

**"PROCESS USING STAGGERED BYPASSING OF
REACTION ZONES FOR INCREASED CAPACITY"**

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ABSTRACT

The operation of multistage catalytic hydrocarbon conversion system in which hydrocarbons flow serially through at least two reaction zones is improved by using

10 staggered by-passing of a portion of the charge to each zone such that the first zone processes only a first portion of the feed and the second zone processes the remaining portion of the feed and at least a portion of the effluent from the first zone. Where three reaction zones are used, processing of the effluent stream from the first reaction zone is split between the second and third reaction zones so that a portion of the charge to each

15 zone always is directed around the zone and processed in the next reaction zone. One portion of the effluent stream is combined with hydrocarbons that bypassed the first reaction zone, and the combined stream is passed to the second reaction zone. The other portion of the first reaction zone effluent stream and at least a portion of the effluent stream of the second reaction zone are passed to the third reaction zone. This invention

20 is applicable to processes where the first and second reaction zones are susceptible to pinning in that this invention decreases the mass flow through the first and second reaction zones while nevertheless maintaining high hydrocarbon conversion capacity.

This Sheet Has Been Replaced

