



## Bypassing of storage tank safety features

### What happened?

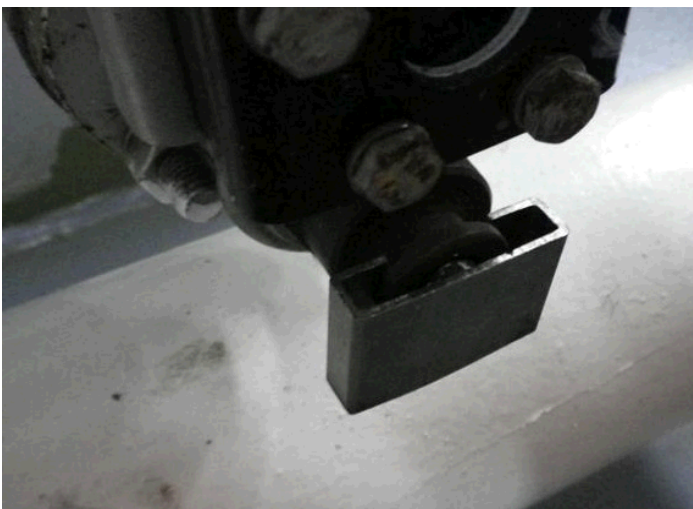
Recent inspections have found instances where safety features associated with machinery space oil and fuel tanks have been intentionally bypassed. Deliberately bypassing the spring return valves of tanks containing hydrocarbon inventories by securing them open via a number of means, including zip ties, appears to have become increasingly common practice.



The picture above shows a sight glass for a lube oil tank in a machinery space. Not only is the valve leaking but it is zip tied in the open position.



The picture above shows a liquid storage tank sight glass fitted with screw down valves instead of a spring loaded valve.



This picture shows a flammable liquid storage tank level indicator with a sight glass spring loaded valve, kept in the open position with a "home made" clip.



Self-closing valves between a sight gauge and fuel tank must be installed in accordance with the international convention for safety of life at sea (SOLAS). It is a requirement of the SOLAS convention, Chapter II-2, Section 2.2.3.5.2 that the failure of such gauges or overfilling of the tank shall not permit release of fuel into the space. This requirement is also addressed, with similar wording, in classification rules which cover the construction of vessels. In addition to application to vessels that are facilities, NOPSEMA considers compliance with this SOLAS requirement to be good practice for all facilities.

### What could go wrong?

In bypassing self-closing valves the entire hydrocarbon inventory of the storage tanks could be released if the sight glass integrity is compromised. For example, loss of the tank inventory could occur during a machinery space fire or through mechanical damage leading to failure of the sight glass.

### Key lessons

- Operators should ensure safety devices on their facilities are not compromised.
- Operators should ensure they are fully compliant with commitments made in their safety case. For example, the requirement to meet the SOLAS convention requirements.
- Operators should ensure their personnel are aware of the risks associated with bypassing safety devices.
- If there is a need to continually monitor lube oil or other hydrocarbon storage tank levels within tanks, operators should consider appropriate alternative means for obtaining tank level measurements to ensure equipment remains safe and without risk to people.

### The law

- Operators have a duty of care to take all reasonably practicable steps to ensure equipment at the facility is safe and without risk to health (Clause 9, Schedule 3 to the *Offshore Petroleum Greenhouse Gas Storage Act 2006*).
- All persons, including employees, have a duty of care to take all reasonably practicable steps to ensure that they do not take any action, or make any omission, that creates a risk to persons on the facility (Clause 15, Schedule 3 to the *Offshore Petroleum Greenhouse Gas Storage Act 2006*).

### Contact

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