Question 33: When processing cracked stocks in a crude unit, what potential issues do you expect? What changes in operations or treatment programs can you mitigate these issues?

MICHAEL KIMBRELL (Becht Engineering)

My preference is to reprocess cracked stocks through the Delayed Coker. This keeps the cracked products separate from the straight run products. If the site does not have a Delayed Coker, then reprocessing cracked stocks through the FCC fractionator is the next option. Again, this keeps the cracked materials separate from the straight run products.

CHRIS CLAESEN (NALCO)

Cracked stocks can lead to fouling due to polymerization reactions, especially lighter and diolefinic material. The cracked stocks can best be processed in units that can limit polymerization such as hydrotreaters and hydrocrackers. On the crude unit the fouling can partially be controlled by using polymer inhibitors.

SAM LORDO (Consultant)

The typical issues I have seen with the injection of cracked stocks into the crude unit is fouling in the preheat train downstream of the desalter and in the crude tower and associated sidestream circuits. Mitigation can range from commercial chemical additives (antifoulants) to relocation of the stream to another unit that is more suited to handle the crack stock, like, fluidized catalytic cracker (FCC), or Delayed Coker. When determining alternate dispositions, the nature of the expected foulant needs to be considered, e.g., inorganic, ammonia salts, organic polymeric materials, etc.

Year

2018