This year Congress enacted the Protecting our Infrastructure of Pipelines and Enhancing Safety (PIPES) Act. The PIPES Act tasked a group, co-chaired by the Department of Energy (DOE) and the Department of Transportation’s (DOT) Pipeline and Hazardous Materials Safety Administration (PHMSA) to perform an analysis of the Aliso Canyon event and make recommendations to reduce the potential for occurrence of similar incidents in the future.

The DOT published a report detailing their findings [1]. PHMSA must consider their findings and recommendations as they work to develop minimum federal safety standards for underground gas storage, which is to be issued within two years. The report is intended to inform PHMSA’s phased rule-making process and to provide advanced guidance to industry so that companies can begin implementing changes immediately, ahead of the regulations.

Summary of Recommendations

There are three main groups of recommendations: (i) integrity of wells at underground gas storage facilities, (ii) public health and environmental effects from a natural gas leak from an underground gas storage facility, and (iii) energy reliability concerns in the case of future natural gas leaks.

The following recommendations address well integrity issues [1]:

- New wells should be designed so that a single point of failure (SPOF) cannot lead to leakage and uncontrolled flow, and except under limited circumstances, natural gas storage operators should phase out SOPF wells.
- Operators should adopt risk management plans (RMPs) that include a rigorous monitoring program, well integrity evaluation, leakage surveys, mechanical integrity tests and conservative assessment intervals.
- DOE and DOT should conduct a specific and thorough joint study of subsurface safety valves.

The following recommendations address well environmental effects [1]:

- In the event of a large natural gas leak, a “unified command” should be formed early so that leaders from each primary response agency can provide clear and consistent communication between agencies and with the public about progress toward controlling the leak and understanding the potential public health impacts of the release.
- States and local monitoring agencies should consider establishing an emergency air monitoring plan that can be expeditiously deployed in the event of a leak.
- States should review their authority to require greenhouse gas mitigation plans in the event of a leak.

The following recommendations address reliability concerns [1]:

- Industry, Federal and state agencies should strengthen planning and coordination efforts to decrease the potential impacts of future prolonged disruptions of natural gas infrastructure.
Industry, Federal and state agencies should consider broader application of back-up strategies to reduce reliability risks associated with the abrupt loss of natural gas supplies.

PHMSA plans to issue interim regulations in the next several months. The new regulations will incorporate API Recommended Practices 1170 and 1171 which will impose minimum requirements for operators to assess the operational safety of their storage facilities, and provide documentation for the implementation of identified safety solutions and risks.

**How Exponent Can Help**

Exponent continues to be actively engaged in the risk assessment, safety and regulatory aspects of underground gas storage. Our team will be participating in the November 16-17 PHMSA Workshop in Cleveland that will discuss these and other issues related to the safe storage, transport and usage of natural gas.