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To: ALL LIQUIP BRANCHES
TANK MANUFACTURERS
SALES - DOMESTIC/EXPORT/WORKSHOP

From: DAVID GREGORY
ENGINEERING MANAGER

Subject: TECH TALK NO. 43

TANKER OVERFILL PROTECTION : SETTING TRIP HEIGHT OF PROBES

Most oil companies specify that a tanker compartment shall have 200 litres capacity left above the probe trip height.

This safety requirement takes priority over any other consideration such as existing "Safe-Fill" markings on dipsticks and tanks.

(Explanation is attached).

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TECH TALK NO. 43

TANKER OVERFILL PROTECTION : SETTING TRIP HEIGHT OF PROBES

“Many tankers do not have their overfill probes installed deep enough to allow rack flow over-run to stop before overflow occurs.”

Comment from a major oil company in USA.

Bulletins have also been issued by oil companies in Australia and this note is a re-issue of previous reminders.

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- * The requirement is that all road tankers should have their probes set to actuate at least 200 litres below tank full.

This is because all loading racks require a delay of 4 to 6 seconds from the time a probe is wetted to the closure of the rack valve. This time delay is necessary to allow a flow rate of 2,400 litres/min to be stopped without any damaging shock or pulsations. 2,400 litres/min is 40 litres/second so in 5 seconds there is a flow of 200 litres at max rate.

- * Most current tankers have their safe-fill marked (and possibly entered into Terminal Automation Systems) as equal to 3% of the full capacity.

Where compartments are smaller than 7,000 litres, such a setting risks an overflow in the event of a probe actuation due to the insufficient space left for the over-run volume during shut-down.

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