عنوان مقاله:

CFD Simulation Of an Industrial Scale Catalyst Lift Pot In Persian Gulf Star Gas Condensate Refinery Company

محل انتشار:

چهارمین همایش ملی پژوهش در شیمی و مهندسی شیمی ایران با محوریت ویژه نانوفناوری (سال: 1400)

تعداد صفحات اصل مقاله: 8

نویسندگان:

Mehdi Hashemi Pour - *Persian Gulf Star Gas Condensate Refinery Company, Bandar Abbas, Hormozgan, Islamic Republic Of Iran*

Hamed Fathi - *Persian Gulf Star Gas Condensate Refinery Company, Bandar Abbas, Hormozgan, Islamic Republic Of Iran*

Mohsen Asadi - *Persian Gulf Star Gas Condensate Refinery Company, Bandar Abbas, Hormozgan, Islamic Republic Of Iran*

Hamed Doshmanfana - *Persian Gulf Star Gas Condensate Refinery Company, Bandar Abbas, Hormozgan, Islamic Republic Of Iran*

خلاصه مقاله:

The aim of this study is to simulate a Catalyst Flow Pattern in lift pot of CCR (continues catalyst regeneration) unit of Persian Gulf Star Gas Condensate Refinery Company. The lift pot is simulated with computational fluid dynamic methods. After choosing a suitable mesh grid for lift pot and checking independency, the impact of the change in primary and secondary mass flow rate of hydrogen on catalyst lifting is investigated. In this case hydrogen gas used for lifting catalyst in lift pot. K-Epsilon model is used for turbulence simulation of flow and two phases flow is simulated using Granular Eulerian-Eulerian approach. Three cases were examined but in each three cases total mass flow rate was constant an then we investigate the flow field, catalyst particles velocity and catalyst concentration distribution. Results showed with rise of secondary mass flow rate the volume fraction of catalyst in lift line increase. If secondary .gas velocity was not adequate to fully fluidize the catalyst, therefore, resulting in a very poor mixing

کلمات کلیدی:

CFD Simulation, Flow Pattern, Catalyst lifting, Lift Pot, CCR unit