

DCU - TURNAROUND SAFETY

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SAFETY - DELAYED COKERS

(A) Safety -General

Coke Dums

- ◉ Coke drum unheading system
- ◉ Coke drums valves - safety interlock
- ◉ Coke drum - Robust design for intended cycle
- ◉ Safe Egress system
- ◉ Reach of fire water at top deck
- ◉ Fire and gas monitors at operating decks
- ◉ Clear identification of blocks in multi block systems

SAFETY - DELAYED COKERS

Heaters

- ◉ Ensure BMS
- ◉ Robust pilot burners
- ◉ Avoid piping congestion around heaters
- ◉ Coil emergency steam and reliable NRVs with quick shutoff isolation
- ◉ Reliable pass flow metering
- ◉ Design for effective OLS and Pigging

SAFETY - DELAYED COKERS

Coke cutting system

- ⦿ Robust safety interlock
- ⦿ Reliable free fall arrestor
- ⦿ water quality - monitor corrosion/coupons

SAFETY - DELAYED COKERS

(B) Safety in Operation

- ◉ Alarm management - rationalise, avoid flood
- ◉ All safety bypass -authorized and monitored
- ◉ Establish IOW and maintain parameters within
- ◉ Awareness of regulatory, environmental limits
- ◉ MOC procedure for all changes/modifications
- ◉ Upgrade SOP/Op manuals/Drawing as part of MOC
- ◉ Safe work practices -safety permits with Risk analysis
- ◉ Contractor safety, safety audit, Near misses, safety observations and analysis.
- ◉ Compliance for product specs/market-Company reputation

SAFETY - DELAYED COKERS

(C) Safety in Turnaround

- ◉ Micro-planning for shutdown jobs
- ◉ Safety Team-Process/Maint/Safety/Adm/HR
- ◉ Latest certified SOPs/Drawings
- ◉ Offsite/Utility requirements for shutdown
- ◉ Safety equipments/H₂S monitors/Gas detectors
- ◉ Material availability like Blinds/locks/Metallic hoses/Gaskets/scaffolding/Modifications material as per plan

SAFETY - DELAYED COKERS

- ◉ Site - shutdown office/ Contractor shed
- ◉ Contractor labour management - utilities by HR/Administration
- ◉ Vendors for shut down - Like Decontamination/Heater pigging/Fractionators coke removal etc
- ◉ Vendor for shut down - Mechanical equipments- equipment opening/Crane, welding machine.PWHT
- ◉ Vendors for special packages like coke drum valves/coke cutting/pumps/
- ◉ Workshop Vendors- PSV resetting/CV revisioning/pumps seals etc etc

SAFETY - DELAYED COKERS

- ◉ Safety Procedures - Certified safety permit system/LOTO
- ◉ Training of Operation and Contractor staff
- ◉ Awareness of Unsafe incidents
- ◉ Awareness - What can go wrong/fire/coke/
- ◉ Risk analysis checklist- for each job-attach with safety permit
- ◉ Awareness- Explain to contractor doer at site of job
- ◉ Issue safety permit at site and responsible operator to sign.

SAFETY - DELAYED COKERS

- ◉ Shutdown/Turnaround monitoring
- ◉ Continuous monitoring of confined space entry.- Line up specialists/vendor if required.
- ◉ Regular shutdown meetings at site - with contractor. Safety incidents/observations.
- ◉ Management meeting for overall safety tracking.