

Bulgaria's, Galata Gas Field

Recycling Mono-Ethylene Glycol used in Hydrate Inhibition



Inland Technologies

supplied a glycol recycling system to the Galata Gas Field in the Black Sea. The field is located 25 kilometers offshore and during the winter months, there is a requirement for hydrate inhibition to prevent the pipeline from being blocked by natural gas hydrates.

The hydrate inhibitor chosen for this field was Mono-Ethylene Glycol [MEG], which is injected into the subsea pipeline bringing the gas onshore. Production managers used Inland's MEG Concentrator to recycle the wet glycol product coming onshore, also allowing the reclaimed glycol to be re-injected.

In order to meet the environmental regulations set out by the European Union for the operation, a COD limit of 25 mg/L for all process water had to be followed. To reach this objective, the cleaned water produced from the MEG Concentrator was sent to a custom-designed reverse osmosis system for polishing.

The standard design of the MEG Concentrator results in a distillate water stream with approximately 1000 mg/L of MEG. Since this level was

over the EU regulations for storm water release, this stream was polished using a three-stage reverse osmosis unit to bring glycol [and COD] readings to compliance levels.

Inland's MEG Concentrator uses a thermodynamic cycle known as mechanical vapour recompression. The unit is highly energy-efficient and studies have shown it to be an economical alternative to

conventional re-boiler and overhead condenser systems for small fields. Depending on gas composition and seabed temperatures [typically between 4 to 10 degrees Celsius], the unit is best suited to fields with production rates varying from 50 to 150 MMSCFD. Use of the MEG Concentrator system at Galata resulted in lower overall capital and operating costs.

