HydroLock

HydroLock Case Histories

Case History - TEG Dehydrator

Hazard Control Technologies was asked for help to treat a TEG Dehydrator prior to opening for inspection and repair. The tower had a history of heavy iron sulfide contamination that caused burning to take place whenever the tray internals were exposed to air. A procedure was agreed to by company personnel and the client, who introduced a 3% HydroLock mixture in water that was preheated using a portable steamer vehicle. The treatment consisted of introducing 400 gallons of HydroLock/water into the top tray of the dehydrator. The mixture cascaded down through the three sections of the tower for 2 hours. At the end of the treatment, the man-ways were opened. Internal vapor checks indicated 0 ppm H_2S, and less than 5% LEL. The residual iron sulfide did not ignite. Normal time to achieve H_2S and LEL parameters acceptable for entry had historically been 12 hours. HydroLock reduced entry prep time by a factor of six.

Case History - Condensate Stripper and Reboiler

Hazard Control Technologies was asked to treat a Condensate Stripper and Reboiler with HydroLock. A 3% HydroLock mixture in water was used and introduced into the top section of the stripper using a portable steam vehicle. The mixture was also introduced into the reboiler through the vapor line connecting the reboiler to the stripper tower. Four hours of steaming into the stripper reduced H_2S and LEL's to a point where ventilation could commence in preparation for vessel entry. The HydroLock/water mixture was left inside the shell side of the reboiler in order to allow the fouled reboiler exchanger to soak until the next day. The heat exchanger was later pulled out and cleaned. Cleaning which would normally require four hours was completed using a lower pressure washer in less than an hour.

Case History - Fouled Heat Exchanger

Hazard Control Technologies was approached to treat a heavily fouled heat exchanger bundle on a condensate stripper that another contractor had been unable to chemically clean. A 6% mixture of HydroLock and water was used. The mixture was heated to 176°F (80°C) and the exchanger bundle was allowed to soak over the weekend. When the bundle was pulled, the exchanger was cleaned with a regular steamer vehicle. Prior to this, the bundle had required special high pressure equipment during the cleaning phase.

Case History - Crude Oil Storage Tank

The client asked Hazard Control Technologies for advice to degas and prepare a Crude Oil Storage Tank for entry and subsequent cleaning. Residuals, including asphaltine were expected since the tank had been in continuous service for ten years. HydroLock at 3% in a water mixture was introduced into the tank which had a diameter of 46 feet. 5% LEL was achieved within 2 hours. The vessel man-way was opened and ventilation established. Internal conditions were constantly monitored during the removal of the oily sludge. Readings indicated that even though the sludge was physically disturbed by the maintenance crew, the LEL remained below 5%. Benzene levels, a major safety concern for the client, remained at 0 ppm throughout the work.

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