

# Real-time insights for AMINE PERFORMANCE

## PROVIDING A SOLUTION TO IMPROVE OPERATING EFFICIENCY

The health and condition of the amine solvent is critical to the operation of the gas plant's amine unit.

OMNI Amine Performance provides real-time visibility on the key indicators of amine solvent and amine unit performance.

This online platform is designed to monitor four important parameters of the amine solvent: **lean amine concentration, lean loading, heat stable salts and corrosion.**

Combined with plant operational data, this proprietary technology enables previously unseen insight into the operation of the amine unit.

This technology is used to actively monitor and trend key system parameters in real time to:

- Control amine concentration and optimize usage rate
- Utilize lean loading data to improve stripping efficiency
- Reallocate operator time to core areas
- Know when amine solvent parameters are out of range with alarming
- Benchmark data, correlate with plant operations and gas production

Nalco Water has a long history of providing proven digital solutions to increase operating efficiency, protect vital assets and reduce Total Cost of Operations.

## OMNI AMINE PERFORMANCE

### THE BENEFITS OF DATA IN REAL-TIME

- ANTICIPATE AND IDENTIFY POTENTIAL PROBLEMS
- CRITICAL RESOURCE CONSERVATION
- PROACTIVE RESPONSE FACILITATES LONGER ASSET & AMINE LIFE

# Amine Performance Provides Gas Plant Real-time Information Results in Operational Efficiency Improvements

## Situation

A gas processing plant experienced high operating costs in the amine unit. Amine solvent usage was triple the volume when compared to similar plants in the area. Heat Stable Salts (HSS), bicine, acetates and thiosulfates were all extremely high, increasing corrosion in the unit.

The plant wanted to identify the reason for the amine loss as well as understand where their usage rates should be based on the design and operating conditions of the plant.

## Solution

Nalco Water's OMNI Amine Performance Monitor was installed to help determine the reason for this plant's high usage. The plant used the real-time corrosion data and online trending feature to shut in a problem well.

Amine concentration, lean amine loading and HSS indicator were accessed remotely by managers and operators. As a result, daily onsite testing was eliminated.

Alerts of sudden changes in amine strength due to upsets or leaks is made possible through digital monitoring of the solvent concentration.

## Benefit

Since the Amine Performance Monitor was installed, amine solvent replacement and filter changeouts have dropped significantly. The plant used the corrosion measurements to take proactive measures to protect their amine unit from corrosion. Oxygen spikes are now caught and as a result, amine performance has improved usage rate has dropped by 68% (lbs amine/mmscf).

One year after implementation the plant saw another 16% reduction in amine consumption with water savings due to new visibility and insight on key solvent performance indicators. The plants move to becoming proactive in response to operational challenges was also realized.

Continuous validation of amine plant efficiency is viewed via the OMNI Amine Performance Dashboard.



WATER

Annual reduction of 10-20% or >50-100k gallons



ENERGY

Savings from improved regenerator efficiency



PRODUCTIVITY

Reduce/eliminate daily testing by 1.5 hours, 1638 hrs/yr

Target 1% increase in liquid product capture



COSTS

Amine performance improvement yielded >31% to 68% in cost savings (gal/mmscf processed)



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