

2014 Cat Cracker Seminar

Process

1. What are the different options for removing catalyst from slurry (DCO) product? What is the experience with sintered metal cartridges? What are the different possible destinations for the backwash from the slurry filtration system?
2. How is the catalyst withdrawal flow rate controlled in continuous withdrawals systems, and how is it controlled in batched withdrawal?
3. What are the current strategies to maximize cracking to butylenes without propylene?
4. Does Antimony injection for dry gas reduction cause any issues with the performance of slurry filters in main column bottoms?
5. Anyone have success in designing an effective water draw tray at the de-ethanizer tower to minimize fouling at the debutanizer?
6. When running highly hydrotreated feedstock, what issues come up with low Dense phase temp in regards to high CO?
7. When running highly hydrotreated feedstock, we see a big afterburn at lower rates. Has anyone had any experience with adding in a new regenerator distributor to aid in this?
8. When running high conversion (i.e. highly hydrotreated feedstock, high activity) has anyone had any issues with polymerization and/or fouling due to low slurry rates?
 - a. What are some strategies to manage low slurry flow?
 - b. What are normal velocities for slurry rundown?
 - c. Does anyone have experience with rundown rates at <2 ft/s
9. How low have riser temperatures been run to shift yields, and how are the minimum Riser Temperature and Low Temperature Shutdown set?
10. Most engineers are aware of the benefits of good control of fresh catalyst additions, but justifying the capital cost of new hardware is never easy. What justifications have worked for you?
11. What are the latest trends for water wash rates and locations?
 - a. Is cyanide breakthrough a problem?
 - b. What is the controlling rate parameter?
 - c. Water quality and source?
12. What is the industry average run length achieved on slurry PAR exchangers? One unit in the system averages 3-8 week run times between required cleaning due to fouling, with a full spare set of exchangers to accommodate cleaning without taking a charge rate reduction. In addition to fouling, a high rate of corrosion / pitting on the ID of the tubes (slurry side) has been documented which is believed to be linked back to the bundles sitting in stand-by mode based on timing of moving to this practice and the observation of corrosion. Have other FCCs with spare bundles in hot stand-by observed any corrosion? If not, how have they set up the exchangers in hot stand-by? Recently, this unit has been testing the use of a filmer corrosion inhibitor to flush the exchangers when they are placed in stand-by, but due to the short duration of use to date, no impact has been quantified yet. Do others have experience using a corrosion inhibitor? If yes, what are the experiences in performance?

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13. How many refiners are implementing “mini” turnarounds? What is the length of the turnaround, run length to the “mini” turnaround, and goal of the “mini” turnaround? In these refiners’ experiences, have they found them helpful at increasing on-stream efficiency of the FCC?
14. Best practices for Regenerated Catalyst Standpipe Aeration
 - a. What is the most prevalent aeration medium used in regenerated catalyst standpipe (RCSP) service?
 - b. What are the advantages and disadvantages of the different gases/vapors used?
 - c. Do refiners typically have backup systems for aeration in case the primary source fails and if so what is the medium?