlement is rejected, the first thing to address would be the parties’ Orwellian use of the term “independent” in conjunction with the selection of an expert and the necessary remedial actions.

Dr. Zee already has written a preliminary report outlining what needs to be done. (Copy attached hereto as Ex. “A.”) The preliminary report lays out clearly what issues need to be addressed. Dr. Zee, for example, lists twelve additional factors that an independent expert would have to address.

The statement also goes into great detail as to the proper scope of a pipeline investigation. Pages 12-15 describe necessary on-site, non-destructive testing. Pages 15-20 describe a protocol for destructive laboratory testing.

The I&E Complaint states plainly that its findings in Morgantown have implications for the entire 8-inch ME1 pipeline. The equally ancient 12-inch line runs in the same right-of-way. Why is I&E seeking relief only with respect to the 8-inch pipeline?

A baseline assessment for both 8-inch and 12-inch pipelines is critical. Without that baseline, there can be no meaningful determination of what remains to be done with the ancient pipelines. The notion of “going forward” noted in the Joint Petition is meaningless without such a determination.

I&E asserts that Sunoco has revised its questionable procedures. The portion of the 8-inch line on which Sunoco has supposedly altered its practices, however, is not actually identified clearly. Running a “smart pig” in one segment is not the same as modifying all of the questionable practices.

The remaining life study is only one of several pieces of relief requested in the I&E Complaint. The Complaint seeks an Order directing Sunoco to:

- (a) If not already completed, revise SPLP's corrosion control procedures to include separate provisions for determining the adequacy of coated steel pipelines and bare steel pipelines. The revised procedures should be consistent with NACE SP0169-2007;
- (b) If not already performed, develop procedures to determine the adequacy of cathodic protection through testing and performance methods. The new procedures should include establishing a baseline of IR free potentials using CIPS. The new procedures should also include the operation and maintenance of rectifiers and rectifier ground beds; and
- (c) Implement the new and revised cathodic protection procedures and perform all cathodic protection measurements within one (1) year. If the results of the cathodic protection measurements indicate low IR free potentials or inadequate depolarization, then SPLP shall replace the impacted sections of bare or inadequately coated steel pipe on ME1.

*Flynn* Intervenors believe that these issues are important for the ALJ to consider. Of course, I&E also is seeking such other remedy as the Commission may deem to be appropriate.

Because Dr. Zee's report was limited to an analysis of the proposed settlement of the Morgantown accident, it did not provide any details for evaluating the remaining portions of the

8-inch ME1 or the 12-inch workaround pipeline. An independent expert would be needed to do that and at a minimum inform the Commission what the baseline actually is.

In the event the Commission concludes the 8-inch ME1 and 12-inch workaround pipelines are no longer fit for service, the pipelines would have to be ordered shut down. In the event the pipelines can be repaired, the expert's recommendations for inspection, repair and subsequent maintenance would have to be implemented.

#### **VII. How Intervenors would be affected if the Proposed Settlement were accepted.**

The proposed settlement does not purport to develop a baseline assessment of the 8-inch ME1 or the 12-inch workaround pipeline in Chester or Delaware Counties. The proposed settlement leaves out significant metrics that Dr. Zee states are critical to a proper pipeline evaluation.

The proposed settlement leaves open the very real possibility that corroded pipelines will leak or rupture in Chester and Delaware Counties with disastrous consequences. Such consequences have occurred on other corroded Energy Transfer pipelines many times in the past, as shown above in Section IV.

*Flynn* Intervenors lie in the path of a Mariner East pipeline disaster. Some of them live only feet from the Mariner East right-of-way. Gerald McMullen, Michael Walsh, and Rosemary Fuller all reside within a few hundred feet of ME1 and the workaround pipeline that Sunoco is already using to transport HVLs. Meghan Flynn and Caroline Hughes have children who attend schools that are within a few hundred feet of ME1, the workaround pipeline, or both. Caroline Hughes has a place of work that is within a few hundred feet of ME1, the workaround pipeline, or both.

Intervenors' expert Jeffrey Marx of Quest Consultants testified on short notice in the preliminary injunction hearing that was held in November, 2018. Prior to that hearing he prepared a risk assessment that modeled, *inter alia*, the outcomes in a range of scenarios. The results of that model ranged from a 120-foot cloud of flammable gas vapor from a quarter-inch hole in the pipeline; to a two-inch leak with a 1090 foot cloud; to a 2,130-foot combustible vapor cloud from a complete rupture. Accidental releases of pipeline materials can also result in "jet fires" that can burn as far as 1,000 feet, depending on the size of the rupture.

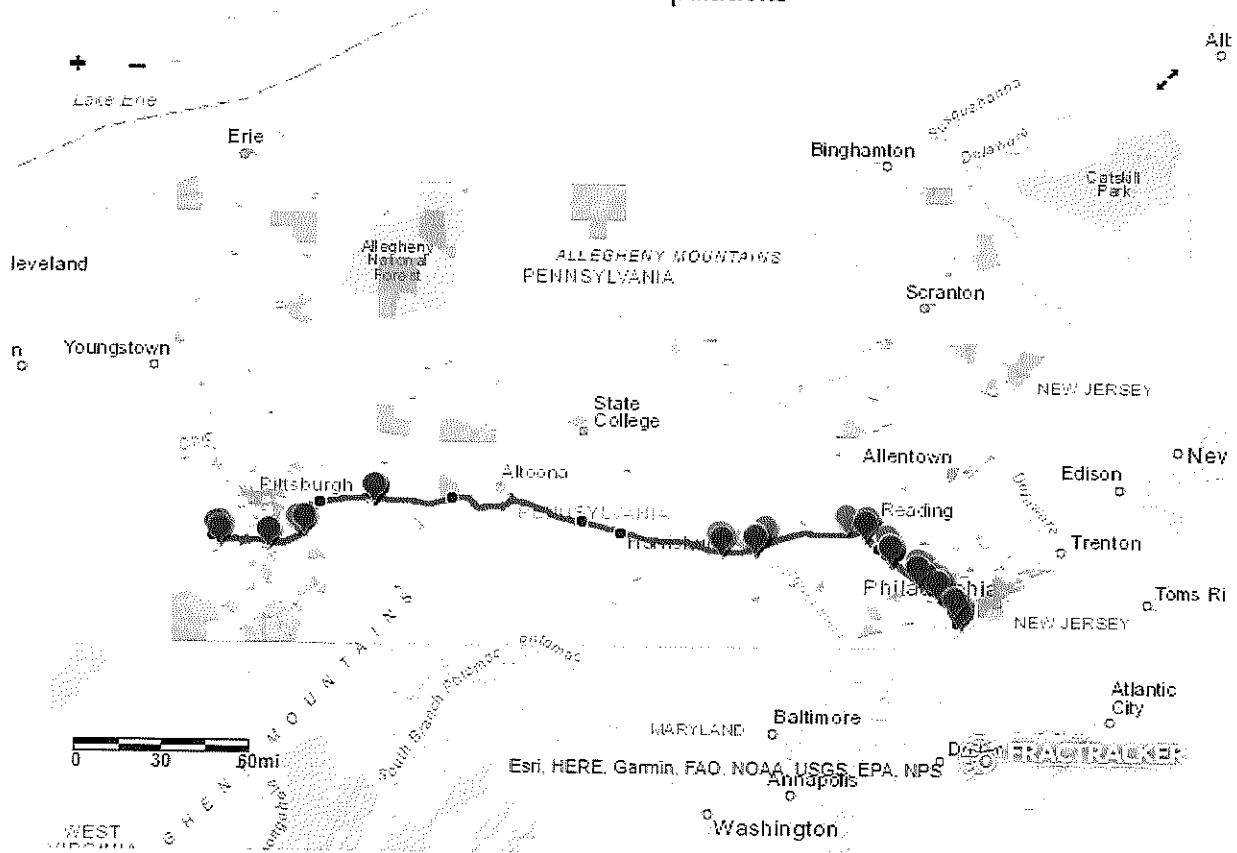
One does not have to rely upon estimates or speculation to understand the impact of HVL explosions. Below is a scene from the 2015 Follansbee, West Virginia liquid ethane pipeline accident, which caused damage in an area that extended 2000 feet from the site of the explosion.



Source: <https://www.fractracker.org/2016/12/me2-schools-populations/>

The organization Fractracker has used a highly-detailed GIS shapefile supplied by the DEP and identified a 0.5 mile radius “buffer” from Mariner East 2’s proposed route. The map shows all public and private schools, environmental justice census tracts, and estimated number of people who live within this buffer zone. It found that 23 public schools and 17 private schools were in the 0.5 mile impact zone. One school was found to be only 7 feet away from the pipeline’s intended path.

**Proposed Mariner East 2 and At-Risk Schools and Populations**

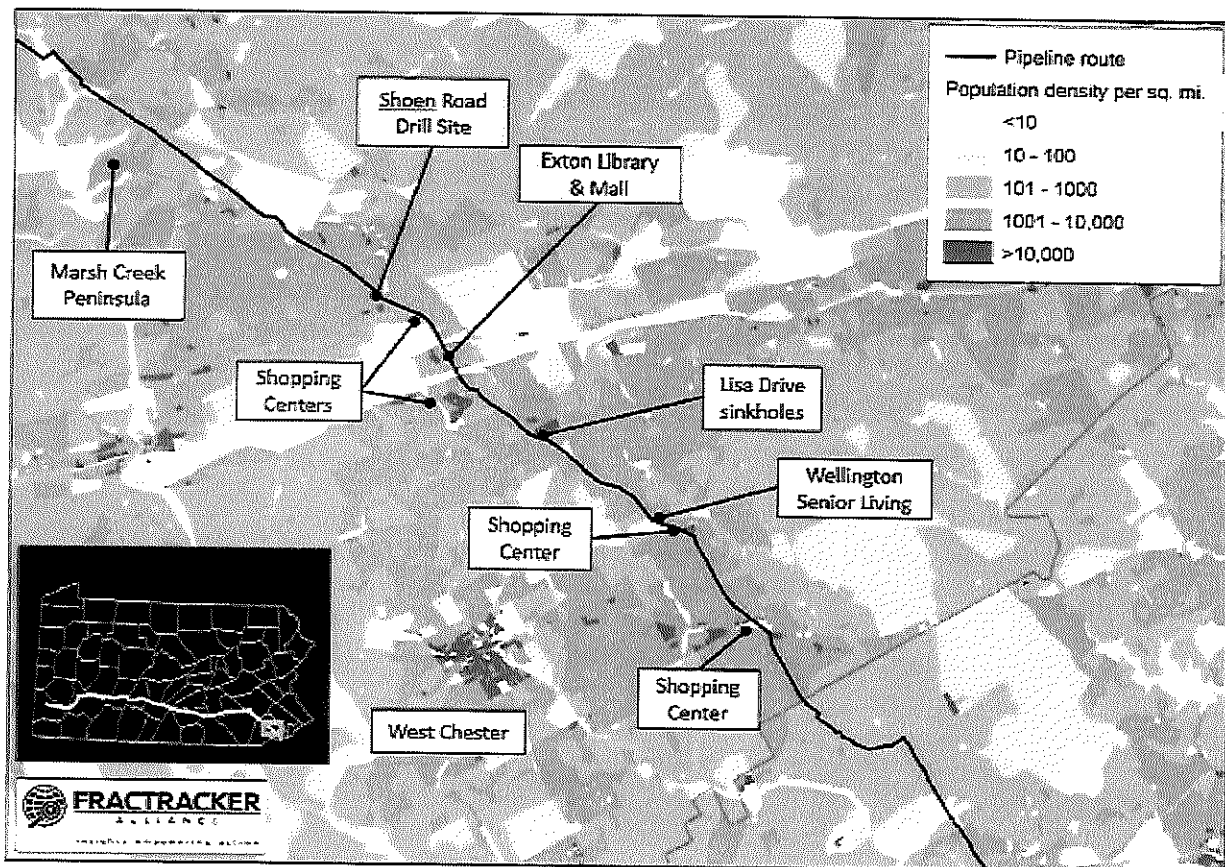


Source: <https://www.fractracker.org/2016/12/me2-schools-populations/>

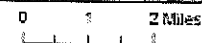
Sunoco’s pipeline expert is John Zurcher. He testified in this proceeding last November and in the *Dinniman* case previously. In *Dinniman* he was asked about the ability of everyone to evacuate a leak site by foot. He conceded that “kids in a day care center or kids in high school or people in prison . . . may not be able to move away . . .” (Emerg. Relief Hearing, Tr. 579-80).

