

Hydrogen Sulfide Corrosion Control Document Database System for the Safety of Energy Process in Refinery Industry

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Internal corrosion of mild steel in the presence of hydrogen sulfide (H₂S) also represents a significant problem for the oil and gas industry. Increasingly more fields are being developed that in addition to CO₂ have high concentrations of H₂S. Studies have demonstrated that sulfide layer formation is one of the important factors governing the H₂S corrosion rate. The sulfide layer growth depends primarily on the kinetics of the corrosion process as is described below. Despite the relative abundance of experimental data on H₂S corrosion of steel, most of the literature is still confusing and somewhat contradictory. Therefore the mechanism of H₂S corrosion remains much less understood when compared to that of CO₂ corrosion. This uncertainty makes it more difficult to develop a model to predict the corrosion rate of mild steel in H₂S saturated aqueous solution. This study focuses on techniques of improving refinery reliability, profitability and availability. We develop hydrogen sulfide corrosion control document knowledge base system for the safety of energy process in refinery industry. H₂S CCD DB system is the basis of the corrosion control in refinery industry. It also improves the safety of refinery process and reduces the cost of corrosion greatly.