Past Performance

Chemical Processing Facility EPC Rebuild

SAFETY FIRST

ESCO was not responsible for overall project safety compliance.

ESCO's Safety KPI's:

TRIR:	**0**	**EMR:**	**0**
DART:	**0**	**OSHA REC:**	**0**

Client
Belfor USA

Owner Contact
[redacted]

Costs
Total: ~$29,000,000

Completion Date
DEC 2018

Significant Project Activities

- ✓ 3D Laser Scanning & Modeling
- ✓ Auxiliary Power Systems
- ✓ Class I Hazardous Area Design
- ✓ Construction Management
- ✓ Control System Design
- ✓ Exhaust Systems: Fumes & Smoke
- ✓ Field Engineering & Support
- ✓ Grounding System Design
- ✓ HVAC Equipment
- ✓ Inspection Procedures/Plans
- ✓ Instrumentation & Controls
- ✓ Lighting – Emergency & Normal
- ✓ Material Handling
- ✓ Piping System Analysis/Design
- ✓ Procurement & Supplier Qualification
- ✓ Startup/Commissioning Support

On 18 JUL 2018 a chemical plant experienced an unplanned and catastrophic release of thermal energy and flammable materials within their facility leading to extensive damage to their building and process systems. The Prime Contractor was hired to manage the entire rebuilding effort, perform building and envelope reconstruction, and assume full responsibility for return to operations. ESCO personnel were engaged as the EPC firm to rebuild the processing facility, which involved engineering and constructing all plant process-related systems including mechanical process piping, mechanical HVAC, electrical power, controls, instrumentation, and the plant DCS control system.

The plant produced its first successful batch 105 days after the catastrophe, on 03 DEC 2018. Upon award, ESCO immediately mobilized a team of engineers and designers and began onboarding subcontractors in parallel with contract negotiations. This unexpected event required simultaneous planning, engineering, design, and construction in order to minimize downtime. The team worked 24/7 on 7-12s until the plant produced its first successful batch.

Notable work performed by, or under the direction of, ESCO staff include:

- Project and Construction Management
- Coordination and direction of all trade labor including electrical, mechanical (pipe fitters), millwrights, instrument technicians, insulators, and sheet metal (tin knockers) workers.
- Application of NFPA 70, the National Electric Code
- Application of NFPA 497, the Recommended Practice for the Classification of Flammable Liquids, Gases, or Vapors and of Hazardous (Classified) Locations for Electrical Installations in Chemical Process Areas
- Application of NFPA 496, the Standard for Purged and Pressurized Enclosures for Electrical Equipment
- HVAC pressurization and air purge systems
- Application of ASME Code B31.3, Process Piping
- Laser scanning and point cloud development
- 3-D piping model
- Vessel integrity Inspections
- Piping integrity Inspections
- Weld Inspections (new & existing) as well as hydro-testing, x-ray, and shurwave
- Heat zone mapping
- LEL Shutdown system
- Welding QA Program
- P&ID rebuild and updating.
- Repair, replacement, and calibration of 250+ field instruments
- Repair, replacement, and testing of 200+ control, automated, & automatic valves
- Replacement of 700+ hand valves
- Repair, replacement, and testing of 100+ motor and motor control circuits.
- Upgrade, replacement, and startup and commissioning of 750+ I/O point DCS
- Several hundred engineered drawings, sketches, and documents including test procedures and commissioning documents.