Using the Quest model, a two-inch leak could cause a cloud of flammable HVL vapor engulfing the properties or school or work facilities of Fuller, Walsh, Hughes, Flynn and McMullen. A full blown rupture could kill all of the Intervenors and their families, as shown in composite maps of the population density of Chester and Delaware Counties.

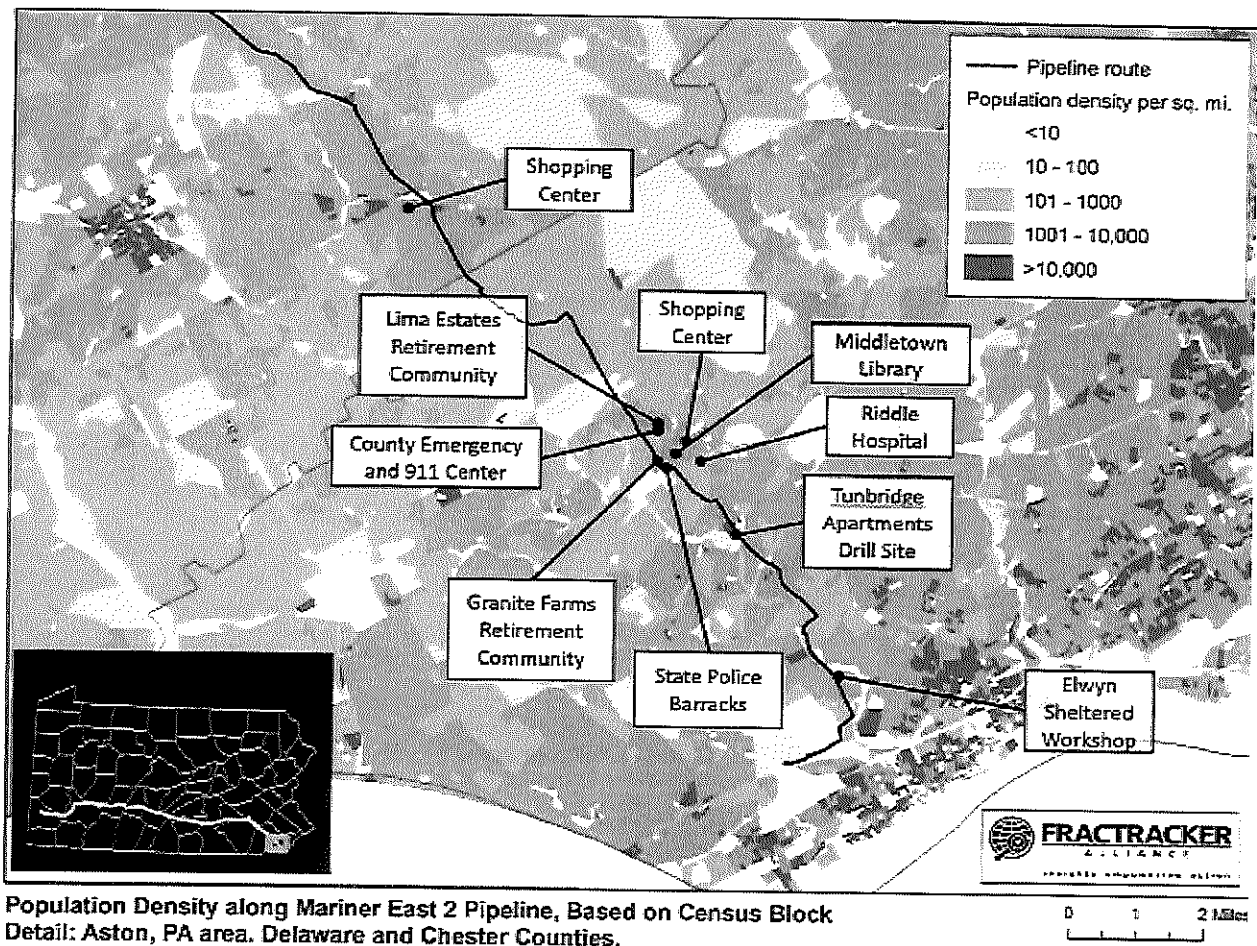
### Chester County



Population Density along Mariner East 2 Pipeline, Based on Census Block  
 Detail: Exton, PA area. Chester and Delaware Counties.



## Delaware County



### VIII. Effect of I&E Decision on the Flynn Case

The parties in the instant proceeding are seeking appointment of a pipeline expert and other relief. In the *Flynn* case, the Complainants seek approval of a pipeline expert and other relief, such as, *inter alia*, the provision of a plausible “public awareness program.” 49 CFR § 195.440.

The relief granted in the *Flynn* case will of course depend on the evidence presented during the course of hearings held in October 2019 and July 2020. The relief provided in the

instant proceeding, however, may be based solely upon (a) the parties' pleadings; (b) the parties' joint petition; and (c) non-evidentiary public comment.

In the event the Commission in this case enters an order approving the proposed settlement, the obvious question arises as to what effect that would have on the *Flynn* case. Would it operate to preclude *Flynn* Complainants from obtaining and presenting evidence in their case relating to the condition of ME1 and the 12-inch workaround pipelines? Would the approval order in this case be deemed to dispose of the relief requested in the *Flynn* case?

*Flynn* Intervenors respectfully submit that the principles of *collateral estoppel* and *res judicata* would not apply because both doctrines are entirely dependent on the existence of an evidentiary record. *See, e.g., Shaffer v. Smith*, 543 Pa. 526, 673 A.2d 872, 874 (1996), in which our Supreme Court observed that one of the four elements of the *collateral estoppel* doctrine is proof that "the party against whom it is asserted has had a full and fair opportunity to litigate the issue in question in a prior action."

Likewise, regarding *res judicata*, application of the doctrine "requires the concurrence of four elements. They are: (1) identity of the thing sued for; (2) identity of the cause of action; (3) identity of persons and parties to the action; (4) identity of the quality in the persons for or against whom the claim is made. *Schubach v. Silver*, 461 Pa. 366, 336 A.2d 328 (1975). *Res judicata*, however, "subsumes the more modern doctrine of issue preclusion which forecloses re-litigation in a later action, of an issue of fact or law which was actually litigated and which was necessary to the original judgment." *Clark v. Troutman*, 509 Pa. 336, 340, 502 A.2d 137, 139 (1985).

Thus, in either case, the party against whom the doctrine is asserted must have had a full and fair opportunity to litigate the issue in question in a prior action. In the instant matter,



Intervenors are not parties and they will not be given the opportunity in either case to obtain and produce evidence in support of their contention that I&E's Morgantown findings have a bearing on the condition of the Mariner pipelines in Chester and Delaware Counties.<sup>14</sup>

This does not mean, however, that in an ordinary case the Commission is required to take evidence. In the ordinary case, the interests of third party intervenors are not an issue. In that case, both sides have agreed on relief and the original complainant is satisfied and the proposed settlement is not obviously adverse to the public interest. In such a case, there would appear to be no reason to develop an evidentiary record.

In the present case, *Flynn* Intervenors allege that the 52 Pa. Code § 69.1201 standards have not been met. That means there are material factual disputes that the Commission must resolve by taking evidence. Not to do so would blatantly offend due process. Moreover, if, under the circumstances of this case, evidence is not taken, no one could reasonably conclude that the approval of the settlement would be any kind of bar in the *Flynn* proceedings.

Intervenors suggest a further concern: the relationship between the ALJ's discovery rulings in both cases related to the I&E Complaint's allegations. The Order of July 15, 2019 at page 17 states "**Intervenors will be precluded from introducing evidence into the record.**" (Emphasis in original). Intervenors assume that, as a corollary, they will not be permitted to obtain discovery either. In the *Flynn* case, the ALJ also has ruled that *Flynn* Complainants may not obtain any discovery stemming from the I&E Complaint's allegations.

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<sup>14</sup> 52 Pa. Code § 5.321 provides in pertinent part that, "[s]ubject to this subchapter, a party may obtain discovery regarding any matter, not privileged, which is relevant to the subject matter involved in the pending action..." It is indisputable that the condition of the pipeline involved in the Morgantown accident is relevant to claims regarding the rest of the pipeline. That being the case, information concerning the Morgantown accident is discoverable.

Not being able to obtain discovery related to the I&E allegations in either case is problematic and furnishes an additional reason to reject the settlement. ¶ 39 of the I&E

Complaint states:

While the data reviewed was largely specific to the site of the leak, SPLP's procedures and overall application of corrosion control and cathodic protection practices are relevant to all of ME1 and, thus, I&E alleges that there is a statewide concern with SPLP's corrosion control program and the soundness of SPLP's engineering practices with respect to cathodic protection.

"Statewide concern" most certainly encompasses Chester and Delaware Counties. The ALJ recognized as much in her July 15, 2019 Order, where she ruled at page 13 that, "[t]he Complaint and subsequent Settlement address issues beyond just that section of the pipe removed in Berks County."

I&E asserts that what it learned through discovery in this case causes it to believe that Sunoco's corrosion control and cathodic protection practices throughout the state may be questionable. I&E says that the information it obtained through investigation is relevant. Thus, the ALJ's discovery rulings have the effect of preventing any discovery of this very relevant evidence.

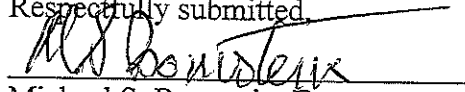
It also must be pointed out that in the *Flynn* case Sunoco objected to having to respond to the I&E allegations and to I&E-related discovery requests on the ground that "it would be unfair to require Sunoco to defend itself against the same claims in two concurrent proceedings." (July 15, 2019 Order at 13). While that argument works in the *Flynn* case, it nonetheless presupposes that there will be discovery in the I&E case.

If the proposed settlement is approved, Sunoco will effectively have foreclosed discovery of important evidence relevant to the condition of Mariner East pipelines in Chester and Delaware Counties. For this additional reason, the proposed settlement must be denied.

## VIII. CONCLUSION

The Joint Petition seeks approval without modification. For the reasons set forth above, substantial modification would be needed for the proposed settlement to be safe, reasonable, and adequate. The request for approval without modification, therefore, must be denied.

Respectfully submitted,



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Attorney for *Flynn* Intervenors

Dated: August 13, 2019

CERTIFICATE OF SERVICE

I hereby certify that I have this day served a true copy of the foregoing document upon the persons listed below as per the requirements of § 1.54 (relating to service by a party). The document also has been filed electronically on the Commission's electronic filing system.

*See attached service list.*

  
Michael S. Bomstein, Esq.

Dated: August 13, 2019

C-2018-3006534-PENNSYLVANIA PUBLIC UTILITY COMMISSION BUREAU OF INVESTIGATION AND ENFORCEMENT v. SUNOCO PIPELINE, LP a/k/a ENERGY TRANSFER PARTNERS

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## Uploaded File List

File Name	Document Class	Document Type
Flynn Intervenors' Comment.pdf	Communication	Comments
Exhibits to Flynn Intervenors' Comment.pdf	Communication	Comments

For filings exceeding 250 pages, the PUC is requiring that filers submit one paper copy to the Secretary's Bureau within three business days of submitting the electronic filing online. Please mail the paper copy along with copy of this confirmation page to Secretary, Pennsylvania Public

PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission,  
Bureau of Investigation and Enforcement

v.

Sunoco Pipeline, L.P.

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C-2018-3006534

**EXHIBITS TO  
FLYNN INTERVENORS' COMMENT IN  
OPPOSITION TO PROPOSED SETTLEMENT**

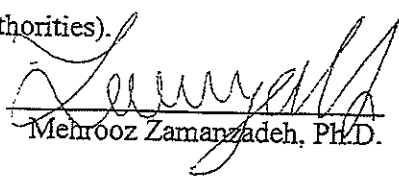
**EX. "A"**



**VERIFIED STATEMENT OF MEHROOZ ZAMANZADEH, PH.D**

I. Mehrooz Zamanzadeh, Ph.D., also known as Dr. Zee, do hereby verify the following:

1. I am a principal in the firm Matergenics LLC.
2. Along with other employees of Matergenics LLC I have prepared and reviewed the attached Preliminary Comments on Proposed BI&E Sunoco Settlement.
3. The facts and opinions set forth therein are true and correct, to the best of my knowledge, information and belief.
4. I understand that statements therein are made subject to the penalties of 18 Pa. C.S. § 4904 (relating to unsworn falsification to authorities).

