

## Throughput Improvement & Foam Reduction in Amine Units

In order to improve profitability and stay competitive, plants in every industrial sector must increase throughput, reduce downtime and cut costs where possible. This can lead to significant strain on processes, and finding the right throughput to run a plant both efficiently and profitably can be extremely difficult.

We understand that plants struggle to maintain process efficiency while increasing throughput. Nexo Solutions offers a variety of services and technologies for the improvement of throughput in process systems as well as solutions that relieve strain on plants operating at high capacity. Our solutions include:

- Debottlenecking
- Separation Technologies
- Contamination Control
- On-Site Analytics & Troubleshooting
- Process Stabilization & Optimization
- Corrosion/Fouling/Foaming Mitigation



### Case Study

An amine unit at a gas plant was experiencing issues with contamination leading to reduced throughput. Contamination in the rich gas to the amine unit was causing foaming in the absorber and reducing efficiency of H<sub>2</sub>S removal; off gas from the process could not meet the maximum specification for H<sub>2</sub>S. For this reason, the plant was forced to reduce unit throughput to 35% of normal capacity and send excess gas to flare, resulting in dramatically reduced profitability.



### Problem

Analysis and evaluation revealed that increased contamination in the unit was due to poor coalescer performance upstream of the absorber; not only was the coalescer design inadequate for the application, the equipment was also incorrectly manufactured.

### Solution

Nexo Solutions implemented a new system consisting of dual high-efficiency coalescers with media and flow geometry more suitable for the application. The existing coalescer was re-engineered to accommodate a filtration system. The new systems eliminated H<sub>2</sub>S removal issues and foaming in the absorber, and the plant was able to increase throughput to 95% of normal capacity, meet H<sub>2</sub>S specifications, increase profitability and reduce environmental impact.



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