

عنوان مقاله:

The Effects of Using Multi-Lean Amine Streams Approach in Gas Sweetening Plant Performance

محل انتشار:

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خلاصه مقاله:

The performance of acid gas removal process by using amine solutions strongly depends on type of utilized amine. In addition, different amine solutions results in different absorber temperature profile that is very important in controlling corrosion problems. In this study, different types of amine solutions including DEA, DGA, and their mixture with MDEA are employed using ProMax® simulation software. Also, the effects of different amine solutions and multi-lean amine stream approach on absorber temperature profile, acid gas removal efficiency and steam consumption for amine regeneration are investigated. The results show that MDEA/DGA blends can reduce maximum temperature of absorber about by 8 °C. By using multi-lean amine stream approach, CO₂ removal efficiency is increased for all amine solutions. Although, employing DGA shows very promising results, the amount of required steam is very high. On the other hand, using MDEA/DEA and MDEA/DGA require less steam for amine regeneration in comparison to pure amine solutions.

کلمات کلیدی:

Gas Sweetening Plant, Multi-Lean Amine Streams, ProMax® Simulation

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