	Fuels Safety Program	Ref. No.: FS-249-20
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Subject: **Single-Wall Underground Equipment**
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The following is a compilation of the existing requirements for underground single-wall equipment in the Liquid Fuels Handling Code 2017 (LFHC), for easy reference. This advisory does not contain any new requirements.

Grandfathered Installations
Facilities/equipment must comply with the Code that was in effect the date they were installed and must be maintained in accordance with current Code. (LFHC 1.2.2) There is no requirement in current LFHC to remove underground single-wall tanks (UST) if they are not leaking (LFHC 2.2.5.).

Facilities can lose their grandfathered status if the license lapses for more than 12 months. (LFHC 1.3.5). To obtain a new license, the facility must be upgraded with double-wall underground equipment or with aboveground equipment. TSSA no longer grants variances for single-wall underground equipment, when a new license is required.

Leaking Single-Wall Steel UST
The UST must be taken out-of-service immediately and all single-wall, steel UST's in the same tank nest must be removed within 12 months. (LFHC 2.2.5)

Out-of-Service Single-Wall UST
If out-of-service for one year or more, single-wall steel underground tanks and piping must be removed. (LFHC 2.4.2.2)

Single-wall fiberglass reinforced plastic underground tanks must be removed if out-of-service for 2 years or more. (LFHC 2.4.2.1)

Cathodic Protection Tests
Cathodic Protection tests must be done on underground single-wall steel tank systems (i.e. tank and piping) every two years. (LFHC 2.3.1.2)

If the piping fails the Cathodic Protection test, the owner/operator must do a leak test on the piping within 30 days. If the pipe passes the leak test, then the piping system may continue in operation for up to 12 months. Within 12 months, all underground single-wall, steel piping associated with the same tank nest as the pipe run that failed the Cathodic Protection test, must be removed from the ground. (LFHC 2.3.1.4)

Leaking Single-Wall Steel Piping/Fittings
The piping/fittings must be taken out-of-service immediately, and all underground single-wall steel piping systems must be removed from the facility within 12 months. (LFHC 7.4.2)

Culverts
All below-grade submersible pumps must be installed in a monitored sump by October 1, 2022. (LFHC 4.5.2.10)

Leak Detection – UST's

Inventory reconciliation (i.e. dipping the tanks)	precision leak test every two years
Monthly Statistical Inventory Reconciliation (SIR)	precision leak test every five years
Electronic in-tank leak detection	no periodic precision leak test required

If a leak is suspected in a single-wall UST, conduct a precision leak test to confirm and follow the requirements in clauses 7.5.12., 7.5.13 and 7.5.14 of the LFHC.

Leak Detection – Piping

Suction piping with single vertical check valve immediately below the pump and inventory reconciliation	precision leak test every two years (annually for threaded galvanized pipe).
Suction piping with single vertical check valve immediately below the pump and SIR	precision leak test every five years
Pressure Piping	Electronic Line Leak Detection (ELLD) The ELLD shall be programmed to run the 0.76 L/h test every month and the 0.38L/h test annually and shall shut down the submersible turbine pump when a leak is detected. (LFHC 7.4.3)

If a leak is suspected in single-wall piping, confirm the leak and replace the pipe with double-wall piping.

The piping may be pressure tested in accordance with section 7.6.4. of the LFHC.

Leak detection systems shall be maintained and tested at least once per year or in accordance with the manufacturer's instructions and a written record of the maintenance and testing shall be retained. (LFHC 4.6.9)