

Abstract Title - Maximizing Furnace Capacity Utilization during Feedstock Curtailment**Authors**

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Abstract

Recent challenges in the region along with fluctuating economics place forces on Olefins producers to make every possible effort in maximizing their production to meet the increasing demand of such commodities and their derivatives. This includes enhancements to asset reliability, ensuring cracker availability, and most importantly; adapting plant capacities to changing feedstock conditions. In single feedstock crackers, feedstock curtailment presents a clear opportunity for operators to optimize cracking conditions (typically lower conversion) in order to improve plant yield and make the most out of the available feedstock. However in multi-feedstock crackers (i.e, ethane, butane), when the curtailment is limited to one feedstock and there is abundance of the other/s, simple optimization of cracking conditions may not be the best utilization of the available plant capacity. Model-driven optimization efforts were initiated in-house to study the impact of changing plant co-cracking configuration for the recycles (partially or fully) when ethane is curtailed and butane is in abundance. Study outcomes revealed very promising opportunity for the plant to process higher feedstock rates during curtailment periods and generate huge revenues from the increased Olefins production. Benefits are achieved with minimum CAPEX and simple process modifications. The proposal is planned for implementation in the next turnaround at one of SABIC crackers in KSA.