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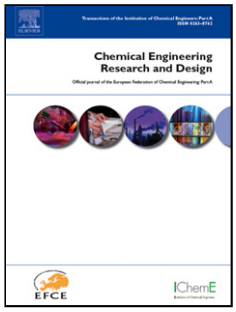

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Process Simulation of Dehydration Unit for the Comparative Analysis of Natural gas Processing and Carbon Capture application

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Highlights:

- Process simulation of conventional and stripping gas dehydration systems.
- Design validation of dehydration unit with the plant data using Aspen HYSYS®.
- Process analysis of dehydration in the natural gas and carbon capture industry.
- Economics and sensitivity analysis of the stripping gas design configuration.

Abstract

Dehydration is a common step employed before the transmission of natural gas and/or carbon dioxide in order to avoid hydrate formation. This study is focused on the simulation of dehydration process for the natural gas and CO_2 stream using triethylene glycol (TEG) solvent as the dehydrating agent. This study relates the experiences from the natural gas processing to the application of carbon capture and storage technology for CO_2 dehydration. Two design configurations namely, conventional and stripping gas design are investigated using Aspen