

BULK STORAGE TANK REGULATION AND INSPECTION BY EPA AND DOT

“A bulk storage container used to store oil while serving as a breakout tank for a pipeline or other transportation-related purpose would be subject to both DOT and EPA jurisdiction.” - EPA’s SPCC Guidance for Regional Inspectors.

With few exceptions, regulation of bulk storage tanks at liquid terminals comes under the jurisdiction of EPA. Yet in limited instances, some EPA tanks also come under the dual jurisdiction with DOT as pipeline breakout tanks.

From 49 CFR 195.2, DOT defines a breakout tank as one “used to (a) relieve surges in a hazardous liquid pipeline system or (b) receive and store hazardous liquid transported by a pipeline for re-injection and continued transportation by pipeline.” EPA’s definition of a breakout tank under 40 CFR 112.2 is operationally identical.

In interpreting this definition, DOT states that ‘re-injection’ of product into the *originating* interstate pipeline need not occur if it flows into *any* DOT regulated pipeline. Similarly, for ‘continued’ transportation to apply, the product need not continue to an initially intended destination. It only requires that the product again moves through a DOT pipeline once having passed through the breakout tank.

Determination of DOT regulatory jurisdiction

The following scenarios relate to a bulk storage tank within an EPA-regulated tank farm that may be supplied by a DOT-regulated pipe:

It is NOT a breakout tank and is thus subject only to EPA regulations if the tank discharges:

- Exclusively to tanks or conveyances within the confines of the facility;
- Into operations at a contiguous facility; or
- Across public roads or other non-contiguous lands before returning to an EPA facility. This condition is subjective and may apply only when the distance outside of the EPA facility is small, but in no case if the pipeline crosses a commercially navigable waterway or exceeds one mile in length between facilities.

It IS a breakout tank and subject to dual regulation by DOT as well as EPA if the tank discharges:

- Back into the DOT-regulated source pipeline; or
- To any other DOT-regulated pipeline.

Once a facility determines agency oversight for a given tank, minimum inspection and testing requirements may be evaluated.

Inspection and testing requirements, EPA versus DOT

For an EPA tank, the inspection process is subject to Spill Prevention, Containment and Countermeasure (SPCC) regulations and thus certified good engineering practice. For a DOT tank, the process is subject to API 653. The latter may be a more stringent standard as it is more prescriptive, providing for less subjectivity.

EPA

The inspection and testing requirements of an EPA regulated tank are defined under 40 CFR Part 112.8(c)(6) for Bulk Storage Containers. Under this section, the inspection and testing requirements are as follows:

- Each aboveground container shall be tested for integrity both on a regular schedule and whenever material repairs are made. The frequency of and type of testing must take into account container size and design (e.g. floating roof, skid-mounted, elevated, or partially buried).
- Visual inspection shall be combined with *another* testing technique, such as hydrostatic testing, radiographic testing, ultrasonic testing, or another system of non-destructive shell testing.
- Comparison records shall be kept and the container’s supports and foundations inspected.
- The outside of the container shall be frequently inspected for signs of deterioration, discharges, or accumulation of oil inside diked areas. Inspection and test records are to be kept under usual and customary business practices for purposes of this paragraph.

The resulting inspection schedule as defined by the terminal may or may not reflect an industry standard such as API 653. Either way, a Professional Engineer (PE) must certify that it meets good engineering practices. SPCC regulations also require an EPA tank have one of the following high-level sensing devices:

- A high liquid level alarm with an audible or visual signal continually under surveillance;
- High liquid level pump cutoff devices set for a predetermined level;
- Direct audible or code signal communication between gauger and pumping station; or
- A fast response system to determine liquid level (digital computer or direct vision gauges) attended by a person to monitor the filling operation.

The chosen device must be regularly tested to ensure proper operation.

DOT

Requirements for inspection of in-service DOT breakout tanks are defined in 49 CFR 195.432. This subpart states that operators shall “inspect the physical integrity of in-service atmospheric and low-pressure steel aboveground breakout tanks according to section 4 of API Recommended Practice 653.” This standard calls for the following inspections:

- Routine in-service external inspection of the tank’s exterior surface, checking for leaks, shell distortion, preferential corrosion, foundation condition, coating condition, insulation, and condition of auxiliary systems and appurtenances. These inspections shall be conducted at minimum every 2-3 weeks, or more frequently should the quarter corrosion-rate life of the shell be less than 5 years.
- Formal scheduled in-service external visual inspections shall be conducted by a qualified inspector at a frequency of every 5 years, or at the quarter corrosion-rate life of the shell if less than 5 years.
- In-service ultrasonic shell thickness measurement shall take place after 5 years for a new tank or where the corrosion rate is not known. Where a corrosion rate is known, an inspection rate shall be calculated but not to exceed 15 years.
- Internal inspection shall take place on a schedule determined by the tank bottom corrosion rate. When corrosion rate is not known, a subsequent inspection shall be scheduled within 10 years of the first. This inspection frequency shall never exceed 20 years. For “unique combinations of service, environment and construction”, an alternative internal inspection interval may be established and documented.

If the tank bottom is not accessible for assessment as required under API 653, bottom integrity may be assessed in accordance with API Recommended Practice 651 which requires a cathodic protection system and maintenance program (Reference 49 CFR 195.573 (d)).

DOT tanks must have overfill protection system installed according to API Recommended Practice 2350 which requires:

- Tanks to be gauged by personnel frequently during product receipt with frequent acknowledged communication to the supply controller so that flow can be promptly shut down or diverted;
- High-level detection devices independent of tank gauging equipment with alarms located where on-duty personnel can promptly arrange for flow stoppage or diversion;
- An independent high-level detection system that will automatically shut down or divert flow; and
- Electrically supervised instrumentation, or equivalent.

Conclusion

For facilities with any tank which both receives product from and discharges product to interstate pipelines, the inspection and testing requirements for the tank may be more prescriptive than for others within the facility. In these cases, the inspection and testing schedule must be verified against the requirements of API 653 to ensure continued compliance under DOT jurisdiction while continuing to meet EPA’s SPCC requirements.