

BRIEF

Pennsylvania Public Utility Commission

Commonwealth Keystone Building

2nd Floor Room N-201, Harrisburg PA 17120

I am submitting this brief, as intervenor, in the matter of State Senator Andrew E. Dinniman's Emergency Relief Petition to stop construction of the Mariner East Pipeline (PUC Docket no. P-2018-3001453).

First, I should note that I am not always able to identify the exhibits presented in the hearings by their number and title, since I was not provided with them. I have attempted to describe them to the best of my ability so that the correct exhibit can be identified.

For the reasons detailed below, I believe it is imperative that Sunoco's operation of the Mariner East 1 and its construction of the Mariner East 2 and 2x be halted immediately, as Senator Dinniman is requesting. They should remain halted until these activities can be proven to be safe and there are feasible plans for warning and public evacuation in case of a leak. It is clear, based on the evidence from the hearings in this matter, that these pipelines pose a serious risk of death to those who live, work, shop, and play along the proposed right-of-way.

Here are the facts to support that statement.

1. Sunoco doesn't have adequate emergency plans. In its testimony, Sunoco documented numerous meetings and presentations, but it has never come up with a viable plan for emergency response.

Sunoco's "pipeline safety expert" John Zurcher explained that the best thing to do in case of a leak was to walk or run away from the pipeline. Asked what should be done for those who can't walk (the disabled and the very young), he said, "I don't know what to say to that, I honestly don't". And yet, the right-of-way runs alongside a number of nursing homes, retirement communities, and day-care facilities. **There is no emergency plan at all for low-mobility people, and even Sunoco's plans for the general public are unrealistic.**

2. Sunoco's pipeline safety expert is unfamiliar with the special risks of NGL pipelines. Zurcher, the safety expert, testified that he knew of no pipeline accidents caused by ground subsidence, and he said he was only "generally aware" of the Follansbee, WV, incident in 2015, in which **subsidence triggered an explosion** of an NGL pipeline almost identical to Mariner East 2. That explosion should have been foremost in his thinking about NGL pipeline accidents. The PHSMA report detailing that accident cited by Kathryn Urbanowicz of Clean Air Council, which she stated she plans to include with her brief.

Here are a few relevant observations from that PHMSA report.

- The Follansbee pipeline was **similar in all respects** to the planned ME2 pipeline. Its diameter was 20", the same as ME2; and it was carrying ethane, which is the main material that ME2 is to carry.
- The pipeline began operation in November 2013 and exploded in January 2015, **just 14 months** later.
- The report states that: "A survey of the failure site comparing the elevation of the pipeline at the failure location to the as-built map elevations was conducted during the excavation and remediation process. The survey indicated that the pipe had dropped more than 3 feet since the line was originally constructed. A geotechnical survey conducted by Pennsylvania Soil and Rock determined that the failed pipe was installed across a transition area or 'head wall' of an old underground mine and surface strip mine." The report concludes that pipeline **failure was due to earth subsidence**, caused by the collapse of an old mine. This directly contradicts the testimony of Zurcher, that "There has not been a single reported incident that had to do with subsidence..."
- The photos in the PHMSA report clearly show **a crater much greater than 20 feet in diameter**, even though the depth of the pipeline at this location was 12 feet. If the pipeline had been at a shallower depth, such as the 4 feet that Sunoco is proposing for West Whiteland, the result would have been an even wider crater. This directly contradicts the testimony of Zurcher, that Sunoco's planned separation between the NGL-carrying pipelines "is safe at 10 feet". But even at the 12-foot burial depth of the Follansbee pipeline, a separation of 10 feet would not have been enough. If there had been a pipeline buried 10 feet away at the Follansbee site, it would certainly have been severely damaged and would probably have ruptured.
- No one was killed in the Follansbee explosion, which took place in a forested rural area. But five acres of trees were destroyed and the vinyl siding of the nearest house, 2000 feet away, was melted. Again, the fact that the pipeline was 12 feet underground limited the damage. Had this explosion occurred in a densely-populated area such as West Whiteland Township, and had the pipeline been closer to the surface of the ground, there would surely have been many fatalities.

In his testimony, Zurcher **confused NGL pipelines with other hazardous-liquid pipelines**. For example, on cross examination, he responded to the question "Do you know of any cases of natural gas liquid pipelines similar to Mariner East 1, 2, and 2x that are in comparable, high consequence areas like West Whiteland Township..." with the answer "Almost all of the 200,000 miles of hazardous liquids pipelines ...are in high consequence areas". Zurcher's confusion between "natural gas liquids" and "hazardous liquids" brings into question his other statements, such as "[there are] tens of thousands of miles of [NGL] pipelines just like this in high population areas" and "[the risk of] damage to the pipeline is independent of depth". I have no reason to doubt that he is an expert on many of the more common types of hazardous-liquid pipelines (such as those carrying gasoline, fuel oil, and crude oil) but his lack of familiarity with NGL pipelines means that much of his testimony in this case is suspect.

