



## **NEW STUDY RELEASED ON ACCELERATED CORROSION PHENOMENON IN ULSD UST SYSTEMS**

**MONDAY, September 10, 2012** - A new study involving reports of an unusual phenomenon involving accelerated corrosion in UST systems storing and dispensing ultra low sulfur diesel fuel (ULSD) has just been released. The independent study conducted by Battelle Memorial Institute was funded by PMAA and seven other industry stakeholders who make up the Clean Diesel Fuel Alliance (CDFA). The study was initiated two years ago after a handful of UST operators reported accelerated corrosion occurrences primarily in submersible turbine pumps, drop tubes, sensor probes and dispenser components. The Battelle study sampled six sites nationwide that reported the accelerated corrosion phenomenon in ULSD systems.

The study concluded that corrosion occurring in systems storing and dispensing ULSD is likely due to the dispersal of acetic acid throughout USTs. The acetic acid is likely produced by bacteria feeding on low levels of ethanol contamination. Dispersed into the humid vapor space by the higher vapor pressure and by disturbances during fuel deliveries, acetic acid is deposited throughout the UST system. This results in a cycle of wetting and drying of the equipment which concentrates the acetic acid on metallic equipment causing severe and rapid corrosion.

The source of the low level ethanol contamination present in sampled ULSD tanks is not yet known. Contamination may be occurring in pipelines, terminal systems, cargo tank compartments or manifold vent systems.

It is important to note that this phenomenon is still uncommon and primarily affects system components rather than the tank itself and has not caused any known releases. It is too early to draw definitive conclusions on how ULSD tanks are being contaminated with ethanol or why accelerated corrosion occurs in a very small percentage of ULSD tanks while the majority of ULSD tanks remain largely unaffected.

PMAA and the other stakeholders in the CDFA are currently deciding whether to move forward with further research. Battelle recommends that additional research be focused on samples from a larger and more diverse set of USTs over a longer period of time. The study would sample and monitor ULSD tank systems with and without accelerated corrosion events and investigate the possible source of ethanol contamination.

The full 146 page study is available [here](#).

Please contact Mark S. Morgan, PMAA Regulatory Counsel at [mmorgan@pmaa.org](mailto:mmorgan@pmaa.org) for questions or further information on this issue.