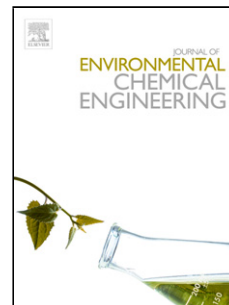


Accepted Manuscript

Title: ASPEN PLUS simulation model for CO₂ removal with MEA: Validation of desorption model with experimental data

Authors: Monica Garcia, Hanna K. Knuutila, Sai Gu

PII: S2213-3437(17)30408-6
DOI: <http://dx.doi.org/10.1016/j.jece.2017.08.024>
Reference: JECE 1819



To appear in:

Received date: 2-4-2017
Revised date: 25-7-2017
Accepted date: 18-8-2017

Please cite this article as: Monica Garcia, Hanna K.Knuutila, Sai Gu, ASPEN PLUS simulation model for CO₂ removal with MEA: Validation of desorption model with experimental data, Journal of Environmental Chemical Engineering <http://dx.doi.org/10.1016/j.jece.2017.08.024>

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**ASPEN PLUS simulation model for CO₂ removal with MEA: Validation of desorption model
with experimental data**

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Highlights

- A simulation model was tested using four different pilot campaigns.
- Results showed a deviation (AARD) of 9.2% on the stripped CO₂.
- Loading and temperature had a deviation (AARD) of 4.9 and 3.3% respectively.
- The deviation of the model had some dependency on the loading of the rich solution.

Abstract

The chemical absorption process has been extensively studied as one of the main carbon capture and separation technologies. This process comprises two stages: The absorption of CO₂ into the solvent and the desorption, to regenerate the solvent and produce the high concentrated CO₂ gas.

Validated simulation models are essential for the scale-up of the chemical absorption process and they are typically validated using only data from one pilot plant. In this work, a simulation model of the desorption column built in ASPEN PLUS v8.6 was validated using four experimental

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