Nilesh Chandak, J Pet Environ Biotechnol 2016, 7:3 (Suppl)
http://dx.doi.org/10.4172/2157-7463.C1.016

Pilot plant experimentation to optimize the use of re-generated CoMo catalyst to process atmospheric and vacuum gas oils

Nilesh Chandak
Abu Dhabi Oil Refining Company (TAKREER), UAE

Takreer Research Centre (TRC) has conducted a feasibility study on regenerated CoMo catalyst for various possible re-use viz. for naphtha hydrotreating, Kero and ULSD production. This paper focuses on the pilot plant testing of regenerated CoMo catalyst for ULSD production by processing LVGO & HGO blends at various ratios for re-use in another hydrotreater unit of refinery. Regenerated catalyst, which was unloaded from commercial hydrotreater after its turnaround, was evaluated using four different blends of LVGO & HGO. During entire experimentation, process conditions viz. 0.5 h-1 LHSV, 57 bar pressure and 300 Nm^3/m^3 H_2/Oil ratio, were unchanged while feed & temperature were variable parameters. Based on the pilot study results, we anticipated processing LVGO with HGO blend feed needs 5°C to 10°C higher activity comparing with full HGO feed. Estimation of hydrogen consumption & cycle life cycle of the catalyst along with detailed experimentation has been discussed. Details of hydro processing pilot plant design, operation and data analysis are mentioned in which operating conditions were tuned to commercial unit. The experimental results have shown the effective techniques to validate the regenerated CoMo catalyst testing at pilot scale for optimized re-use in commercial refinery.

Biography

Nilesh Chandak has completed his Master's in Chemical Engineering from Pune University and is having 20+ years of experience in applications and operations in oil & gas research area. He is the Head of Pilot Plant Operations at Takreer Research center (ADNOC Group Company) in Abu Dhabi. He having publications in various reputed journals and his areas of research are in refining processes, viz. Atmospheric and vacuum distillations, hydrotreating, hydrocracking, reforming, isomerization, etc.

nchandak@takreer.com

Notes: