



Safety Alert No. 472

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Contact: bseepublicaffairs@bsee.gov

Phone: (800) 200-4853

Damage to Drain Nozzles on Tote Tanks Poses Leak Hazard



Figure 1: Tote tank drain nozzle separated from tank after impact with another object, resulting in loss of containment.



Figure 2: Tote tank drain nozzle cracked after contact with rack, resulting in a leak.

BSEE has become aware of multiple instances in the Gulf of Mexico region where tote tank drain nozzles have been damaged, leading to leaks and spills during lifting events. These incidents have raised significant safety concerns, and it is crucial that possible risks are promptly addressed to prevent further occurrences.

Recent incidents include:

1. **Crane operator incident:** A crane operator lifted a tote tank filled with diesel fuel that was surrounded by other items on the deck. The drain on the tote tank came into contact with another item on the deck during the lift, resulting in the drain breaking off. This incident led to a significant diesel fuel spill, affecting both the deck and the surrounding water. (See Figure 1)

2. **Chemical injection skid incident:** During lifting operations involving a fully loaded 550-gallon tote tank, the tote tank's drain nozzle came into contact with a crossmember on the rack of a chemical injection skid. Upon inspection, it was discovered that the nozzle extended beyond the tank wall by at least one inch. This contact caused a crack in the weld of the drain nozzle, resulting in a minor leak. (See Figure 2)

These incidents underscore the critical need for heightened awareness and precautions during lifting operations involving tote tanks. To ensure the safety of personnel, equipment, and the environment, it is imperative to implement necessary measures to prevent similar occurrences in the future.

Therefore, BSEE recommends that operators and their contractors, where appropriate, consider the following:

- Ensuring the nozzle and elbow assembly are properly positioned before lifting a tote tank.
- Making certain that tank nozzles remain unobstructed by nearby objects and cannot become entangled with any items throughout the entire path the tank will be transported.
- Ensuring that personnel are not able to encounter hazardous materials being transferred on or around the facility.
- Maintaining proper Safety Data Sheets (SDSs) on site and ensuring that crews can react to spills and loss of containment accordingly.
- Keeping sorbents, barriers, towels, and other products on site to prevent environmental spillage or injury to personnel.
- Making sure to implement the following safety measures during lifting or movement operations of tote tanks:
 - 1.) **Utilizing protective equipment:** When handling tote tanks with protruding nozzles, consider employing protective equipment such as bumper guards or similar devices. These guards act as a barrier, preventing direct contact between the nozzle and surrounding equipment or structures.

- 2.) **Isolating drain connection:** If feasible, isolate the tote tank's drain connection from the nozzle before moving or lifting the tank. This isolation can be achieved by securing the drain connection separately. Ensure that it is properly secured to prevent unintentional contact during handling.
 - 3.) **Removing the nozzle:** In cases where the nozzle protrudes beyond the dimensions of the tank wall and it cannot be adequately protected or isolated, consider removing the nozzle temporarily before moving or lifting the tank. This removal should be conducted with care and precision to ensure the nozzle remains within the tank's dimensions for protection.
- Identifying the tote tanks with protruding nozzles and marking them distinctly to ensure easy detection. One effective method is applying paint to multiples sides of the tanks, emphasizing the presence of protruding nozzles.
 - Reviewing [Safety Alert 383](#), *Lifting Incidents Involving Tote Tanks*.

– BSEE –

A **Safety Alert** is a tool used by BSEE to inform the offshore oil and gas industry of the circumstances surrounding a potential safety issue. It also contains recommendations that could assist avoiding potential incidents on the Outer Continental Shelf.

Category: Cranes/Lifting, Critical Lifts, Equipment, Spill/Pollution