  
Mehrooz Zamanzadeh, Ph.D.

Dated: June 11, 2019

## MEET TEAM Matergenics

**M. Zamanzadeh, PhD (Dr. Zee)**



Dr. Zee is a NACE Certified Corrosion Specialist with over 28 years of practical experience in corrosion engineering, materials selection/design and cathodic protection/coatings. He has worked in the oil and gas, and electric power and water/waste water utility industries throughout his career and has resolved a wide range of materials and corrosion engineering solutions for these industries. He has been setting up or improving corrosion control assessment program for large energy related companies.

Dr. Zee is one of the foremost leading corrosion engineering experts in North America and beyond. Among his awards for his contributions to materials and corrosion engineering are Fellow Awards from both the American Society for

Materials (ASM) and the National Association of Corrosion Engineers (NACE), a truly rare occurrence. He is also the recipient of the prestigious AUCSC's *Colonel George C. Cox Outstanding Award*, given in recognition of his contributions to underground corrosion engineering.

He has been active in development of standard practices that are geared towards corrosion risk assessment, corrosion mitigation, cathodic protection, stray current, fasteners, coating assessment, and repair of damaged coatings for NACE (National Association of Corrosion engineers) and IEEE (Institute of electrical and electron engineers).

Dr. Zamanzadeh has lectured and taught frequently on materials selection, corrosion, coatings, cathodic protection, failure analysis (fracture mechanics), for universities (university of Pittsburgh, Carnegie Mellon university and Penn State) and technical societies (NACE, AFS, ASM and ASTM). He is NACE instructor for CP1, CP2, CP3, Condition Assessment, Corrosion Basics and Corrosion Control Through Design.

Dr. Zee has 45 patents and authored 55 technical papers. He is certified by the National Association of Corrosion Engineers as a Specialist in the following areas: Corrosion, Coatings, Materials Selection and Design, and Cathodic Protection.

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**PRELIMINARY COMMENTS ON PROPOSED  
BI&E/SUNOCO MORGANTOWN SETTLEMENT**

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To

**Michael Bomstein**  
mbomstein@gmail.com

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**June 10, 2019**

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## INTRODUCTION

Matergenics has been asked by counsel for the Complainants in the PUC case known as *Flynn v. Sunoco*, docketed at C-2018-3006116, to comment preliminarily on the Joint Petition of Sunoco and BI&E for Approval of Settlement (“Joint Petition”) in the case known as *BI&E v. Sunoco*, docketed in the PUC at C-2018-3006534. The terms of the proposed settlement are laid out in Section III of the Joint Petition in §§ 17A-F, pages 5 – 7.

Counsel for Flynn Complainants has asked that we preliminarily review the Joint Petition, including its four appendixes. Those appendixes, marked “A” through “D,” consist of the parties’ statements, the BI&E complaint and Sunoco’s Answer with New Matter.<sup>1</sup>

Flynn Complainants’ main concern is whether or not BI&E and Sunoco (“the Parties”) have presented the Commission with information that would be adequate to make an informed decision approving or disapproving the proposed settlement’s terms and conditions. As explained below, the answer is certainly not.

Section V of the Joint Petition is entitled “Conditions of Settlement.” Paragraph 20 provides that the obligations contained in the agreement may not be changed. Paragraph 26 also requires the Commission, rather than an Administrative Law Judge, decide the matter directly. Whether these conditions are a good idea as a legal matter is not within the scope of this Comment. As an engineering matter, however, the settlement in its present form is seriously deficient.

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<sup>1</sup> While we understand that Flynn Complainants filed a Response in Opposition to the Joint Petition, and we have reviewed that Response, it does not in any respects figure into or form a basis for our preliminary comment. Further, as the Comment is limited to information from the four documents, we do not below discuss other, possible external causes of corrosion, possible internal pipeline changes resulting from reversal of the flow of petroleum liquids, or the effect of other nearby utilities.

## QUALIFICATIONS OF MATERGENICS TO RENDER OPINION

Matergenics is a materials science and engineering firm that provides a variety of services to the oil and gas, electrical power, and other industries. [Matergenics.com](http://Matergenics.com). The company has on previous occasions made presentations to the PUC.

Dr. Mehrooz Zamanzadeh (Dr. Zee) is a principal in Matergenics with BS, MS and Ph.D. degrees in materials science and engineering. He is the holder of 35 patents and author of more than 60 technical publications as well as an approved speaker and instructor for the National Association of Corrosion Engineers ("NACE"). A condensed version of his curriculum vitae is found on the following [matergenics.com](http://matergenics.com).

## OVERVIEW OF PROPOSED SETTLEMENT TERMS AND CONDITIONS

As set out in the Joint Petition, the terms and conditions are found in six sections marked "A" through "F." Section "A" relates to a civil penalty that is of no concern in this Comment.

Section "B" is entitled "Remaining Life Study." The proposal is for Sunoco to identify three experts, one of whom will be selected by BI&E. The evaluation is to be "forward-looking" with a purpose of assessing the longevity of ME1. While a 12-inch pipeline is operating in the same right of way (Complaint, Appendix "C" at ¶ 29), and is likely prone to some of the same vulnerabilities, the proposed settlement makes no provision for an evaluation of that pipeline.

Twelve bulleted points identify what is included in the study. In general, the study is to include evaluation of the pipe's corrosion growth rate, retirement thickness calculations, schedule of proposed remediation or replacement, listing of risks/threats to ME1, explanation of formation of anomalies, dents and ovalities, leak history, history of prior protective measures, and a discussion regarding management integrity. Further, Sunoco would provide an annual report of its efforts to maintain pipeline integrity along with planned actions and summary of prior year's enhancements.

In Section "C" Sunoco agrees to perform certain In-Line Inspections ("ILIs") and after three years hire a consultant to make ILI recommendations, without Sunoco being bound by those recommendations. Also in the same three year period, Sunoco would conduct a Close Interval Survey ("CIS") periodically.

Section "D" refers to certain unspecified procedures that Sunoco has supposedly implemented. BI&E states the revisions meet the relief it requested in its Complaint in ¶¶ 47 (c) and (d).

Section "E" states that the revisions noted in Section "D" have already been implemented.

Section "F" is captioned "Pipe Replacement as It Relates to Corrosion. This section gives Sunoco discretion as to how to address anomalies, low IR free potentials or inadequate depolarization.

### ANALYSIS AND DISCUSSION

Before any settlement can be approved that would prescribe an adequate course of future testing, it is critical to be fully acquainted with the nature of the problem. In the present case, this would require a baseline determination of existing conditions and as complete a review of the pipelines' history as is feasible. The Commission, however, is being asked to approve this deal without any information regarding existing conditions or information as to the pipelines' history having been provided. SPLP and BI&E need to disclose and discuss the data that is already available to provide context and analysis for what is needed going forward.

By way of illustration, Section "D" of the settlement states that "[t]he parties agree that SPLP's May 2018 revisions to procedures Energy Transfer SOP HLD.22 have addressed I&E's requested relief set forth in Paragraphs 47(c) -(d) of the Complaint." Section "E" recites those procedures have already been implemented.

In Sections "D" and "E", the parties have given the Commission exactly no information as to the nature of the problem being addressed or the remedy that has been agreed upon.

The BI&E Complaint was apparently filed more than 20 months after the April 1, 2017 Morgantown incident. The Complaint refers to revisions in procedures but it does not identify what procedures were a problem or how the procedures were revised. The proposed settlement essentially repeats the same point and withdraws the relief requested in two parts of the Complaint.

Without this information, and the more detailed technical information described below, the Commission and the public are left without any basis for determining whether the proposed settlement will ensure the public's safety.

## Specific Information Needed to Assess the Technical Issues

We have noticed that the following important information is missing in the case:

1. Laboratory analysis report of leaked pipe section extracted from the ME1 main pipeline.  
(See, Complaint, ¶¶ 24 – 27)
2. Type of Microbiological Induced Corrosion (MIC) detected during lab analysis i.e., the type of microbes involved in the corrosion process.
3. Cathodic protection (CP) Criteria used for MIC.
4. CP and ILI surveys prior to leaks.
5. Rectifier inspection data i.e., bimonthly inspection data.
6. Annual test station survey data.
7. Other instances on this pipe that resulted in leaks or cracking.
8. Presence of any weld at the leak.
9. If weld is present, the condition of the weld at and around the leak.
10. Type of coating and the condition of the coating at the leaked and non-leaked areas.
11. Coating surveys.
12. Stray current surveys.
13. Soil corrosivity mapping.
14. Chemical analysis of soils at leaked areas and other direct assessed areas.
15. Soil resistivity measurements at leaked areas and other direct assessed areas.

In Appendix A, page 2 it was stated that “SPLP voluntarily excavated, exposed and cleaned the affected area of the pipe after which inspectors in the I&E Safety Division observed localized corrosion at the bottom of the pipe in the six (6) o’clock position. SPLP sent an eight (8) foot section of this portion of ME1 to an independent laboratory for testing. Laboratory analysis of this section of the pipeline attributed the failure to corrosion”.

The excavation should have been done in the presence of an independent NACE coating, corrosion and cathodic protection specialist. The evidences of coating disbondment might have been lost. If the condition of the coating and the indications of coating disbondment is not recorded by SPLP prior to cleaning the pipe surface, it shows lack of knowledge on the influence of disbonded coating on pipeline corrosion or it could be deliberate attempt to clear the evidences.

We understand from the Joint Petition that, from the lab analysis of the cut pipe section from the leaked ME1 pipeline, MIC was reported as the cause for the leak. MIC is the primary cause of ME1 Pipeline leak but not the root cause. The root cause of the failure could be most



likely coating disbondment at the leaked area. With the available information, we presume that the sequence of Sunoco pipeline leakage is as follows: coating disbondment at the leak area, permeation of water under the disbonded coating, shielding of CP current at the disbonded coating, environments favorable to bacterial growth at the disbonded area and finally perforation.

In the Joint Petition and appendices, no information was provided on the condition of the remaining ME1 pipeline. This is concerning for a number of reasons.

The Complaint in ¶ 26 stated that an eight foot section of the pipe was sent to a laboratory for analysis. The lab found corrosion. The Complaint does not state how much corrosion was found. Was it a two-square-inch piece or did it permeate the entire circumference of the pipe along the entire eight-foot length?

The Complaint in ¶ 27 makes this concern even more worrisome: Sunoco replaced the eight foot segment with eighty-three feet of new pipe. How does an eighty-three foot pipe segment fit in the eight foot gap left by the piece that had been removed? It does not. Either more pipe was removed and replaced or a brand new "loop" of pipe was hooked up in an otherwise straight line. The information regarding this strange operation is nowhere to be found in the materials supplied to the Commission.

The Joint Petition emphasizes only matters related to a single leak but it does not address the overall threat to public safety posed by the aged ME1 pipeline. As a proactive measure, and considering public safety, ILI on the selected digs based on the most recent ILI run should have been performed to build confidence and assure public that no such incidents occur on ME1 line. Detailed indirect and direct assessment at the selected digs based on the most recent ILI run is recommended.

In general, aging underground pipelines are at risk of corrosion failure due to coating degradation, external corrosion and stress corrosion cracking. Corrosion failures in aging pipelines are either sudden catastrophic ruptures or gradual leaks (ME1 pipeline case) due to localized corrosion. Many factors associated with these corrosion areas are coating failure, degradation, disbondment, blistering, delamination, mechanical pressure and stress concentration, galvanic action, corrosive ions, the presence of moisture, corrosive soils, AC interference, inadequate cathodic protection and shielding. These areas have a much higher statistical probability of catastrophic failure and rupture. No detailed information was provided on these factors.

Most of the time initiation of stress corrosion cracking (SCC) and pitting corrosion are detected by coincidence in excavation and digs and is not targeted or predicted by analysis of

corrosion performance parameters. Internal or ILI tools have limited capability for detecting or identifying stress corrosion cracking and pitting corrosion initiation.

### **Primary Forms of Corrosion attack in Corrosive Soils**

The two main forms of corrosion that have been observed are localized, (pitting), corrosion and stress corrosion cracking. Both pitting corrosion and stress corrosion cracking are localized in nature and occur when corrosive ions are exposed to the steel surface under delaminated coating or at coating defects.

