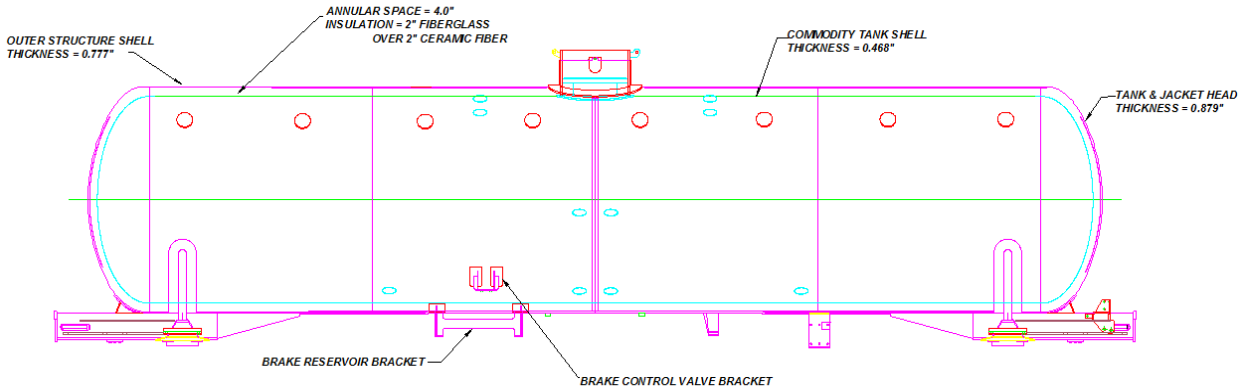
CI Information Bulletin

Date: January 22, 2015

Subject Matter: UTLX Next Generation Chlorine Tank Car (DOT-SP-15036); Emergency Response Damage Assessment & Breach Mitigation Recommendations

Description: Union Tank Car Company has developed a new chlorine tank car design that is believed to provide improved protection from puncture in an accident. The car features a "pressure tank-within-a-pressure tank" design that dictates a different approach to damage assessment and breach mitigation in an emergency.



- The **fittings** (i.e. service valves and relief devices) present no unique issues for emergency responders. Procedures for addressing leaks from these fittings are covered in Chlorine Institute training modules on "Tank Car Valves & Proper Use of the C-Kit".
- The **protective housing** meets FRA rollover requirements AND the valves "fail safe," sealing below the pressure plate if sheared off – thus providing a double layer of protection.
- The **pressure plate** presents no unique issues for emergency responders.
- The commodity tank is not rated for **full vacuum** (30" Hg). Union Tank recommends no more than 10" Hg vacuum on the commodity tank, which is within acceptable limits for field transfers.
- If this car is involved in an accident, the initial **damage assessment** should focus on inspection of the outer tank and sampling of the annular space between the tanks (i.e. checking pressure and the potential presence of chlorine). The four drain ports on the bottom of the outer tank can be used to check the integrity of the inner tank.
- If this car is involved in an accident and it is determined that the inner tank may have been breached, the following **breach mitigation actions** are recommended:
    - If the outer tank is also breached, install a patch on the outer tank, connect vapor transfer lines to the drain ports on the bottom of the outer tank and transfer chlorine vapor. Position the tank so that its service valves are on the bottom and gravity feed the liquid chlorine pump from the service valves.
    - If the outer tank is not breached (potentially involving a leak at the nozzle), connect vapor transfer lines to the drain ports on the bottom of the outer tank and transfer chlorine vapor. Position the tank so that its service valves are on the bottom and gravity feed the liquid chlorine pump from the service valves.
    - If it is necessary to patch the inner tank, cut away the outer tank with an arc gouging torch and proceed with patching.