

Plugged line & equipment – More than a nuisance

September 2019

The CSB investigated an incident where a process upset plugged the vent (Fig. 1) and the relief device on the waste surge tank. When the maintenance personnel came to open the surge tank to clean-out the surge tank, residual pressure blew the heavy cover off (Fig. 2), killing all 3 of them. Why did this happen?

Why did the maintenance people open the tank while it was under pressure? During the start-up the process had diverted off-spec product to the surge tank that released gas, and fouling of the vent had increased pressure in the tank. The pressure indicator (gauge) was also plugged and did not register any pressure.



Fig. 1 Plugged vent line

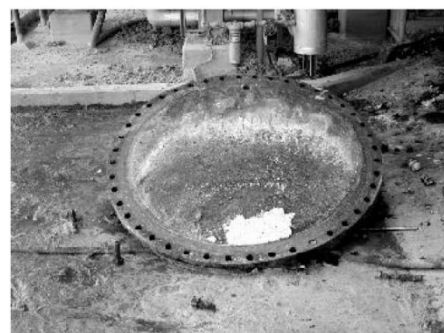


Fig. 2 Blown-off lid

Did you know?

- Plugged lines and equipment are a nuisance; clearing them safely can be a lot of messy work. Plugged lines and equipment can be connected with and indicate another major issue – blocked key instrumentation or relief devices.
- Many things can cause plugging, higher melting materials, solids in the process stream or corrosion products. Unplugging equipment needs proper isolation before starting any line/equipment opening. (LOTO).
- A procedure should exist or be created to list the correct steps and methods before starting clearing the lines.

What can you do?

- Plugged lines and equipment are indicators of other problems – a process upset, excess corrosion, etc. Report plugging even if a minor process problem occurs.
- Frequently plugged lines or equipment need to be investigated to avoid upsets and problems with clearing them.
- Before clearing lines or equipment stop to review how the work will proceed and what other hazards could be present creating exposure during clearing.

When equipment plugs, it may be a warning that other equipment is plugged too

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