Pitting corrosion is a type of corrosion that is confined to small area. It usually is an autocatalytic process in the absence of AC/DC stray current corrosion. Active pitting corrosion is considered structural corrosion when the corrosion penetrates the steel. Pitting corrosion can be initiated due to presence of corrosive ions under a disbonding coating that acts as a shield to cathodic protection or in the presence of AC interference.

Stress corrosion cracking (SCC) near Neutral pH is a form of corrosion cracking that is associated with near-neutral pH or high pH. For near neutral pH stress corrosion cracking, the electrolyte contains a dilute solution of carbon dioxide and bicarbonate ions with a pH between 6 and 7. This type of corrosion cracking is associated with limited branch transgranular cracking and the crack walls contain corrosion products. High pH SCC is caused by a solution of carbonate ions with pH between 9 and 10.5 exhibiting intergranular cracking with limited branching. Stress corrosion cracking can initiate under disbonded coatings that may shield cathodic protection.

### **Coatings**

One of the oldest measures of corrosion protection is to coat the substrate with a polymeric material. An organic coating can protect a metal substrate by two mechanisms: serving as a barrier for the reactants: water, oxygen, and various ions and serving as a reservoir for corrosion inhibitors that may assist the surface in resisting corrosion attack.

There are a number of different types of coatings that have been used specifically to provide corrosion protection for buried or submerged metal structures including coal-tar based coatings, polyolefins, shrink sleeves, wax-based coatings, asphalt, urethanes and blends, epoxy phenolics, polyureas, esters, and fusion based epoxy coatings (FBEs).

The parties have supplied no information on the coating type and condition on ME1. It is important to check if any repair coating was applied on this ME1 line. Reports that discuss the condition of the coating should be produced.

## Cathodic Protection

Cathodic protection (“CP”) is a method for reducing corrosion by minimizing the potential difference between the anode and cathode. In this method, a current is applied from an outside source to the structure to be protected, such as a pipeline. When enough current is applied, the whole structure, (pipeline) will exhibit one potential and the anodic sites on a pipe will cease to exist.

From the documents, it is not clear what CP criteria was used on ME1 pipeline. It is evident that minimum -850mV CSE NACE CP criteria is not satisfied. Lab analysis reported that the leak is due to MIC. In case of MIC, the potentials used should be more negative than -850 mV CSE. No data or reference that shows that the potential is maintained at more negative than -850 mV CSE.

From Appendix C page 8, it was reported that “At station 2459±00, which is approximately 1,030 feet from the leak, SPLP’s records indicated cathodic protection readings of -628 mV in 2016 and -739 mV in 2015. **Adequate cathodic protection is achieved at a negative cathodic potential of at least -850 mV (wrong statement)**”. From readings, it is evident that the potentials are maintained at more positive than -850 mV CSE. Moreover, ON potentials are recorded. There is no mention of OFF potentials.

From the documents, including Sunoco’s Answer and New Matter, it appears that Sunoco’s position is that a negative potential of -850 mV need not be maintained because Sunoco has taken other approved steps to protect against corrosion. This alternative scheme is referred to below as the “100 mV criteria.”

Sunoco gives the impression that the 100mV criteria were used as the pipe is 9 decades old and the coating might have relatively degraded and most importantly for economic reasons. The major disadvantage of these criteria is that polarized potentials could fall in the range of Stress Corrosion Cracking (SCC) on a pipeline. At room temperature of about 21°C, the potential range is from about -550mV CSE to -700mV CSE. For susceptible pipelines in ambient temperature conditions, polarized potentials within this range should be avoided.

The two charts below depict the difficulty of successfully maintaining the 100 mV criteria:

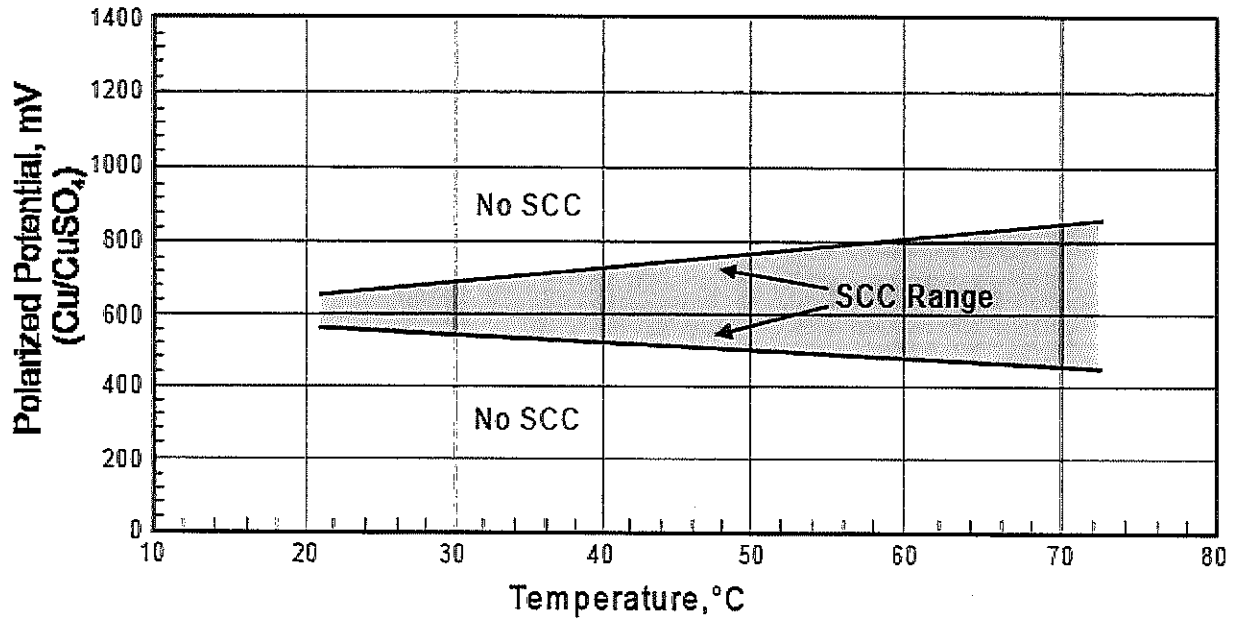


FIGURE – SCC Range in Carbonate/Bicarbonate Environments

Reference: R.A.Gummow, "Technical Considerations on the Use of the 100mV Cathodic Polarization Criterion", CORROSION/2007, paper no. 7035 (Houston, TX: NACE, 2007)

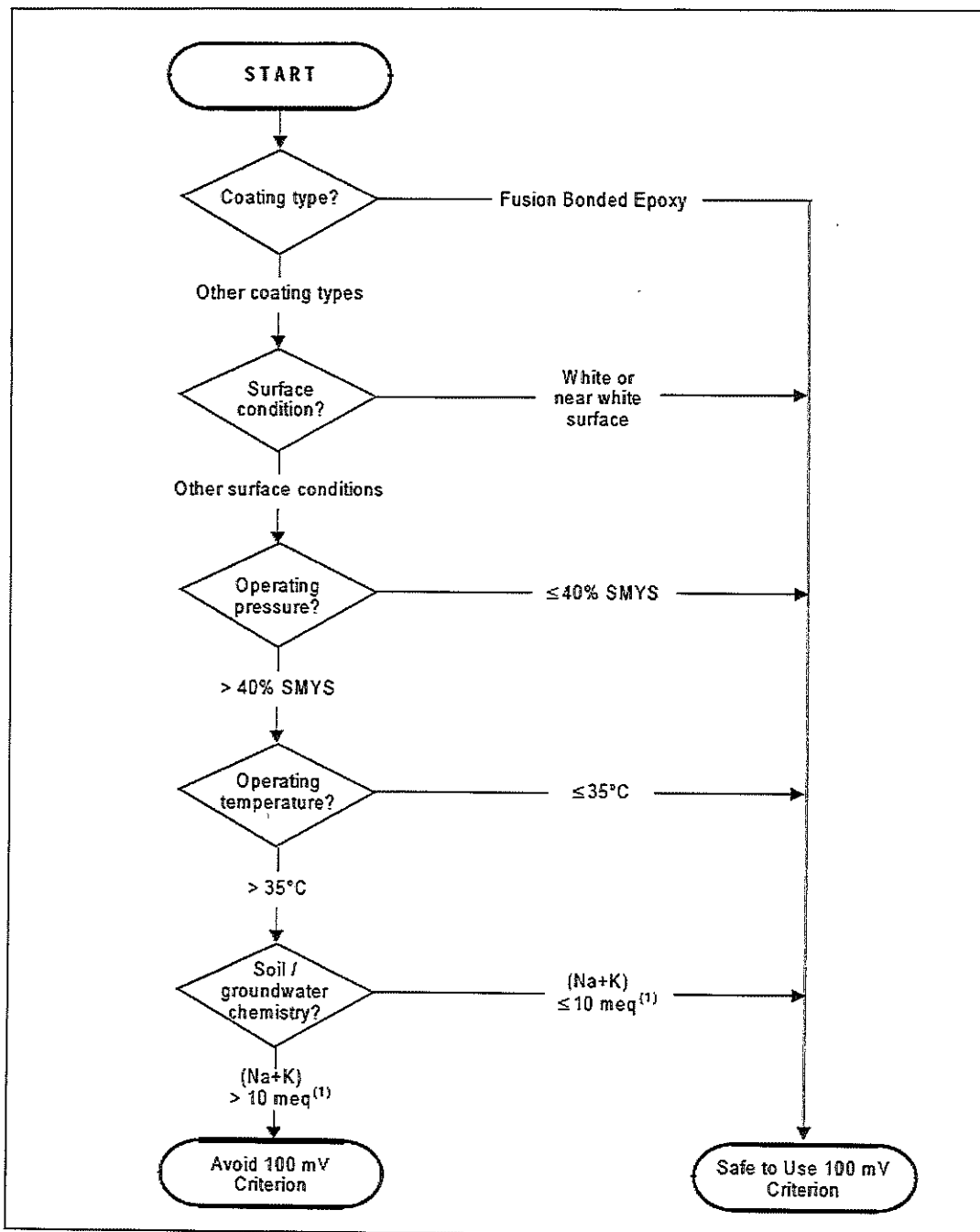


FIGURE – Flow Diagram for Decision-making with Respect to the Use of the 100mV Polarization Criterion to Avoid the Possibility of High-pH Stress Corrosion Cracking

Reference: J.A. Beavers, K.C. Garrity, "100 mV Polarization Criterion and External SCC of Underground Pipelines", CORROSION/2001, paper no. 592 (Houston, TX: NACE, 2001)

Note: The safe use of the 100mV cathodic polarization criterion in accordance with this chart does not guarantee that high pH SSC will not occur but only that it is extremely unlikely.

Moreover, just as the  $-850\text{mV}$  CSE polarized potential criterion needs to be more electronegative in the presence of sulfate reducing bacteria, the same is the case for the  $100\text{mV}$  cathodic polarization criterion.

Close Interval survey (CIS) of the eight (8) inch pipeline and twelve (12) inch pipeline is recommended as these two lines are electrically bonded in the same impressed current system. Rectifier data is also missing. This information is important because it will give us an idea whether rectifier was functioning properly or not all these years.

### **Stray Current Corrosion**

Stray current corrosion is due to currents following through paths other than the intended circuit. This type of corrosion is localized in coated pipes and takes place at discharge points (pinholes and mechanically damaged areas). Failure can occur in a rather short service time.

No information was provided on stray current survey. Sunoco needs to disclose if any stray current survey was performed on this ME1 line. If performed, data should be submitted for review.

### **AC Interference**

Typically, coated pipelines are located near electric transmission lines and run parallel to high voltage transmission lines (HVTL). AC interference can take place by conduction or an induction mechanism causing corrosion in the blistered areas of the coating. The presence of AC interference can cause serious pitting corrosion even on pipes under cathodic protection. This is even the case if the  $-0.850\text{ V}$  CSE criterion is met. Uncertainties exist as to the reason for this.

No information was provided on AC interference surveying. Sunoco needs to disclose if any survey was performed on this ME1 line. If performed, data should be submitted for review.

### **Microbiological Induced Corrosion (MIC)**

Generally, underground pipelines are protected from corrosion by coating and CP. However, the protective measures are not always effective to protect the pipelines, especially when the coating is disbonded and the CP current is shielded from reaching the trapped water/liquid. As a result, bacteria growth occurs on pipelines under disbonded coating.

