U.S. Environmental Protection Agency Underground Storage Tank Research: Moderate/Severe Corrosion Identified in Tanks Holding Diesel Fuel

Arkansas Environmental, Energy, and Water Law Blog

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The United States Environmental Protection Agency ("EPA") has announced the results of its study of corrosion of diesel fuel underground storage tanks ("USTs").

The July 2016 report is titled *Investigation of Corrosion-Influencing Factors in Underground Storage Tanks with Diesel Service ("Report").* See EPA 510-R-16-001.

USTs are utilized in hundreds of thousands of facilities nationwide to store petroleum and chemical products. These businesses and governmental agencies include service stations, bus terminals, police and fire stations, airports, utilities, construction companies and car dealerships. A substantial portion of the USTs in the United States are utilized by smaller businesses.

USTs vary in size, shape, and construction materials. They can be made of both metal or fabricated from noncorrosive material such as fiberglass or other nonmetallic materials. They commonly contain gasoline, kerosene, diesel, motor oil, chemicals and other substances.

Releases from USTs can impact public health and environment can occur in two ways: through release or spills. Either, in the right set of circumstances, can pose a threat to public health and environment. Leakage from USTs can result from corrosion, system rupture, external stress or puncture, and faulty construction installation. However, corrosion has in the past been a major factor contributing to leaks in steel USTs.

The *Report* focused on understanding what it characterizes as a "type of rapid and severe corrosion in metal components in underground storage tanks (USTs) storing diesel fuel."

EPA states that UST owners began reporting this corrosion to UST industry servicing companies in 2007. The agency states that its Office of Underground Storage Tanks began research on this issue in 2014 to:

. . .understand how serious and widespread the metal corrosion problem could be. In addition, to help identify the cause for solutions, we wanted to identify predictive factors between UST systems with corrosion issues and UST systems relatively free of the problem.

In undertaking this research, EPA held discussions with industry experts to develop field-based research in regards to diesel USTs' corrosion. The agency also conducted on-site inspections of what it characterizes as 42 diverse, operating UST systems at 40 sites across the country. The studied UST systems were

described as 24 fiberglass and 18 steel tanks. Various data regarding conditions associated with the UST systems was developed.

EPA concludes in the report that 35 of 42 (83%) of the USTs studied exhibited moderate or severe corrosion of metal components. However, it further states that less than 25% of owners were aware of corrosion prior to the internal inspection.

The agency concludes its observations suggest that corrosion may be commonly severe on metal surfaces in the upper vapor space of UST systems. This is an area which EPA states was not known to be prone to corrosion prior to 2007. The *Report* does not project the actual percentage of USTs storing diesel affected by corrosion nationwide. However, EPA is alerting diesel UST owners about risk from corrosion. The agency makes recommendations such as:

. . .owners check inside their tank systems and further investigate the condition of their diesel fuel tanks.

A number of industry organizations have issued statements regarding the *Report.* For example, the National Association of Truckstop Owners notes that the Coordinating Research Council (funded by the American Petroleum Institute) recently released a preventive maintenance guide for diesel storage and suspensing systems. Also, the Steel Tank Institute notes that the mystery as to why this corrosion is occurring remains unsolved at this point. EPA did not reach definitive conclusions addressing this issue.

The Arkansas Oil Marketers Association notes that its parent organization, the Petroleum Marketers Association of America ("PMAA"), has a ULSD Corrosion Task Force that is working with EPA and other interested groups to study the issue. Further, PMAA has previously requested in a March 2016 letter that the Coordinating Research Council requested studies include possible causes "that may occur above the terminal rack."

A copy of the March 2016 PMAA letter can be found here.

A link to the EPA *Report* can be downloaded here.