

Case study: Australia

Corrosion inhibition used for a wet gas system treated with MEG, meeting KPI for pipeline operations

MEG delivery system

Baker Hughes was asked to suggest a corrosion inhibitor for the largest monoethylene glycol (MEG) delivery system in Australia. The MEG was being used to treat an extensive wet gas pipeline system. The gas contained 3% CO₂ and required a robust corrosion control program.

To meet economic goals, the pipeline operator needed a reasonably priced corrosion inhibitor solution that would remain active in the MEG after regeneration. In addition, the operator required a corrosion inhibitor that would not cause emulsions, the formation of solids or foam in the MEG regeneration system.

Extensive research

Baker Hughes drew on its extensive knowledge of treating MEG systems around the world to identify a set of product candidates to treat this particular system. After laboratory testing to select the most cost-effective product and ensure its compatibility and performance under system conditions, Baker Hughes CGW24010 corrosion inhibitor was identified as the best product for this system.

Working closely with the operator's integrity management team, Baker Hughes conducted a field trial to validate the performance of Baker Hughes CGW24010 corrosion inhibitor against key performance indicators (KPI). This included collecting corrosion probe measurements and sampling for dissolved iron and corrosion inhibitor residuals.

Successful treatment

After a successful field trial period, Baker Hughes CGW24010 inhibitor was approved for full field use. After six years, corrosion rates remain low and the inhibitor is very persistent in the MEG regeneration unit. As a result, fresh corrosion inhibitor is dosed only to new MEG and topped up as needed in the existing system once every few months. And, as required, the pipeline operator has not encountered any operational problems with the MEG regenerator or the treated wet gas system while using Baker Hughes CGW24010 inhibitor.

Contact your Baker Hughes representative to help solve your corrosion problems.

Challenges

- An extensive wet gas pipeline system
- MEG application for hydrate control
- High corrosion risk
- Cost-effective solution
- Non-emulsifying, non-foaming and no solids formation

Results

- Long-lasting and successful corrosion mitigation
- Inhibitor remains with the MEG
- Minimized chemical demand
- No operational problems in the MEG regeneration system

Key inhibitor requirements

Cost-effective

Suitable performance

Inhibitor remains in MEG after regeneration

Does not cause emulsions

Does not cause foaming

Does not cause or contribute to solids formation