Since nearly all soils are naturally rich with microbiological activity, detecting presence of MIC on external side of the buried structures and pipelines is really challenging. CP and coating are the only mitigation options for MIC on direct buried pipe. Sunoco needs to disclose if any soil analysis was performed at this location.

## Cathodic Protection Shielding by Protective Coatings

Cathodic protection shielding is defined as preventing or diverting the cathodic protection current from its intended path. Many companies are aware of the problems with CP shielding, yet some continue to use the same coating types and construction practices that have tendencies to cause CP shielding because of economics involved. Information relating to this problem in the case of ME1 is missing.

The leak at Morgantown could have been caused by (MIC) as is typical under disbanded CP shielding pipeline coatings. CP cannot effectively protect the pipeline when CP shielding coatings disbond.

Several pipeline operators now list *CP shielding disbanded coatings* as their leading root cause of external corrosion. Coating systems like coal tar can cause increased demands on a CP system and often present difficulties in achieving adequate protection levels. If coatings disbond from the pipe and if electrolytes can enter into this area, a serious corrosion condition can result because the protective CP current may be shielded from reaching any active corrosion cells.

Depending on a coating resistivity, water absorption and oxygen permeation, the risk of corrosion of the underlying metal can be light uniform to significant corrosion, SCC or bacterial corrosion.

## **Shortcomings in the Inspections Proposed in the Settlement**

Even setting aside the lack of baseline information, the inspections and studies the settlement proposes going forward are seriously deficient. A great deal more detail is required for the Commission to determine whether the proposed study and remediation plans are adequate. That detail is outlined below.

The scope of work needed can be divided into two parts for better evaluation and assessment of the coating, cathodic protection (CP) system, CIS on the selected areas of the pipeline, and soil resistivity measurements.

Part 1 covers on-site testing on the live pipeline which is a non-destructive testing (NDT). The tests covered under NDT are soil resistivity measurements, collection of soil samples close to the pipeline and potential measurements. The recommended non-destructive testing will not have any adverse effects on the mechanical integrity of the live pipeline.

Part 2 covers lab testing of the ME1 pipe remnant samples from the independent lab that has performed the analysis. Also, part 2 covers testing of soil samples collected from site, corrosion products if present on the ME1 pipe remnant samples, liquid samples from coating blisters and coating samples collected from the ME1 pipe remnant samples. The testing described in part 2 is a destructive testing.

### **Part 1 a) On-Site Testing Protocol:**

The following should be performed based on pre-assessment/In-Line Inspection (ILI) in selected areas:

- I. CIS in selected areas based on the previous ILI data.
- II. Potential reads at test stations.
- III. Rectifier inspection.
- IV. Soil Resistivity and Barne's Layer Testing and Analysis
- V. Soil Sampling and Field Testing for Corrosivity

### **A. Description of CIS Survey at Selected Areas**

During CIS, there is not any disruption to the service of the pipeline and most importantly the CIS test does not result in any compromise to the pipeline. During CIS, a connection is made to the pipe test lead in a test station or the structure, and the pipe to soil potential is measured at 5-foot increments along the pipeline. Distance measuring is conducted using the survey wire in conjunction with an electronic distance counter to measure how much wire has been dispensed.



Pipe to soil potentials are measured as the reference electrodes are moved down the pipeline. These potentials are the basis of the CIS and provide a continuous pipe to soil profile of the pipeline in the form of graph.

*Interruption:* During CIS survey, both ON and OFF potentials are recorded. To record OFF potentials, all the line rectifiers that affect the line section being surveyed are interrupted using synchronized interrupters. Synchronized interrupters switch the rectifier current at various ratios of “on” time to “off” time mostly at 4:1.

*Data Logger:* The data loggers or computerized voltmeters Allegro QX is used for CIS to record all of the required data during a CIS. Apart from the data loggers or computerized voltmeters, a wire dispensing system should also be used. The survey wire, 1.5-mile spool of #32 awg or 3-mile spool of #34 awg coated copper wire, would be used for maintaining constant electrical contact with the pipeline through connections made at test stations.

*Pipe Locator:* In order to accurately record the pipeline pipe to soil potentials, pipe locator is used to place the reference electrodes over the pipeline. In this case, the engineer recording the CIS data would follow the engineer locating the pipeline immediately ahead of him.

## **B. Soil Resistivity and Barnes's Layer Testing and Analysis**

In general, we consider two methods to measure soil resistivity, as follows:

- Wenner four-pin method, recommended for in-situ soil resistivity measurement and soil layer analysis (Barnes analysis).
- Soil box method, recommended for resistivity measurement of soil samples.

*ASTM G57* - This standard covers the equipment and procedures for measurement of soil resistivity. The standard describes two sets of equipment and procedures. One for *in situ* measurement of soil resistivity in the field, and another for measurement of soil resistivity of collected soil samples from the field. The latter can be performed in the laboratory or in the field. Our soil resistivity field measurements involve the use of four metallic pins (1 ft length approximately) driven into the ground. The instrument supplies a current to soil through outer pins and the voltage difference is read between the inner pins. To measure the soil resistivity at different depths, measurements can be performed with different spacing between the pins.

### C. Soil Sampling and Field Testing for Corrosivity

In accordance with ASTM D4220 / D4220M, the following procedure need to be used to collect soil samples:

1. Soil samples will be collected from area (>8 ft) to the pipeline and 5 feet deep.
2. The collected soil samples will be placed in clean plastic container.
3. Soil samples will be identified with tags, labels, and markings prior to transporting them.
  1. Job name or number, or both,
  2. Sampling date,
  3. Sample/boring number and location,
  4. Depth or elevation, or both,
  5. Sample orientation,
  6. Collector name (minimum CP1 Technician)
  7. Special shipping laboratory handling instructions, or both including sampling orientation
4. Samples will be shipped to the attention of Tara Wockenfuss, Soils Testing Group at 100 Business Center Drive, Pittsburgh, PA 15205.

500 grams of soil is the minimum amount needed to perform the basic protocol. Once the soil samples are received at Matergenics Pittsburgh Lab, the procedures described in Part 2, Laboratory Testing, will be used for corrosivity determination.

#### **Part 1 b) On-Site Testing Protocol at Digs:**

Three 500 ft-segments of the pipe should be selected for close interval survey (provided the pipe segments in these areas are not replaced and are the original coated pipes). The dig location selections should be based on previous CIS data, soil resistivity and corrosion characteristics. Excavation would be the responsibility of SPLP.

At all dig sites (3), soil, corrosion products and disbonded coating samples should be collected, labeled, logged in chain of custody form, and submitted to an independent lab. If no disbondment or other feature of interest was identified, samples would be discarded in the field. If SCC, localized corrosion or another feature of interest was found, small pipe sections should be cut and the samples should be shipped overnight to the lab.

The following tests will be performed on the exposed pipe section:

1. Visual examination, photographic documentation and macro-examination by digital microscope (Non-Destructive testing).
2. Coating Thickness Measurement by Positector 6000 (Non-Destructive testing).
3. pH measurement under disbonded coating by pH paper (Non-Destructive testing).

4. Blister liquid sampling for laboratory analysis (Non-Destructive testing).
5. Delaminated coating sample collection for laboratory analysis.
6. Adhesion testing near delaminated areas (Destructive testing).
7. Collection of corrosion products if present.

### **Part 2 Laboratory Testing Protocol:**

The following laboratory testing of collected samples (soil, corrosion products, disbonded coating samples and cut pipe sections) should be performed:

- I. Metallurgical Failure Evaluation
- II. Soil Corrosivity Determination

#### **I. Metallurgical Failure Evaluation**

- a) The failure analysis of cut pipe sections should include the following:
  - Photographic documentation throughout project work.
  - Visual examination including close-up inspection for contamination, texture, defects, microstructure, and cross-sectional examination using a low magnification stereo microscope.
  - Metallographic preparation and examination (cutting, mounting and etching with a 2% nital solution) of selected steel pipe areas.
  - Metallurgical cross-sectional optical microscopy to evaluate coating and substrate characteristics including microstructure, defects, voids, porosity, number of coating layers, layer thickness, contamination, and general characteristics.
  - Fourier Transform infrared spectroscopy (FTIR) on both sides of coating sample to identify the coating system functional group chemistry and determine if degradation or contaminants are present.
  - Scanning electron microscopy - energy dispersive x-ray spectroscopy (SEM-EDS) on fracture surface(s) of ruptured pipe at fracture initiation. If inorganic contaminants are identified on the coating surface, x-ray diffraction (XRD) may be performed.
  - X-ray diffraction of corrosion products on fracture surface(s).
  - Tensile, Charpy and Hardness testing to determine mechanical properties of steel pipe.
  - Chemical analysis of steel pipe to determine properties.
  - Adhesion testing of coating per ASTM D3359 and or ASTM D4541 to determine adhesion.
  - Soil testing (chlorides, sulfates, resistivity, corrosion rate, etc.) of collected soils. (DESCRIPTION OF TESTING PROVIDED IN FOLLOWING SECTION)
  - Final technical report providing the results of the examination, including analysis of data, determination and conclusions as to the cause of failure.

- b) Examination of the coating chip and dollies with backside of the coating includes:
- Fourier Transform infrared spectroscopy (FTIR) on both sides of coating sample to identify the coating system functional group chemistry and determine if degradation or contaminants are present.
  - Scanning electron microscopy - energy dispersive x-ray spectroscopy (SEM-EDS) on both sides of coating sample to perform elemental analysis of coating and possible contaminants. If inorganic contaminants are identified on the coating surface, x-ray diffraction (XRD) may be performed.
- c) Examination of the liquid sample includes:
- Test for chlorides, sulfates, resistivity, corrosion rate.
  - MIC test
- d) Examination of the corrosion products and calcareous deposits include:
- SEM/EDS of corrosion products and AC nodules, if AC corrosion is present.
  - XRD analysis of corrosion products and AC nodules, if AC corrosion is present.

## II. Laboratory Soil Testing to Determine Corrosivity

A soil from field should be representative of the area of interest, where the stratum of interest contains a variety of soil types. It is desirable to sample each type separately. It may also be necessary to prepare a mixed sample. The sample should be reasonably large and thoroughly mixed so that it will be representative. The soil should be well-compacted in layers in the soil box, with air spaces eliminated as far as practicable.

The measured resistivity will be dependent on the degree of compaction, moisture content, constituent solubility, and temperature. The effect of variations in compaction and moisture content can be reduced by fully saturating the sample before placing it in the soil box. The saturated measurement will provide an approaching minimum resistivity, and can be usefully compared with "as-received" resistivity measurements.

### Soil pH Test Methods

The recommended standard test method for soil pH is:

- ASTM G51, *Standard Test Method for Measuring pH of Soil for Use in Corrosion Testing.*

In ASTM G51, two apparatus are recommended for pH measurement:

- Calomel and glass electrodes
- A portable, battery-powered pH meter

### **Sulfate Test Methods**

Based on condition (soil, water, or combination) the following standard test methods for sulfate content are recommended:

- ASTM C1580, *Standard Test Method for Water-Soluble Sulfate in Soil*
- ASTM D4327, *Standard Test Method for Anions in Water by Suppressed Ion Chromatography*

### **Sulfides Content**

Sulfide ion,  $S^{-2}$ , is found in ground waters and wastewater, causing odor and serious corrosion problems. If acidified, these waters can release hydrogen sulfide ( $H_2S$ ) which is extremely toxic even at low levels. There is no specific standard to measure soil sulfides; however, since sulfide ions play a critical role in internal corrosion of pipelines in water system, a specific standard test method for sulfide ions in water is developed in ASTM D4658.

### **Sulfides Test Methods**

Recommended standard test method for water sulfides content is ASTM D4658, *Standard Test Method for Sulfide Ion in Water*. This test method uses an ion-selective electrode in conjunction with a double junction sleeve type reference electrode to potentiometrically detect sulfide ions,  $S^{-2}$ , in water.

The potentials are read using a pH meter with proper resolution (0.1 mV). Alternatively, ion meters with direct concentration scale for sulfide ions can be used. This test method is applicable in the range from 0.04 to 4,000 milligrams per litre (mg/L) of sulfide.

