

Efficiency Increase for H₂S Extraction with SMVP™ Extraction Packing

Customer : Refinery

Tower Name : DEA Contactor

Tower Diameter : 4'-0" (1219mm)

Mass Transfer Equipment: SMVP Structured Packing, Dispersed Phase and Continuous Phase Feed Distributors and Packing Support.

Objective: The existing sieve trays had poor efficiency and severe problems of DEA carry over. Any residual H₂S not extracted has to be removed in a downstream Caustic Prewash Column – resulting in high consumption of caustic. The trays were replaced with a single bed of SMVP packing to reach the desired level of H₂S removal in the existing column.

DEA Contactor		
Conditions: Before and After Revamp		
	Before	After
LGP Throughput, bbl/hr	300	300
Volumetric Phase Ratio LGP/Amine	8	23
H ₂ S in LPG Inlet, ppm	2000	2000
H ₂ S to Caustic Prewash, ppm	950	60
Life of Caustic	4 days	28 days
Caustic Consumption, gal/day	800	105

The installation of SMVP Extraction Packing allowed the DEA Contactor to work at full capacity with improved H₂S removal and using less DEA solution.

Due to the installation of special distributors for the liquids, DEA carry over was also considerably reduced.