

## REFINING

### GUIDED WORK EXPERIENCES



*PetroSkills Guided Work Experiences (GWEs) enable technical professionals to deliver a tangible work product through specific deliverables and performance measures. GWEs have been developed by industry experts and deliver the on-the-job connection between knowledge and action.*

#### ALKYLATION

- Operational Issues Needing Control
- Accumulation of Water in the Acid
- Deficient Settling in Acid Settling Unit
- Acid Dispersion - (Acid Runaway)
- Damages to the Humidity Analyzer
- Transport of the HF Acid to the Principle Fractionator
- Low Octane present in the Alkylates
- Dark Alkylate
- High Organic Flourides in the Product
- Corrosive Propane
- Blockage of the Principle Fractionator
- Corrosion in the Acid Regenerator
- Loss of Flame in Pilots and Indirect Fired Heaters
- Frequent Mitigation (Decrease) of Propane Alumina
- Regeneration of the ALKAD Additive
- External Regeneration of the HF Acid
- Propane Treatment
- Reaction, Selective Hydrogenation Section
- HF (Hydrofluric Acid) Discharge Tower
- Health, Safety, and Environment (HSE/SHA)
- Reactors
- Fractionation, Selective Hydrogenation Section
- Relief Gas Scrubbers
- Alkylate Treatment
- Depropanizer Column
- Acid Settling Units
- Reboiler Burner (Oven) for IsoStripper
- Liquids Separation Drum
- Butane Treatment

#### DELAYED COKING

- Operational Issues Needing Control
- Coking Drums and Burners Sections
- Foam Carryover
- Coke Quality
- Extended Coking Cycles
- Heating of the Condensate Recycle Drum
- Coking Oven Continuous Cycle Run
- Wet (Water Vapor Saturated) Gas Compressor
- Fractionation Column
- Coke Spalling System
- Blowdown System
- Chemical Injection System
- Reflux Drum
- Absorber
- Secondary Absorber
- Debutanizer
- Scrubber for Amine Laden Fuel Gas
- Flash Drums
- Recirculation Circuit
- Tower Top Accumulator
- Vapor Circuit for Fractionation Tower Accumulator
- Various Vapor Issues
- Coking Drums
- Testing and Shut Down For Leaks
- Preheating Stage
- Coking Stage
- Fractionator Purging Stage
- Cool Down Stage
- Water Drainage and DeHeading (Related to Coking Drum)
- Decoking Operation
- AntiFoaming System
- Coking Ovens
- Plan Inlet Feed
- Inlet Feed Pre-Heating
- Coking Unit

*See reverse for GWEs covering HydroCracking, Consoles, and Collateral Activities*



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## HYDROCRACKING

- Plugging of Heat Exchangers in Pre-Heating Zone
- Early Deactivation of the Catalyzer Unit
- Temperature Excursion (Distribution) in the Reactors
- Flooding Conditions in the Fractionator
- Product Quality
- Low Compressor Efficiency
- Amine Treatment System
- Hydro Cracking Unit
- Inlet Plant Feed
- Pre-Heating Inlet Plant Feed
- Water Wash System
- Fractionator Rectifying Section Flash Vessel
- Naphtha Separator
- Fractionation Column
- Recycle and Make Up Hydrogen Gas System

## CONSOLES

- Process Control
- Equipment in General
- Functions of the Distributed Control System (DCS)
- Adjustments to Plant Alarms
- Adjustment to Plant Trigger Points
- Simulation of Plant Control
- Controls for Emergency Plant Shutdown (ESD)

## COLLATERAL ACTIVITIES

- Reports
- Documentation
- Quality
- Samples
- Procedures
- Radio Communications
- Manual Tools
- Maintenance Supervision
- Compressors
- Heat Exchangers
- All Coolers or Ventilators
- Burners
- Pumps
- Pressure Vessels
- Distillation Columns
- Equipment Monitoring
- Instrumentation
- Pressure Relief Valves
- Sight Level Gauges
- Response to Emergencies
- Reports on Accidents and Incidents
- Training
- Auxiliary Services
- Valves and Actuators