

Real-Time MEG Monitoring Pays Off: \$7.8 Million Saved and Injection Cut by 24%

Objectives

- Control MEG (mono ethylene glycol) concentration end-to-end (injection through regeneration) to maintain safe, reliable flow assurance.
- Prevent hydrates and protect pipelines by ensuring sufficient high-strength MEG in wet gas wells and flowlines.
- Reduce chemical overuse and processing strain by balancing injection rates with regeneration capacity.
- Regenerate and reuse MEG efficiently by restoring diluted returns to target strength for continuous operations.

Our Approach

- Replaced daily manual sampling with continuous real-time monitoring by installing the Red Eye® Hydrate Guard optical sensing system at the MEG injection point.
- Enabled immediate operational response by providing live MEG concentration data instead of delayed laboratory results.
- Executed a 45-day blind field trial to validate performance under actual operating conditions.
- Maintained parallel manual sampling during the trial to independently verify measurement accuracy.
- Demonstrated reliable hydrate inhibitor control to mitigate hydrate-related flow challenges.

Value to Customer

- Verified measurement accuracy within $\pm 3\%$ during the 45-day blind trial, exceeding the required $\pm 5\%$ tolerance and enabling reliance on real-time data.
- Reduced manual sampling frequency from daily to weekly across six facilities, lowering logistics and manpower costs and saving \$7.8 million per winter season.
- Optimized MEG injection rates from $\sim 4,200$ BPD to $\sim 3,200$ BPD, cutting $\sim 1,000$ BPD of chemical use while maintaining hydrate protection.
- Lowered operating expenditure by \$98,000 per day through reduced chemical exposure and minimized long-term MEG losses.
- Established end-to-end system visibility across the 11–12 day transport cycle from plant to offshore wells, enabling data-driven decisions.
- Improved flow assurance confidence and scalability by implementing a repeatable monitoring approach applicable to additional assets and colder environments.



Red Eye hydrate guard meter installation at MEG injection point.

LOCATION

Middle East

WELL TYPE

Onshore wet gas wells
MEG injection plant

FLUID TYPE

Lean MEG (MEG and water mixture)

PRODUCTS/SERVICES

Red Eye® Hydrate Guard optical sensing system

