



Mariner East Pipeline System: Safety Data and Summary of Steps

The safe operation of all our assets in the state is our first priority, including our Mariner East system. We strive for excellence and apply the highest standards when constructing and operating our energy infrastructure. We recognize the responsibility that comes from moving energy safely and are proud of the role we play in Americans' daily lives. In Pennsylvania, we own and operate more than 3,000 miles of pipeline, two major storage facilities and many other related assets. We believe no other company in any industry has invested the amount of capital in Pennsylvania that we have.

Our Mariner East pipeline system provides the needed infrastructure to transport propane, ethane and butane, all known as natural gas liquids or NGLs, from the Marcellus and Utica Shale fields to markets in Pennsylvania and beyond.

On January 20, 2019, Sunoco Pipeline LP (SPLP), a subsidiary of Energy Transfer, responded to a notification regarding a subsidence feature on Lisa Drive in West Whiteland Township, Chester County, PA. SPLP worked closely with the Pennsylvania Public Utility Commission Bureau of Investigation and Enforcement (BI&E) throughout an extensive three-month investigation, through which SPLP confirmed the integrity of the Mariner East 1 (ME1) pipeline in the area. The investigation also confirmed that at no time was ME1 ever destabilized in this area. In an April 19, 2019 Agreement with BI&E, SPLP agreed to undertake extensive ongoing monitoring, precautionary remediation, and testing of the Lisa Drive area. SPLP also

agreed to create this public document to summarize the steps taken to ensure the safety of the pipeline. The ME1 pipeline was placed back into service on April 23, 2019.

A. **Voluntary Shut-In**

Within two hours of the of the January 20, 2019 subsidence, SPLP sent a SPLP Supervisor and Pipeliner and other specialty consultants to the site. Engineering determined that the subsidence area was not of the size that would compromise the safety of the ME1 pipeline based on the fact that the unsupported area of the pipeline was well within the safe limits of an unsupported span of pipe in accordance with ASME B31.4 Design Code, referenced by 49 CFR Part 195.3. This subsidence event, like the 2018 subsidence event, in fact did not diminish the integrity of the ME1 pipeline segment at issue. There was not in fact a risk to the integrity of the pipeline at any time. When the 2019 subsidence occurred, SPLP already had strain gauges installed on this portion of the ME1 pipeline, along with pipe borings that SPLP monitors and surveys to determine and measure the surface ground and top of pipe elevation. This hard data confirmed that there was no emergency in fact, or by statute or by regulations, before, during, or after the ground subsidence at issue. In sum, all survey observations and strain gauge data evaluations show no change impacting the integrity of ME1 relative to the subsidence.

Even though SPLP's analysis of the integrity of the ME1 pipeline described above indicated that the pipeline was safe, SPLP voluntarily shut-in this segment of the pipeline within 24-hours of the subsidence feature occurring.

B. Additional Control Room Monitoring and Training

As requested by BI&E and its consultant ARM, SPLP has developed and implemented a procedure for 24/7 constant monitoring of strain gauge data in its control room. This means SPLP's control room will know expeditiously if the ME1 pipeline stress changes to a degree that there is abnormal loading that could impact integrity. The control room can automatically shut-down the pipeline via the automated upstream and downstream valves. SPLP has also developed written procedures for this monitoring and has trained control room operators who are currently adhering to these procedures. On March 22nd SPLP met with and fully briefed BI&E on the implementation of these measures and answered all BI&E questions related thereto.

C. Initial Mitigation Measures.

Despite adverse and challenging peak of winter weather conditions, SPLP undertook actions that expedited and ensured continuing stability and support of the pipeline at the location at issue. Significantly, SPLP also mitigated a stormwater pipe owned by the Lynetree Homeowners Association that flows downhill to the Lisa Drive area that may have contributed to the subsidence.

D. Survey and Mitigation of Geological Issues

SPLP successfully completed all geophysical testing specifically required under the January Agreement between the parties and provided the data and results to BI&E/ARM as of February 5, 2019. SPLP then developed a proposed Mitigation Work Plan to address the area immediately at issue and surrounding the subsidence. The Phase 1 Grouting Mitigation Plan and its additional precautionary additional fortification of the immediate area has been completed.

E. Ongoing Actions Per Settlement with BI&E

In the April 19, 2019 Agreement, SPLP agreed to undertake extensive ongoing monitoring, precautionary remediation, and testing of the Lisa Drive area, including:

- ongoing collection and monitoring of strain gauge data and top of pipe elevation data and reporting to BI&E to confirm no intended movement of ME1;
- ongoing continuous control room monitoring of strain gauge data in SPLP's control room, which is staffed 24/7 and has the ability to shut-down the pipeline;
- daily walking by personnel or an inspector of the ME1 right-of-way in this area and reporting to SPLP and BI&E;
- revision of the All Encompassing Site Remediation Plan subject to BI&E's concurrence prior to implementation, including plans for additional precautionary grouting and consideration of the open trench construction of the 20-inch pipeline;
- timeframes for completion of additional precautionary grouting;
- additional geophysical testing to confirm the effectiveness of grouting to be reported to BI&E;
- further monitoring of the area through geophysical testing every six months for two years; and
- agreement not to construct the 20-inch pipeline in this area or operate the 16-inch pipeline in this area until certain precautionary grouting is complete and effective.

These proactive steps extensively exceed regulatory requirements and provide BI&E with detailed and timely information to continue and further monitor the ME1 pipeline, geology in the area, and SPLP's performance of the Settlement.