AltairStrickland

• LaPorte, TX, (Houston, TX area)
• Founded 1976
• Non-Union
• Principal areas of focus:

  ✓ Project Management and Execution
    ➢ Project controls
    ➢ Complex mechanical scopes
    ➢ Heavy rigging
    ➢ Subcontractor management and coordination

  ✓ FCC and Coker TAR’s and revamps

  ✓ Constructability optimization
    ➢ Execution driven engineering
    ➢ Value creation
Door Sheet Equipment Installations
FCCU Revamp Case Study #1

Air Grid Installation

Complete Scope Included:
- Installation of Regenerator lower cone section
- Replacement of Regenerator air grid
- Replacement of feed section on riser
- Replaced reactor trickle valves
- Flue gas line repairs
- Knife gate valve repairs
- Extensive refractory work
- Miscellaneous maintenance work scope
FCCU Revamp Case Study #1

Cone with Air Grid Trunk Installation
FCCU Revamp Case Study #1

Air Grid Installation
FCCU Revamp Case Study #2

Regenerator Cyclone Installation

Complete Scope Included:
• Removal and replacement of the first stage regenerator, primary and secondary cyclones. (6 each)
• Removal and replacement of external risers (2 each)
• Removal and replacement of regenerated catalyst slide valves (2 each)
• Removal and replacement of regenerated catalyst standpipes (2 each) and wye sections (2 each)
• Removal and replacement of the rough cut cyclones (4 each) complete with overhead vapor lines and crossovers. (3 Sisters)
• Removal and replacements of second-stage regenerator withdrawal wells (2 each) complete with overhead lines and nozzles.
• Installation of Erosion-resistant refractory on reactor first stage cyclone inlets.
• Coke anchors added to the reactor cyclones.
• Removal and replacement of reactor first stage cyclone dip legs and dustbowls complete with trickle valves.
• Installation of two new 36” man ways on the reactor.
FCCU Revamp Case Study #2

Regenerator Cyclone Installation
FCCU Revamp Case Study #2

Regenerator Cyclone Installation
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Regenerator Cyclone Installation
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Regenerator Cyclone Installation
FCCU Revamp Case Study #2

Regenerator Cyclone Installation

Modeling for fit up pre job

Ensuring Welder Access
Crane Installations - Considerations
Crane Installation

Complete Scope Included:
- New regenerator shell, new regenerator head and cyclones
- New combustor
- New stripper
- New cat hopper
- Removal and installation of fin fan coolers
- Tie ins for new scrubber
- All new lines under combustor
- This FCCU Revamp involved the replacement of near 80% of the equipment in the structure
- Major structure modifications during pre down and turnaround schedule
FCCU Revamp Case Study #3

Crane Installation
FCCU Revamp Case Study #3

Crane Installation
FCCU Revamp Case Study #4

Crane Consideration Example

Complete Scope Included:
• Transportation and Installation of new reactor
• New air grid
• Replacement of refractory in all regenerator dust bowls (discovery work)
• New main air blower
• New support structure for reactor
FCCU Revamp Case Study #4

Crane Considerations for Reactor Installation
Major Equipment Installation
FCCU Revamp Case Study #5

Major Equipment Installation

Complete Scope Included:
- New head and cyclones in regenerator
- Installation of new reactor
- Tie ins to FCC for new scrubber
- Flue gas cooler work
- Major structure work
FCCU Revamp Case Study #5

Major Equipment Installation
FCCU Revamp Case Study #5

Major Equipment Installation
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Major Equipment Installation
FCCU Revamp Case Study #5

Major Equipment Installation
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