Gulf Coast Asphalt Terminal Controls H_2S

Reduces Exposure, Saves $60,000 per year

Athlon Solutions

The chemistry of results™

Background and Challenges

Athlon Solutions was approached by a Gulf Coast Asphalt Terminal to assist in managing hydrogen sulfide (H_2S) gas. The facility receives asphalt blending components to produce road asphalt and roofing tar. The majority of the blending components originate from refineries and is typically sour, with H_2S levels commonly exceeding 5,000 parts per million. At 100 ppm, H_2S is immediately dangerous to life and health, and at low concentrations (parts per billion levels), H_2S has a repugnant odor. This facility has a target of 0 ppm in the vapor space.

The incumbent used a scavenger to mitigate the issue, but incorrect chemical selection and a lack of support from the service company left the customer unable to effectively scavenge the H_2S to meet the target, putting safety at risk and requiring expensive, time consuming retreats. Additionally, supply shortages and product stability issues led to further operational challenges.

Athlon Solutions' Recommendation

Athlon Solutions performed surveys on-site and tested samples from the terminal. It was determined that Athlon Solutions' high temperature, metal based additive RPS-886 would be the best fit to reduce H_2S levels in the asphalt to the target of 0 ppm. It was also concluded that previously associated operation challenges could be avoided with this product selection, as its lower dose rate and inherent improved stability would improve issues associated with supply chain and stability.

Through our investigation, it was discovered that additional H_2S was being created in the asphalt blending process. Athlon Solutions recommended an alternate injection strategy that would help the terminal optimize their chemical usage and reduce the frequency of retreating.

Performance Results

Since implementation, RPS-886 has drastically improved H_2S related issues at this terminal.

1. RPS-886 has proven to be a highly effective and cost efficient product. Less than 1 PPM of product is required for every 10 ppm of H_2S in the vapor space.
2. Significant reduction in H_2S excursions, resulting in improved safety performance
3. Through optimizing the injection strategy and treatment protocol, retreatment requirements have dropped significantly. The operators agree that the injection equipment is less labor intensive and easier to use than before.
4. Zero incidences of supply short-fall
5. More than $60,000 improvement on annual chemical spend

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