### **Chloride Content**

The presence of chloride ion,  $Cl^{-}$ , significantly aggravates the conditions for pitting corrosion of most metals. Chloride ions can attack and destroy the passive films (corrosion product layers) and expose the bare metal substrate to corrosive environment.

Like sulfides, there is no direct standard to measure soil chlorides; however, since

chloride ion is under regulation in the water industry, and must be measured accurately, a specific standard test method for chloride ions in water is developed in ASTM D512 and ASTM D4327.

### **Chlorides Test Methods**

Recommended standard test method for water chlorides content is:

- ASTM D512, *Standard Test Methods for Chloride Ion in Water*. In this standard, the following three test methods are suggested:
  1. Test Method A: mercurimetric titration
  2. Test Method B: silver nitrate titration
  3. Test Method C: ion-selective electrode method

### **Soil Water Content**

A dry soil, regardless of its type and texture, is a non-corrosive environment, and its resistivity is usually very high—a very good insulator. It is the moisture in soil that turns it into a corrosive environment. In fact, for most soils resistivity values decreases rapidly until approximately 20% of a soil weight is water. Variations in soil water content is usually drastic due to seasonal variations in rainfall and temperature seasonal variation in rainfall. Water content of soils also depends on soil drainage capability—a function of soil type and texture (ASTM D2487), particle size (ASTM D422), porosity, and mechanical pressure—which all change with lateral location and depth.

### **Water Content Test Method**

Recommended standard test method for water (moisture) content of soil is ASTM D2216, *Standard Test Methods for Laboratory Determination of Water (Moisture) Content of Soil and Rock by Mass*. This test method is used to determine the water (moisture) content by mass of soil, rock, and aggregate where the reduction in mass by drying is due to loss of water. The recommended drying temperature in ASTM D2216 is 110°C; nonetheless, this temperature may result in decomposition of organic materials, and conversion of calcium sulfate dehydrate (gypsum) to calcium sulfate hemihydrate that is not normally present in natural materials except in some desert soils. In order to reduce the degree of dehydration of gypsum or to reduce decomposition in highly/fibrous organic soils, it may be desirable to dry the materials at 60°C or in a desiccator at room temperature.

Two test methods are provided in this standard. The methods differ in the significant digits reported and the size of the specimen (mass) required. In method A, the water content by

mass is recorded to the nearest 1%. For cases of dispute, method A is the referee method. In method B, the water content by mass is recorded to the nearest 0.1%.

This standard requires the drying of soil in an oven, which takes several hours for proper drying. The following test methods provide less time-consuming processes for determining water content.

- ASTM D4643, *Standard Test Method for Determination of Water (Moisture) Content of Soil by Microwave Oven Heating*
- ASTM D4944, *Standard Test Method for Field Determination of Water (Moisture) Content of Soil by the Calcium Carbide Gas Pressure Tester*
- ASTM D4959, *Standard Test Method for Determination of Water Content of Soil by Direct Heating*

### **Corrosion Rate Measurement**

Recommended standard test method for evaluating the corrosion rate of test specimens is: ASTM G102, *Standard Practice for Calculation of Corrosion Rates and Related Information from Electrochemical Measurements*. This standard covers the conversion of electrochemical measurements to rates of uniform corrosion. The conversion of polarization resistance values to corrosion rates is reported as mass loss in mils per year for a variety of metals and alloys.

### **CONCLUSION**

The Commission and the public cannot fully assess the appropriateness of this settlement without significant additional information. From the information that was provided, it is clear that most of the technical information is missing that could have assisted in making a decision on settlement.

**EX. "B"**



COMMONWEALTH OF PENNSYLVANIA  
BEFORE THE ENVIRONMENTAL HEARING BOARD

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

Appellants,

EHB DOCKET NO. 2017-009-L

v.

COMMONWEALTH OF PENNSYLVANIA,  
DEPARTMENT OF ENVIRONMENTAL  
PROTECTION,

Appellee,

and

SUNOCO PIPELINE L.P.,

Permittee.

**STIPULATED ORDER**

AND NOW this 8th 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, as follows:

I. 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"). ~~The Board hereby retains jurisdiction over enforcement of this Stipulated Order~~ *Pal*

2. Sunoco will perform a re-evaluation of the 47 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](mailto: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](mailto: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

Bernard A. Labuskes, Jr.  
Bernard A. Labuskes, Jr.  
Judge

DATED: August 9, 2017





There is some evidence of record to show that Sunoco had a plan to develop its facility in such a way as to deliberately avoid triggering PSD/NSR requirements. For instance, one of the fractionation towers that Sunoco built as part of Project A and renamed as part of Project D was up for consideration for use as part of Project E, but Sunoco was concerned that if it reused that tower the Department would aggregate Projects 1, A, and C with Project E, so Sunoco decided to use a different tower for Project E. (T. 41-45; A.Ex. 11.) In any event, such a deliberately evasive plan is not a prerequisite to a finding that nominally separate projects are actually parts of a larger project whose emissions should be aggregated for applicability purposes. There is no question that Sunoco *did* have a plan to make all the adjustments necessary to turn the Marcus Hook facility into a comprehensive NGL hub, and Project E is simply one part of that plan.

There is substantial evidence of planned integration. For example, the permit limits for the auxiliary boilers were changed as part of Plan Approval B to a level well beyond what was needed or would ever be needed for Project B or the previously permitted projects by themselves. Future expansion was clearly anticipated. The Department has relied heavily on that fact in support of its argument that the boilers were not modified as part of Project E, but for current purposes we see it as strong evidence of coordinating what is in reality a single project.

We are unable to credit the suggestion that Sunoco planned anything less than a facility designed to store, fractionate, and export multiple components of NGLs. Although Sunoco began by permitting two tanks for ethane and propane (Project 1), we cannot credit the notion that Sunoco ever thought that would be the end of site development. We do not believe that, when Sunoco decided to install a deethanizer (Project A), its plan was to stop there. The same point maintains through and including the equipment permitted under Plan Approval E. The fact

that the details of the project may have changed over time does not change the reality that it has all been part and parcel of one project from the beginning.

Sunoco's own public announcements support a finding of a common plan and a shared objective. For example, Sunoco has referred to Projects 1, A, and C as all parts of the "SXL Project Mariner." In its press release for its open season for the Mariner East 1 pipeline, Sunoco advertised a comprehensive natural gas liquids takeaway solution for its customers, through the Mariner East pipeline to the terminal at the Marcus Hook facility:

**SUNOCO LOGISTICS PARTNERS L.P. ANNOUNCES SUCCESSFUL  
OPEN SEASON FOR PROJECT MARINER EAST**

*Second Phase in Development Based on Significant Interest*

PHILADELPHIA, Sept. 26, 2012 – Sunoco Logistics Partners L.P. (NYSE: SXL) announced today a successful open season for Mariner East, **a pipeline project to deliver propane and ethane from the liquid-rich Marcellus Shale areas in Western Pennsylvania to Sunoco, Inc.'s facility in Marcus Hook, Pennsylvania, where it will be processed, stored, and distributed to various domestic and waterborne markets.** Binding commitments for all of the pipeline capacity offered have been received from shippers enabling the project to move forward. Mariner East, along with the previously announce Mariner West project which will deliver ethane to the Sarnia, Ontario market by mid-2013, **will provide Marcellus Shale basin producers with a comprehensive natural gas liquids takeaway solution.** Sunoco Logistics is projecting to invest over \$600 million for the Mariner projects.

(A.Ex. 2 (emphasis added).) Sunoco further stated in the press release,

Brian P. McDonald, Chairman and Chief Executive Officer of Sunoco, Inc., and Chairman of Logistics, said: "Mariner East is an important project in two ways. It supports the continued development of the Marcellus Shale, one of Pennsylvania's most important resources, by offering producers an outlet for valuable products. **Mariner East also represents a significant step in repurposing the former Marcus Hook refinery site and creating a world-class facility with a promising future based on natural gas liquids.**

(*Id.* (emphasis added).)

In its open season for Mariner East 2, Sunoco advertised a second pipeline to transport NGLs to the Marcus Hook facility:

**SUNOCO LOGISTICS ANNOUNCES BINDING  
OPEN SEASON FOR PROJECT MARINER EAST 2**

PHILADELPHIA, December 4, 2013 – Sunoco Logistics Partners L.P. (NYSE: SXL) today announced that it will commence a binding Open Season for its Mariner East 2 project. **This Open Season is for a pipeline that will transport natural gas liquids** from processing facilities built in the liquid-rich Marcellus and Utica Shale areas in Western Pennsylvania, West Virginia and Eastern Ohio **to Sunoco Logistics’ Marcus Hook Industrial Complex on the Delaware River**, approximately 300 to 400 miles from the production region. The Mariner East 2 pipeline is expected to be operational in early 2016.

(A.Ex. 3 (emphasis added).) Sunoco stated further,

“We are pleased to launch the Open Season for Mariner East 2,” said Michael J. Hennigan, president and chief executive officer. “We are bullish on the production growth from the Marcellus and Utica Shales. **We are proceeding with the Open Season as we have received considerable market interest to develop this project to provide producers with several marketing options for their expanding production.** We believe the market is long NGLs as the supply will continue to outpace demand. As a result, Mariner East 2 would provide the highest value option for producers in this region as an export solution on the East Coast. **We will continue to add storage and expand our Marcus Hook complex to be a world class NGL facility on the East Coast. In addition, the 800-acre Marcus Hook site is well positioned for further NGL processing.**”

(*Id.* (emphasis added).) In its open season for Mariner East 2X, Sunoco offered the capacity to receive and process C3+ and other feedstocks, thereby expanding the range of capacity for NGLs:

**MARINER EAST 2 EXPANSION PROJECT**

**NOTICE OF OPEN SEASON**

Sunoco Pipeline L.P. (“SPLP”) held successful open seasons, Project Mariner East and Project Mariner East 2, in 2012 and 2013, respectively, **for pipeline transportation of propane, butane and ethane** from origin points in Houston, PA, Seto, OH, via Hopedale, OH, and Follansbee Jct., WV (the “NGLs Origin Points”) **to the Sunoco Partners Marketing & Terminals L.P. terminal in Marcus Hook, PA and Claymont, DE (the “SPMT Terminal”).**

**EX. "E"**

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**U.S. DEPARTMENT OF TRANSPORTATION  
PIPELINE AND HAZARDOUS MATERIALS SAFETY ADMINISTRATION  
OFFICE OF PIPELINE SAFETY  
CENTRAL REGION  
KANSAS CITY, MISSOURI 64106**

In the Matter of	)	
	)	
Energy Transfer Partners, L.P.,	)	
Panhandle Eastern Pipe Line Company,	)	CPF No. 3-2014-1008S
	)	
Respondent.	)	
	)	

**NOTICE OF PROPOSED SAFETY ORDER**

**Background and Purpose**

Pursuant to Chapter 601 of Title 49, United States Code, the Pipeline and Hazardous Materials Safety Administration (PHMSA) has initiated an investigation of the safety of Energy Transfer Partners, L.P. Panhandle Eastern Pipe Line Company's (ETP/PEPL) pipeline system, including incidents that occurred on November 28, 2013, on ETP/PEPL's 400 line approximately 4.7 miles downstream of the Houstonia compressor station near Hughesville, Missouri and the October 13, 2014 failure on the 100 line near Centerview, Missouri. Both incidents resulted in significant fire and emergency response requirements.

As a result of the investigation, it appears that conditions exist on the ETP/PEPL pipeline system that pose a pipeline integrity risk to public safety, property or the environment. Pursuant to 49 U.S.C. § 60117(l), PHMSA issues this Notice of Proposed Safety Order (Notice), notifying you of the preliminary findings of the investigations and proposing that you take measures to ensure that the public, property, and the environment are protected from the potential risk.

**Preliminary Findings**

- As of 2014, Energy Transfer is a Texas-based company that is engaged in the operation and/or ownership of approximately 71,000 miles of pipeline. This pipeline mileage includes natural gas, natural gas liquids (NGLs), refined products, and crude oil pipelines. In 2012, Energy Transfer acquired the Southern Union Company and expanded its natural gas pipeline assets to more than 20,000 miles, including gathering

and transportation related assets. The Panhandle Eastern Pipe Line Company system was a portion of this acquired mileage.

