



Drum Cycle Procedures Marc Hoss

Coking.com Safety Seminar
May 1-4, 2006

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- How do you train and certify Coker Operators?
- Safely executing the steps of a Drum Cycle Procedure.
- Best Practices, some things that worked and some things that we've learned on our journey to improve this process.

An open dialogue with audience participation

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Coker Shutdown from Failing Flange Weld

Shad Rahman

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In October 2005, the coker was shutdown when a flange weld at the bottom outlet nozzle of the fractionator began to fail. A custom-designed enclosure was expedited and installed with a strongback to prevent line separation before the unit returned to normal operation 3 days later. Detailed PMI and UT shear wave inspections showed a rogue Monel (low chrome) weld had been present, which was highly susceptible to naphthenic acid and sulfidation corrosion.

Lessons learned:

- Original fabrication PMI and retro-PMI inspections could have caught this defect if they had been performed.
- Locating a vessel bottom outlet flange near a skirt opening presents problems with either hot-bolting or torquing bolts in a tight position, and often required enlarging the skirt opening. RT of hot surfaces can be very difficult in tight locations.
- While Niton PMI equip is limited to 400F, Innovex PMI units can read up to 800F surfaces accurately.
- Timely surveillance and reporting by coker operators followed by prompt review by inspectors and engineers dramatically mitigated the effects of this unexpected failure.

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Major Coker Unit Upset

Lessons Learned

Ryan Miller

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Notes

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Dropped Drill Stem

Robert Bell

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