

How to minimize your insurance risk with Overfill Prevention



The Oil & Gas industry is no stranger to incidents that have resulted in stricter regulations and guidelines for operating safely and responsibly. Since the Buncefield overfill accident in 2005, overfill prevention has had a spotlight on it from global regulatory organizations to make sure this type of accident did not happen again. Both American Petroleum Institute (API) and Health and Safety Executive (HSE) have instituted new guidelines to help



ensure proper overfill prevention through Management Systems and Safety Integrated processes for level measurement in storage tanks. All of these guidelines are targeted at reducing the risk of a Buncefield-type incident occurring at any storage terminal. There are benefits to risk reduction that go beyond incident prevention, including a reduction in liability insurance for storage terminals. Storage terminal operators and insurance providers have different perspectives on liability insurance and how they evaluate and minimize the risk.

Assessing Insurance Risk

Insurance agencies look at how much a storage terminal location has minimized the risk of events deemed catastrophic to the environment and employees. Overfill prevention is one aspect of the risk mitigation that is reviewed for liability insurance. The insurance agency will review the local jurisdictional requirements and industry guidelines when determining the insurance rates. During this review, the insurance agent is looking for evidence that

the safety measures are properly maintained, as well as having each safety measure functioning properly. It is important for the devices that are used as safety guards to have an ability to be easily tested and maintained. Many insurance agencies will make recommendations based on failure modes they have experienced to ensure safety. These recommendations include processes to maintain operation, but also features of the level transmitters or switches themselves. Level transmitters for tank level should have internal diagnostics that are able to identify issues when they exist. Level alarms (or switches) should be able to be proof tested either electronically or manually to ensure proper functioning. By choosing the appropriate level transmitters and switches with these capabilities, along with additional safety measures outlined in API2350 5th edition, the overall risk of an incident is reduced and the insurance premium is much lower.

Assessing Operation Risk

From the insurance customer's perspective, the narrative changes. Plant operations staff are concerned with the ability to operate efficiently based on expenses and costs. Storage terminals have to manage both fixed and variable costs in order to operate profitably. As it was noted above, this can be managed by making sure that risk has been reduced across the terminal. As facilities and their operators come into compliance with API 2350 5th edition, they can justify to insurance agencies the effort towards reducing and mitigating risk. Typically, they can expect to be audited by the insurance entity (external or internal) to review their level instrumentation annually, so it is important to stay compliant. Operators take on a large amount of risk by not following the recommendations of the insurance agencies and could face fines for not complying with industry standards if an incident were to occur. They can evaluate the level instrumentation on the market, but it can help to get guidance from suppliers that parallels the insurance agency recommendations.



Level Transmitter and Switch Providers

By selecting the appropriate level instrumentation, a storage terminal site can demonstrate that it has taken measures to reduce the risk of overfill or other hazardous situations. As level instrumentation technology has advanced, continuous level transmitters have become more prevalent in storage terminal level control. There are many transmitters on the market that have self-diagnostics that are continually running health assessments of the device. Based on the storage terminal's assessment of critical tank levels, the transmitter can identify when these levels are reached, allowing ample time to remove product from the tank as part of the overfill prevention system. Beyond previously using point level controls, continuous level measurement devices can provide real time level readings to control rooms while tanks are being filled/emptied. This helps the operator reduce the risk of having a dangerous event by knowing the tank level in real time. A further risk reduction step is to utilize additional point level controls as the failsafe alarms. The continuous level device can have the output set to alarm certain functions, but if those were to fail, then the

additional alarms at high and low level can provide emergency shut down or emergency pumping of product to avoid an overflow. These devices can be as simple as a mechanical level switch with manual proof test capability, or they can be as sophisticated as an electronic point level switch using ultrasonic technology with built in self-test diagnostics. Either of these are industry acceptable and provide an added layer of protection to meet industry standards and reduce overflow risk.

Overfill Prevention Resources

There are many level instrumentation products on the market that can help an owner/operator reduce the risk of an overflow spill or catastrophic event. They range from simple to complex, but all add to the goal of reducing the possibility of an incident. Magnetrol® outlines information on industry standards with the offering of the overfill prevention kit. This kit outlines how to assess the important levels where instrumentation must control either a pump or a valve to make sure the product in the tank stays at a safe level. It then recommends the appropriate technologies based on tank alarm needs, the product that is in the tank and the type of tank configuration. Using these level technologies demonstrates a reduction in risk. This means you can reduce your insurance liability costs and improve your profit margin.



Visit overfillprevention.magnetrol.com for more information on how Magnetrol® can help in your overfill prevention needs.



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