- ETP/PEPL's pipeline is a natural gas transmission system comprised of a combination of pipelines and storage fields with approximately 6,000 miles of interstate pipeline, portions of which are capable of bi-directional movement. This ETP/PEPL system is comprised of five large transmission pipelines (100 Line, 200 Line, 300 Line, 400 line, and 500 line), and numerous laterals. This pipeline system traverses the states of Kansas, Missouri, Illinois, Indiana, Ohio, and Michigan.
- PHMSA and/or State Pipeline Safety partners have repeatedly addressed concerns with ETP/PEPL on various pipelines within the ETP/PEPL pipeline system associated with corrosion, coupling failures, inadequate procedures, and controls. To remedy these issues, PHMSA has engaged in a number of inspections and has even issued Corrective Action Orders to ETP/PEPL. However, significant improvements associated with corrosion, coupling failures, inadequate procedures, and controls have not occurred. A few of these significant cases and events are named below:
  - PHMSA issued CPF 3-2008-1002 as a result of a failure that occurred on the ETP/PEPL Glenarm 200 Line at approximately MP 3, near Pawnee, Illinois on 4/27/2007. The failure ejected a 109-inch long section of 22-inch diameter pipe, releasing 38 mmcf of natural gas that ignited. The rupture and resulting fire required the evacuation of a residence and the death of farm animals. The pipe that failed was installed in 1940, seamless, 0.281-inch wall thickness, X42, manufactured by National tube, and coated with a field applied Bitumastic coal tar epoxy. The maximum allowable operating pressure (MAOP) was 800 psig and the pressure at the time of failure was 788 psig. The failure was due to external corrosion. Evidence from the case indicates that "Respondent's atmospheric coating system installed in the area of the pipe that failed was in poor condition as early as 2003, that Panhandle discovered and documented the poor condition of the coating at that time and also in 2005, and that the company took no action to remediate the external corrosion prior to the Incident."
  - On August 27, 2007, ETP/PEPL experienced a longitudinal crack in the body of the pipe at Waverly Storage field in Morgan County, Illinois. This failure was on pipe installed in 1986, 8 inches in diameter, reported as 0.180 inch wall thickness, X42, ERW, manufactured by Republic. The MAOP was 845 psig and the pressure at the time of the failure was 787 psig. The cause of the failure was reported by the operator to be internal corrosion associated with a low spot in the pipeline.
  - On November 30, 2007, PHMSA issued CPF 3-2007-1016H as the result of a failure on the 400 Line near the town of Haven, Kansas (date of the failure was 11/21/2007). The incident occurred at Mile Post (MP) 3.1 and resulted in a large fireball requiring multiple emergency response entities and nearby county road closures. The failed pipe section was installed in 1962, comprised of 30-inch nominal diameter, 0.312-inch wall thickness, Grade X60, electric flash-welded (EFW) pipe manufactured by A.O. Smith with coal tar coating and MAOP of 900

psig. The pressure at the time of the failure was 897 psig. This segment of pipeline on the 400 line crossed the Arkansas River and several state highways. This CAO was the second CAO issued for this line segment (CAO 3-2001-1001H was the first) and was the third similar failure (first occurring in 1990 at MP 0.0 and the second in 2000 at MP 6.1.) All three failures were the result of selective seam corrosion.

- On June 20, 2008, PHMSA issued CPF 4-2008-1012M to ETP/PEPL as the result of an integrity management inspection. Numerous procedural revisions were required and these affected significant areas such as High Consequence Area (HCA) identification.
- On July 1, 2008, PHMSA issued CPF 4-2008-1013M to ETP/PEPL regarding operator qualification requirements and identified many areas for procedural amendments. These areas included corrosion related topics such as close interval survey, various other covered tasks and how contractor qualifications suspensions would occur after incident investigations.
- On August 25, 2008, at approximately 8:51 a.m., a rupture occurred on the ETP/PEPL Houstonia 200 Line near Mile Post 21.6. The failed section of the pipeline was located in a rural area west of Pilot Grove, Missouri in Cooper County. The longitudinal rupture in the pipe body created a 50-foot by 33-foot by 7-foot deep crater in the ground. Two pipeline sections totaling 28 feet in length and a coupling were ejected from the crater up to a distance of 300 feet from the rupture site. The 24-inch pipe was installed in 1937, 0.280 wall thickness, 48,000 SMYS, manufactured by A.O. Smith, and EFW seam. The MAOP was 800 psig and the pipeline pressure at the time of the failure was reported to be 790 psig. The cause of the rupture was external corrosion.
- On May 13, 2009, PHMSA issued ETP/PEPL Corrective Action Order CPF 3-2009-1009H following a failure on the 24-inch 200 Line near Rockville, Indiana on May 5, 2009. Fifty two people were evacuated. The pipe was installed in 1940, manufactured by National Tube, reported to be 0.312 inch wall thickness, 35,000 SMYS, and seamless. The MAOP was 800 psig and pressure was 784 psig at the point of the failure. The cause of this failure was determined to be external corrosion. Additional work performed as a result of this order provided significant indications of external corrosion in various sections of the 200 Line.
- On May 20, 2009, ETP/PEPL experienced a failure on the 200 Line due to a coupling pulling apart near Fayette, Missouri and County Road 427. Fourteen people were evacuated. The MAOP was 800 psig and pressure at the time of the failure was 567 psig.
- On May 17-21, 2010, PHMSA conducted an inspection of the ETP/PEPL written operations and maintenance procedures. As a result of the inspection, PHMSA issued CPF 3-2010-1006M on December 21, 2010, identifying 20 procedures that



were inadequate to assure safe operations. This enforcement action resulted in an Order Directing Amendment specific to IR drop inclusion for accurate cathodic protection measurement. The final implementation of this amendment has yet to be completed by ETP/PEPL.

- On December 29, 2010, PHMSA issued warning letter 3-2010-1008W to ETP/PEPL. Item 1 identified a potential ignition source associated with wiring for a regulator heater at the A.P. Green delivery point and Item 2 noted that ETP/PEPL had not designed and constructed the Peoria Lateral 3 Gate delivery point in such a manner as to ensure that damage to one control line would not make the other over pressure device inoperative.
- On April 25, 2011, ETP/PEPL experienced a failure on the 22-inch 200 Line near Manchester, IL. The pipe at this location has a 0.281 inch wall thickness, seamless, and X42. The cause of the failure was a coupling pulling apart at MP 31.5. The MAOP was 800 psig and the pressure at the time of the failure was 749 psig.
- On May 29, 2011, ETP/PEPL experienced a failure in the Borchers Storage field near Meade, Kansas. The pipe was installed in 1981, manufactured by Tex-tube, was 6.625 inches in nominal diameter, 0.219 inch wall thickness, SMYS 46,000, and High Frequency ERW, coated with a field applied epoxy. The MAOP was 1,875 psig and the estimated pressure at the location of the failure was 1,639 psig. The cause of the failure was determined to be internal corrosion.
- On July 1, 2013, PHMSA issued CPF 3-2013-1011M as a result of an inspection during May 24-26, 2011. This enforcement action identified several deficiencies, including that ETP/PEPL procedures were inadequate because its Public Awareness Plan did not include a process that clearly defined how to establish proper notification areas and distance on each of their pipeline system that affects the public stakeholder audience including other appropriate factors such as the potential impact radius (PIR) and the alternate maximum allowable operating pressure (AMAOP) conditions.
- On April 9, 2014, PHMSA issued a final order for CPF 3-2013-1015. ETP/PEPL had operated its meter and regulator stations and associated pipeline segments at Centertown, Missouri and Auburn, Illinois above the MAOP. On October 28, 2011, ETP/PEPL's working and monitor regulators at Centertown's M&R station malfunctioned allowing the pressure to reach approximately 486 psig exceeding the MAOP and the pipeline operated above 110 percent psig for 9 hours. Similarly on April 6, 2012, ETP/PEPL working and monitor regulators at Auburn's M&R station froze-up resulting in the pressure downstream of the station reaching approximately 550 psig exceeding MAOP for approximately 1-1/2 hours.
- During June 18-July 20, 2012 PHMSA inspected ETP/PEPL facilities in Kansas and Missouri. Discoveries associated with the inspection revealed a lack of prompt remedial action to cathodic protection (CP) deficiencies, a lack of tests to assure

electrical isolation of casings, a lack of sufficient test stations or other contact points to determine the adequacy of cathodic protection on the 100 and 200 Lines, and an insufficient continuing program to minimize the detrimental effects of interference currents on the affected pipeline systems of the 100 and 200 Lines. PHMSA also identified that documentation associated with a periodic review of work done by operator personnel to determine the effectiveness and adequacy of procedures was not available.

- During September and October in 2013, representatives of the Michigan Public Service Commission, acting as an interstate agent for PHMSA, inspected ETP/PEPL records and facilities in Howell, Michigan. As a result of the inspection, PHMSA issued warning letter 3-2014-1006W. This warning letter identified concerns with the integrity management program implementation regarding HCA designations and associated documentation.
- On September 24, 2013, ETP/PEPL experienced a coupling leak near New Franklin, Missouri. Interconnect piping located at the 5 gate valve between the 100 and 200 lines contained a 10-inch coupling. The interconnect line had been cut and capped when a valve was removed in 2010 from the 200 line. The coupling was left on the capped interconnect when the maintenance was performed in 2010.
- On November 28, 2013, ETP/PEPL's 400 line failed approximately 4.7 miles downstream of the Houstonia compressor station near Hughesville, Missouri. The blowing gas ignited and nine people were evacuated. The failed joint of 30-inch pipe was ejected approximately 200 feet from the original location. The pipe was installed in 1962, 0.312 inch wall thickness, API5L X60, DSAW seam, manufactured by Kaiser Steel Corporation and was coated with coal tar enamel. A close interval survey had been conducted in 2013. The MAOP of the pipeline segment was 900 psig and the operating pressure at the time of failure was reported as 893 psig. The pipeline has received several inline inspection (ILI) runs. Metallurgical examination determined the root cause of the failure to be corrosion.
  - As a result of discussions with PHMSA, ETP/PEPL performed an internal and third party Root Cause Failure Analysis (RCFA) associated with the November 28, 2013 Houstonia 400 line failure. These failure investigations as presented to PHMSA identified needed improvements in the maintenance of cathodic protection systems and the prioritization of corrosion concerns, personnel training, data integration associated with corrosion control and environmental and ILI data, personnel understanding budget requests as it may relate to unplanned work, the number and locations of ILI data confirmation digs, the use of metal loss interaction rules by the ILI vendors, and the anomaly interactions effects on failure pressure ratio (FPR) calculations. A significant finding in the review of the records was disconnected negative cables on the 100, 300 and 400 lines as a result of a 2007 project for a new ground bed installation on the 200 Line. As built drawings did not reflect this connection. Recommendations from the ETP/PEPL internal Houstonia 400 line



U.S. Department  
of Transportation

Pipeline and Hazardous Materials  
Safety Administration

901 Locust Street, Suite 462  
Kansas City, Missouri 64106-2641

**VIA CERTIFIED MAIL AND FAX TO: (214-981-0700)**

December 24, 2014

Mr. Kelcy L. Warren  
Chief Executive Officer  
Energy Transfer Partners, L.P.  
3738 Oak Lawn Avenue  
Dallas, Texas 75219

**Re: CPF No. 3-2014-1008S**

Dear Mr. Warren:

Enclosed please find a Notice of Proposed Safety Order (Notice) issued in the above-referenced case. The Notice proposes that you take certain measures with respect to Energy Transfer Partners, L.P./Panhandle Eastern Pipe Line Company system (ETP/PEPL). Your receipt of the Notice constitutes service of this document under 49 C.F.R. § 190.5.

We look forward to a successful resolution of this matter to ensure pipeline safety. Please direct any questions on this matter to me at (816) 329-3800.

Sincerely,

Allan C. Beshore  
Director, Central Region, OPS  
Pipeline and Hazardous Materials Safety Administration

Enclosures: Notice of Proposed Safety Order and Copy of 49 C.F.R. § 190.239

cc: Ryan Coffey, Executive Vice-President

U.S. DEPARTMENT OF TRANSPORTATION  
PIPELINE AND HAZARDOUS MATERIALS SAFETY ADMINISTRATION  
OFFICE OF PIPELINE SAFETY  
CENTRAL REGION  
KANSAS CITY, MISSOURI 64106

In the Matter of	)	
	)	
Energy Transfer Partners, L.P.,	)	
Panhandle Eastern Pipe Line Company,	)	CPF No. 3-2014-1008S
	)	
Respondent.	)	

**NOTICE OF PROPOSED SAFETY ORDER**

**Background and Purpose**

Pursuant to Chapter 601 of Title 49, United States Code, the Pipeline and Hazardous Materials Safety Administration (PHMSA) has initiated an investigation of the safety of Energy Transfer Partners, L.P. Panhandle Eastern Pipe Line Company's (ETP/PEPL) pipeline system, including incidents that occurred on November 28, 2013, on ETP/PEPL's 400 line approximately 4.7 miles downstream of the Houstonia compressor station near Hughesville, Missouri and the October 13, 2014 failure on the 100 line near Centerview, Missouri. Both incidents resulted in significant fire and emergency response requirements.

