A BETTER INSULATION SOLUTION FOR FLOOD PRONE AREAS

Retention areas around storage tanks are a necessity to keep accidental leaks contained to the site. Diked areas must be sufficiently impervious to contain discharged product, keeping the facility and the community surrounding it safe from harm.

Unfortunately, this can cause another problem when torrential rains cause flooding. Rain and floodwater collecting in the retention area can sit there for an extended period (depending on the severity of the storm) and how long the rain continues. When this happens, a string of maintenance issues will arise that can cause long-term damage, costing time and money to clean up.

After the water fills the area around the storage vessel (and if there is no leaking product), the main issue that will appear is saturated insulation. It doesn't matter how well the jacketing is fabricated, standing water can be absorbed into the insulation material, and its negative effects will begin to take hold quickly. When the water subsides, the most immediate problem is that the effectiveness of the insulation value will have dropped significantly and valuable energy will be drained from the system. That moisture will have wicked throughout the insulation, and its effectiveness will have decreased anywhere the moisture is present. In fact, mineral wool can hold many times its own weight of water. Corrosion under insulation (CUI) will follow soon thereafter, and it can creep throughout the system if proper remediation procedures are not taken quickly.

CORROSION UNDER INSULATION

All of this can lead to lost energy, maintenance concerns, and safety hazards for those working and living around a plant or terminal. There is a solution to the problem, and when proper preventative steps are taken, moisture in insulation due to flood events never needs to be an issue again.

Mascoat Industrial-DTI thermal insulating coating is a spray-applied

Continued on page 94 ›

Continued from page 92

acrylic coating filled with ceramic and silica air-filled particles. It is distinctive in the insulation industry, as it adheres directly to the primed surface and does not allow for moisture intrusion. In cases of ponding water or flood-prone areas as described above, it will need a topcoat to completely seal out moisture. But this presents a unique answer to the above problem, in that it can be combined with conventional forms of insulation to create a system that is overall thermally efficient, protects personnel working on and around the vessel, and reduces future maintenance issues.

Retention basins vary in depth depending on the needs of the facility, but water lines on storage vessels after flood events have been noted up to 5 feet in height. By applying Mascoat Industrial-DTI with a topcoat to the bottom 6-8 feet above the chime, a company can effectively prevent saturated insulation due to flooding. With moderately custom fabrication, conventional insulation and jacketing can be installed above the insulating coating section. This combination system can effectively keep moisture out of the fibrous insulation, while providing personnel protection and energy retention in the areas where flooding is an issue. After the water recedes, the coating will not hold any moisture and the negative effects described earlier will not be an issue.

One company in the rainy Pacific Northwest (US) had issues with CUI due to moisture intrusion at the area just above the chime. By installing DTI to the bottom 2 feet of the tank and specially fabricating the insulation jacketing immediately above it, the company was able prevent future issues with moisture entering the insulation and causing constant maintenance worries. In fact, the maintenance supervisor said, "I thought this was a pretty slick system for addressing the issue of under insulation corrosion damage. In the past, I've used a coating system suitable for under insulation service. But this way, you still have a visual on the chime and you don't have to strip off insulation to perform an inspection."

By planning ahead or remediating damaged insulation with a long-term solution using Mascoat Industrial-DTI combined with conventional forms of insulation, facilities can achieve their desired energy savings while preventing maintenance needs and safety concerns stemming from saturated insulation surrounding a storage tank.

Article by Will Conner, Marketing Director at Mascoat Insulating Coatings.

For more information visit www.mascoat.com

CVR Refining and Plains All American Pipeline JV

CVR Refining and Plains All American Pipeline have formed a 50/50 joint venture, Midway Pipeline, which has acquired an approximately 100-mile, 16-inch Cushing to Broome pipeline system from Plains. The pipeline system connects CVR Refining's Coffeyville, Kansas, refinery, which has a rated capacity of 115,000 barrels per calendar day, to the Cushing, Oklahoma, oil hub. Midway will contract with Plains to continue its role as operator of the pipeline.

In a separate transaction, CVR Refining and Plains announced that CVR Refining has agreed to acquire the Cushing to Ellis crude oil pipeline system from Plains. The approximately 100-mile, eight and 10-inch pipeline system helps link CVR Refining's 70,000-barrel-per-calendar-day Wynnewood, Oklahoma, refinery to Cushing.

Chief Executive Officer of CVR Refining, Jack Lipinski said: "We are excited to expand CVR Refining's logistics operations through our acquisition of the Cushing to Ellis pipeline and the Midway joint venture, which provides CVR Refining 50 percent ownership of the Cushing to Broome pipeline. These acquisitions ensure long-term access to Cushing-based crude oil for our Coffeyville and Wynnewood refineries, securing our mid-continent edge of sourcing price-advantaged crudes."

Chief Operating Officer of U.S. of Plains All American Pipeline, Willie Chiang said: "We are pleased to announce the planned asset sale with CVR and to work as partners in the strategic joint venture. These transactions are part of our previously announced asset divestiture program."

For more information visit www.plainsallamerican.com and www.cvrrefining.com