3. Sunoco is ignoring the potential for subsidence and corrosion from running water along Mariner East 1. In the right-of-way on my property at 103 Shoen Road in West Whiteland, water has been emerging as springs and seepage along ME1 since Sunoco stopped drilling after hitting the aquifer and impacting the private water wells of fifteen homes. That ground water has found a new route to the surface that runs along the ME1 pipe for an unknown distance underground before emerging.

As I testified, **two springs emerged on my property July 20, 2017 on the path of ME1, uphill from the ME1 marker at the road and as seeps downhill toward the ME1 marker at the road, and the seepage continues to this day.** When cross-examined by me, David Demko confirmed that GES took water samples from these two springs in the summer of 2017, about 12 feet uphill from the ME1 marker and that they were in line with ME1. The seepage at the orange ME1 marker at the road is evident in VK Exhibit 1 which was taken July 30, 2017. It is also evident in the photograph Sunoco submitted post-hearing in SPLP Exhibit 47 entitled “Seep Drainage Swale (looking east)” which was taken May 11, 2018 and thereby reflects current conditions. The location of the seepage and the resulting supersaturated soil can be seen in both photographs and is clearly at the orange ME1 marker, on ME1. (Note that the “Approximate seep locations” marked in the photograph “ seep location-annotated” in SPLP Exhibit 47 are incorrect as there is no seepage from that location, nor has there ever been. And the “staked red flags” referred to in Exhibit 47 are actually two stakes Sunoco put in the ground in spring 2017 prior to any drilling activity to mark that trees were not to be cut there, months before the water problem occurred).

David Demko, a Sunoco hydrogeology witness, said in his testimony, flowing water like this is one of the requirements for subsidence. It can carry soil away and **undermine the pipeline.** Abrasive soil carried by water will also gradually remove the protective coating on the pipe, eventually leading to corrosion and the potential for a leak. ME1 is in soil, only several feet underground. This instance of water flowing along the ME1 pipeline is surely not the only case of its kind on the 300+ miles of ME1. Yet Sunoco maintains that neither subsidence nor corrosion is a risk to ME1.

4. Sunoco has failed to consider alternative routes as required by its settlement before the Environmental Hearing Board. In the August 2017 “Stipulated Order” of the Environmental Hearing Board (cited by Dinniman’s attorney and publicly available on the DEP website), Sunoco agreed to consider alternative pipeline routes. Matthew Gordon, Sunoco’s Project Director, claimed in his testimony in the present hearing that alternatives were considered, but could not say whether they were quantitative or qualitative, and he **could not recall any information about actual alternative routing considerations.** He simply claimed—based on no evidence—that the existing right-of-way was the best route.

5. Apart from Lisa Drive, Sunoco has failed to do the necessary geophysical and hydrogeological tests. In the reports submitted as part of the permit applications to the DEP (publicly available on the DEP website and cited by Dinniman’s attorney), **Sunoco’s own geologist recommended more geophysical testing in the West Whiteland area** because of the challenging geology there. Sunoco ignored those recommendations, and it only did the testing at Lisa Drive when forced to by the PUC’s shutdown order. Several of the exhibits provided by both sides, and the testimony of several different witnesses,

confirms that sinkholes are widespread in West Whiteland. We heard testimony that sinkholes are the result of the collapse of underground voids. Geophysical testing would confirm the presence or absence of voids, but Sunoco has not done that type of testing. Instead, it has relied on widely-spaced vertical bores as its only testing method. Those would not detect voids unless the bore happened to be conducted directly over one.

6. Sunoco can't be relied upon to keep its commitments. Sunoco has violated its DEP permits more than 50 times. (The Notices of Violation are publicly available on the DEP website and were cited by Dinniman's attorney.) Sunoco's work has been temporarily shut down twice by the DEP because of violations, and the company has also been fined twice because of violations. In the second DEP shutdown, in January of 2017, the DEP cited Sunoco for "egregious and willful violations". Each time, the DEP has required Sunoco to put in place procedures to prevent recurrence. In spite of that, **Sunoco has apparently ignored the procedures and violations continue.** The DEP issued a Notice of Violation as recently as May 3, just a few days before these hearings, and another yesterday, May 15.

Given the record of problems and failures listed above, we must assume that **Sunoco will continue to ignore the safety-related construction practices and operational plans** it is promising.

It follows that Sunoco's **operation of ME1 and construction of ME2 and ME2x should be halted immediately.**

The shutdowns should continue **until Sunoco can institute controls that can be proved to make operation of ME1 and construction of ME2 safe, and until a feasible plan is in place for warning and evacuating the public** in case of a leak.

The PUC should institute a regulatory approach that requires immediate shutdown of operations in case of any violation. Sunoco's history in this project has shown that regulatory notices and fines have no effect at all on the company. **Immediate shutdown is the only regulatory action that has ever gotten Sunoco's attention.**

Respectfully submitted,

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