As a result of the investigation, it appears that conditions exist on the ETP/PEPL pipeline system that pose a pipeline integrity risk to public safety, property or the environment. Pursuant to 49 U.S.C. § 60117(l), PHMSA issues this Notice of Proposed Safety Order (Notice), notifying you of the preliminary findings of the investigations and proposing that you take measures to ensure that the public, property, and the environment are protected from the potential risk.

**Preliminary Findings**

- As of 2014, Energy Transfer is a Texas-based company that is engaged in the operation and/or ownership of approximately 71,000 miles of pipeline. This pipeline mileage includes natural gas, natural gas liquids (NGLs), refined products, and crude oil pipelines. In 2012, Energy Transfer acquired the Southern Union Company and expanded its natural gas pipeline assets to more than 20,000 miles, including gathering

and transportation related assets. The Panhandle Eastern Pipe Line Company system was a portion of this acquired mileage.

- ETP/PEPL's pipeline is a natural gas transmission system comprised of a combination of pipelines and storage fields with approximately 6,000 miles of interstate pipeline, portions of which are capable of bi-directional movement. This ETP/PEPL system is comprised of five large transmission pipelines (100 Line, 200 Line, 300 Line, 400 line, and 500 line), and numerous laterals. This pipeline system traverses the states of Kansas, Missouri, Illinois, Indiana, Ohio, and Michigan.
- PHMSA and/or State Pipeline Safety partners have repeatedly addressed concerns with ETP/PEPL on various pipelines within the ETP/PEPL pipeline system associated with corrosion, coupling failures, inadequate procedures, and controls. To remedy these issues, PHMSA has engaged in a number of inspections and has even issued Corrective Action Orders to ETP/PEPL. However, significant improvements associated with corrosion, coupling failures, inadequate procedures, and controls have not occurred. A few of these significant cases and events are named below:
  - PHMSA issued CPF 3-2008-1002 as a result of a failure that occurred on the ETP/PEPL Glenarm 200 Line at approximately MP 3, near Pawnee, Illinois on 4/27/2007. The failure ejected a 109-inch long section of 22-inch diameter pipe, releasing 38 mmcf of natural gas that ignited. The rupture and resulting fire required the evacuation of a residence and the death of farm animals. The pipe that failed was installed in 1940, seamless, 0.281-inch wall thickness, X42, manufactured by National tube, and coated with a field applied Bitumastic coal tar epoxy. The maximum allowable operating pressure (MAOP) was 800 psig and the pressure at the time of failure was 788 psig. The failure was due to external corrosion. Evidence from the case indicates that "Respondent's atmospheric coating system installed in the area of the pipe that failed was in poor condition as early as 2003, that Panhandle discovered and documented the poor condition of the coating at that time and also in 2005, and that the company took no action to remediate the external corrosion prior to the Incident."
  - On August 27, 2007, ETP/PEPL experienced a longitudinal crack in the body of the pipe at Waverly Storage field in Morgan County, Illinois. This failure was on pipe installed in 1986, 8 inches in diameter, reported as 0.180 inch wall thickness, X42, ERW, manufactured by Republic. The MAOP was 845 psig and the pressure at the time of the failure was 787 psig. The cause of the failure was reported by the operator to be internal corrosion associated with a low spot in the pipeline.
  - On November 30, 2007, PHMSA issued CPF 3-2007-1016H as the result of a failure on the 400 Line near the town of Haven, Kansas (date of the failure was 11/21/2007). The incident occurred at Mile Post (MP) 3.1 and resulted in a large fireball requiring multiple emergency response entities and nearby county road closures. The failed pipe section was installed in 1962, comprised of 30-inch nominal diameter, 0.312-inch wall thickness, Grade X60, electric flash-welded (EFW) pipe manufactured by A.O. Smith with coal tar coating and MAOP of 900

psig. The pressure at the time of the failure was 897 psig. This segment of pipeline on the 400 line crossed the Arkansas River and several state highways. This CAO was the second CAO issued for this line segment (CAO 3-2001-1001H was the first) and was the third similar failure (first occurring in 1990 at MP 0.0 and the second in 2000 at MP 6.1.) All three failures were the result of selective seam corrosion.

- On June 20, 2008, PHMSA issued CPF 4-2008-1012M to ETP/PEPL as the result of an integrity management inspection. Numerous procedural revisions were required and these affected significant areas such as High Consequence Area (HCA) identification.
- On July 1, 2008, PHMSA issued CPF 4-2008-1013M to ETP/PEPL regarding operator qualification requirements and identified many areas for procedural amendments. These areas included corrosion related topics such as close interval survey, various other covered tasks and how contractor qualifications suspensions would occur after incident investigations.
- On August 25, 2008, at approximately 8:51 a.m., a rupture occurred on the ETP/PEPL Houstonia 200 Line near Mile Post 21.6. The failed section of the pipeline was located in a rural area west of Pilot Grove, Missouri in Cooper County. The longitudinal rupture in the pipe body created a 50-foot by 33-foot by 7-foot deep crater in the ground. Two pipeline sections totaling 28 feet in length and a coupling were ejected from the crater up to a distance of 300 feet from the rupture site. The 24-inch pipe was installed in 1937, 0.280 wall thickness, 48,000 SMYS, manufactured by A.O. Smith, and EFW seam. The MAOP was 800 psig and the pipeline pressure at the time of the failure was reported to be 790 psig. The cause of the rupture was external corrosion.
- On May 13, 2009, PHMSA issued ETP/PEPL Corrective Action Order CPF 3-2009-1009H following a failure on the 24-inch 200 Line near Rockville, Indiana on May 5, 2009. Fifty two people were evacuated. The pipe was installed in 1940, manufactured by National Tube, reported to be 0.312 inch wall thickness, 35,000 SMYS, and seamless. The MAOP was 800 psig and pressure was 784 psig at the point of the failure. The cause of this failure was determined to be external corrosion. Additional work performed as a result of this order provided significant indications of external corrosion in various sections of the 200 Line.
- On May 20, 2009, ETP/PEPL experienced a failure on the 200 Line due to a coupling pulling apart near Fayette, Missouri and County Road 427. Fourteen people were evacuated. The MAOP was 800 psig and pressure at the time of the failure was 567 psig.
- On May 17-21, 2010, PHMSA conducted an inspection of the ETP/PEPL written operations and maintenance procedures. As a result of the inspection, PHMSA issued CPF 3-2010-1006M on December 21, 2010, identifying 20 procedures that

were inadequate to assure safe operations. This enforcement action resulted in an Order Directing Amendment specific to IR drop inclusion for accurate cathodic protection measurement. The final implementation of this amendment has yet to be completed by ETP/PEPL.

- On December 29, 2010, PHMSA issued warning letter 3-2010-1008W to ETP/PEPL. Item 1 identified a potential ignition source associated with wiring for a regulator heater at the A.P. Green delivery point and Item 2 noted that ETP/PEPL had not designed and constructed the Peoria Lateral 3 Gate delivery point in such a manner as to ensure that damage to one control line would not make the other over pressure device inoperative.
- On April 25, 2011, ETP/PEPL experienced a failure on the 22-inch 200 Line near Manchester, IL. The pipe at this location has a 0.281 inch wall thickness, seamless, and X42. The cause of the failure was a coupling pulling apart at MP 31.5. The MAOP was 800 psig and the pressure at the time of the failure was 749 psig.
- On May 29, 2011, ETP/PEPL experienced a failure in the Borchers Storage field near Meade, Kansas. The pipe was installed in 1981, manufactured by Tex-tube, was 6.625 inches in nominal diameter, 0.219 inch wall thickness, SMYS 46,000, and High Frequency ERW, coated with a field applied epoxy. The MAOP was 1,875 psig and the estimated pressure at the location of the failure was 1,639 psig. The cause of the failure was determined to be internal corrosion.
- On July 1, 2013, PHMSA issued CPF 3-2013-1011M as a result of an inspection during May 24-26, 2011. This enforcement action identified several deficiencies, including that ETP/PEPL procedures were inadequate because its Public Awareness Plan did not include a process that clearly defined how to establish proper notification areas and distance on each of their pipeline system that affects the public stakeholder audience including other appropriate factors such as the potential impact radius (PIR) and the alternate maximum allowable operating pressure (AMAOP) conditions.
- On April 9, 2014, PHMSA issued a final order for CPF 3-2013-1015. ETP/PEPL had operated its meter and regulator stations and associated pipeline segments at Centertown, Missouri and Auburn, Illinois above the MAOP. On October 28, 2011, ETP/PEPL's working and monitor regulators at Centertown's M&R station malfunctioned allowing the pressure to reach approximately 486 psig exceeding the MAOP and the pipeline operated above 110 percent psig for 9 hours. Similarly on April 6, 2012, ETP/PEPL working and monitor regulators at Auburn's M&R station froze-up resulting in the pressure downstream of the station reaching approximately 550 psig exceeding MAOP for approximately 1-1/2 hours.
- During June 18-July 20, 2012 PHMSA inspected ETP/PEPL facilities in Kansas and Missouri. Discoveries associated with the inspection revealed a lack of prompt remedial action to cathodic protection (CP) deficiencies, a lack of tests to assure

electrical isolation of casings, a lack of sufficient test stations or other contact points to determine the adequacy of cathodic protection on the 100 and 200 Lines, and an insufficient continuing program to minimize the detrimental effects of interference currents on the affected pipeline systems of the 100 and 200 Lines. PHMSA also identified that documentation associated with a periodic review of work done by operator personnel to determine the effectiveness and adequacy of procedures was not available.

- During September and October in 2013, representatives of the Michigan Public Service Commission, acting as an interstate agent for PHMSA, inspected ETP/PEPL records and facilities in Howell, Michigan. As a result of the inspection, PHMSA issued warning letter 3-2014-1006W. This warning letter identified concerns with the integrity management program implementation regarding HCA designations and associated documentation.
- On September 24, 2013, ETP/PEPL experienced a coupling leak near New Franklin, Missouri. Interconnect piping located at the 5 gate valve between the 100 and 200 lines contained a 10-inch coupling. The interconnect line had been cut and capped when a valve was removed in 2010 from the 200 line. The coupling was left on the capped interconnect when the maintenance was performed in 2010.
- On November 28, 2013, ETP/PEPL's 400 line failed approximately 4.7 miles downstream of the Houstonia compressor station near Hughesville, Missouri. The blowing gas ignited and nine people were evacuated. The failed joint of 30-inch pipe was ejected approximately 200 feet from the original location. The pipe was installed in 1962, 0.312 inch wall thickness, API5L X60, DSAW seam, manufactured by Kaiser Steel Corporation and was coated with coal tar enamel. A close interval survey had been conducted in 2013. The MAOP of the pipeline segment was 900 psig and the operating pressure at the time of failure was reported as 893 psig. The pipeline has received several inline inspection (ILI) runs. Metallurgical examination determined the root cause of the failure to be corrosion.
- As a result of discussions with PHMSA, ETP/PEPL performed an internal and third party Root Cause Failure Analysis (RCFA) associated with the November 28, 2013 Houstonia 400 line failure. These failure investigations as presented to PHMSA identified needed improvements in the maintenance of cathodic protection systems and the prioritization of corrosion concerns, personnel training, data integration associated with corrosion control and environmental and ILI data, personnel understanding budget requests as it may relate to unplanned work, the number and locations of ILI data confirmation digs, the use of metal loss interaction rules by the ILI vendors, and the anomaly interactions effects on failure pressure ratio (FPR) calculations. A significant finding in the review of the records was disconnected negative cables on the 100, 300 and 400 lines as a result of a 2007 project for a new ground bed installation on the 200 Line. As built drawings did not reflect this connection. Recommendations from the ETP/PEPL internal Houstonia 400 line