

AMINE TREATMENT, SOUR WATER STRIPPING, SULPHUR RECOVERY AND TAIL GAS TREATMENT

A LICENCE TO OPERATE

Amine treatment of refinery gasses for the removal of H₂S is often considered as a utility in the refinery as the amine system treats the gasses of all the refinery units. The same holds for the sour water stripper (SWS) for the removal of H₂S and NH₃ from process water, sulphur recovery and tail gas treatment (TGTU). These process units get little attention as they are considered not to contribute to refinery margin. Engineers and operators frequently have limited experience with these processes. These refinery treatment processes are very often used as training positions for new refinery staff.

The contribution of amine treating, sour water stripping, sulphur recovery and tail gas treatment changes when a problem occurs. Without proper amine treatment or sulphur recovery, H₂S is not removed satisfactory and converted to sulphur to meet environmental specifications. Main refinery units will have to reduce throughput or possibly temporarily shut down. The same holds for sour water stripping and tail gas treatment; if these units do not work in a reliable way, units will need to reduce throughput.

“Refineries can’t operate without respecting the environmental regulations. It is a license to Operate.”

EPS PROVIDES SOLUTIONS

A very important step to avoid problems with amine systems, sour water strippers, sulphur recovery units and TGTU is to provide the responsible operators and engineers with proper training to understand these process units.



EPS can provide this training courses for Engineers and Operators on-site at the refinery.

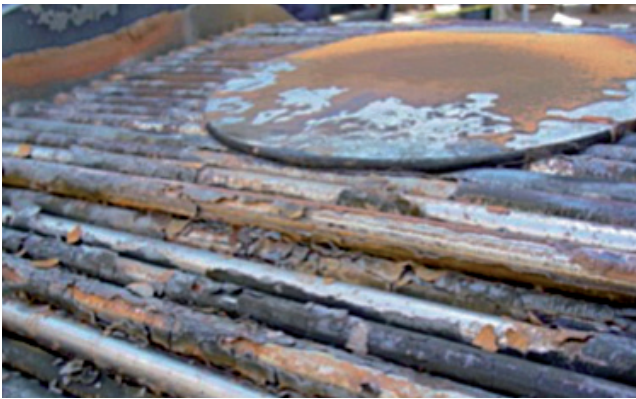
EPS further provides troubleshooting in case of underperformance of all these process units. This troubleshooting support often includes a review to optimize the performance these units and to try and avoid future operating problems.

Particularly in FCC refineries, the LPG quality is strongly influenced by underperforming amine process units. Off-spec LPG can be avoided by proper amine treatment. Avoiding a couple of off-spec LPG tanks per year results in a significant reduction of refinery margin loss.

EPS → Effective, Profitable, Sustainable

Effective system monitoring of amine systems, sour water strippers, sulphur recovery and tail gas treating units can make a significant contribution to operate these units and to reduce corrosion, fouling and improve availability.

Detailed analysis of lean amine and sour water samples is an important part of the normal monitoring of the amine system. Contamination of amine systems can have a strong impact on performance.



EPS SERVICE AREAS

- Troubleshooting through on-site test work and consulting;
- On-site training for operators and engineers;
- Simulation of performance and efficiency;
- Calculation of the recovery based on on-site measurements;
- System monitoring;
- Advice on analysis of amine and water samples;
- Improved LPG quality.

WORLD CLASS EXPERIENCE

EPS has a large experience with amine, sulphur and sour water treating in refineries. Besides this, EPS has a significant number of world-class experienced professionals in other disciplines.

STRATEGY

Training and transfer of knowhow is essential to avoid operational problems..

OPERATIONS AND TECHNICAL

EPS has successfully carried out trouble shooting on amine systems, sour water strippers, sulphur recovery and tail gas treating units in many locations around the world.

CONTACT

EPS Customer Solutions B.V.

Please contact:

Diederik Visser

Office: +31 (0) 71 82 00 121

Mobile: +31 (0) 61 24 51 707

Email: diederik.visser@epsconsultancy.com



Customer Solutions

www.epsconsultancy.com

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