

Tank Cleaning – Physical barrier on tank cleaning machines

1. Background

We recently had an incident where tank cleaning was started in a tank containing cargo.

The vessel has fixed tank cleaning (TC) machines and the water connections for the tanks scheduled for cleaning were checked and verified, by the team leader, before starting up.

By a mistake, the water supply had also been connected to a TC machine in a loaded tank.

As this tank was not scheduled for cleaning, it was also not subject for verification by the team leader.

The error was only detected when the tank pressure increased, and the PV valve released (no cargo spill).

About 30m³ of seawater had been introduced into the tank when the water supply was stopped.

The tank contained Kerosene (Annex I) and the water was later settled and delivered to shore facilities. The product above the oil/water interface was verified sound product.

Note: *The potential consequence of the incident is major. Imagine if the tank was containing Isocyanate or other products reacting with water.*

2. Causes

2.1 Immediate

Water supply incorrectly connected to a TC machine fitted in a loaded cargo tank.

2.2 Root

Verification of the connections for the tanks scheduled for cleaning was done before starting up.

But there was no physical barrier (Lockout/Tagout) in place to prevent an incorrect connection and the error was not detected before starting up the tank cleaning

3. Lesson Learned

Proper marking – Master to verify that the tank cleaning machines are properly marked

Physical barrier – From the time a cargo tank is accepted for loading, all fixed tank cleaning machines shall be verified sealed off (Lockout/Tagout)

Odfjell Tankers has amended the Certificate of cleanliness - FOR-0080 (Attached) and added following:

“Connections for tank cleaning machines – Sealed (Lockout/Tagout)” “Blank / Yes”

Note: *Each Manager to decide how to seal (Lockout/Tagout) the connections, but it must be arranged in a way where accidental connections are avoided. e.g, electrical cable strips or similar.*

It is expected that the seal (Lockout/Tagout) is kept in place until the empty tank certificate is signed by the cargo surveyor. Only then, can the responsible person remove the seal (Lockout/Tagout).