

# **Advantages**

- Elite and proven safety culture
- Nationwide footprint
- Unique and scaleable solutions
- Extensive plant supervisory and decon project experience
- Patented chemistries and processes
- Specialized, no-exotherm reactor cleaning
- Multi-service savings opportunities
- Custom engineering
- Turnkey planning, equipment, mechanical, and execution



USA DeBusk offers the industry's most comprehensive suite of technologies and resources for unit decontamination and chemical cleaning. Our elite teams of experts partner with you to plan and execute customengineered solutions for your specific needs.

We help you carry out safer, faster, more predictable maintenance projects and turnarounds by using patented processes and chemistries to remove hydrocarbon deposits and clear LEL, H<sub>2</sub>S, benzene, and other noxious gases from process equipment.

#### **EXPERTISE & CUSTOMER FOCUS**

With USA DeBusk, your decontamination and chemical cleaning projects are managed by industry veterans who understand your operations and project requirements. We have a deep bench of experts focused on reactive chemistry, unit decontamination, and our patented reactor cleaning technology. Our team of leading talent (industry professionals, ex-plant decision makers, and degreed engineers) is prepared to provide you with a customized, efficient solution.

Our project managers and engineers work closely with your team to assemble a planning package that will ensure safety and streamline execution. Jobs are performed by teams of rigorously trained technicians led by seasoned project managers. They have the experience to overcome unexpected challenges, maintain close communication with your personnel, and achieve results that meet your needs.

### **TECHNIQUES**

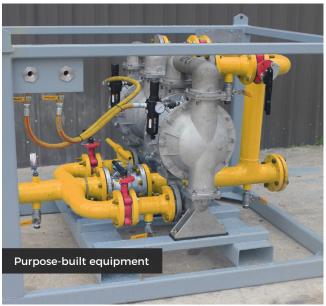
- Circulation
- · Steam blows
- $\boldsymbol{\cdot} \, \mathsf{Cascading}$
- Liquid fills
- Foaming
- Vapor phase cleaning
- Patented reactor cleaning

#### **UNITS**

- Heavy oil
- Light oil
- Alkylation
- · Supporting units









#### **MECHANICAL RESOURCES**

USA DeBusk has an extensive fleet of purpose-built equipment to support your de-inventory and unit decontamination requirements. We arrive on site with everything needed to clean and decontaminate your process equipment while effectively managing effluent. Our temporary drain equipment includes heat exchangers, pumping systems, temporary process piping, valves, hoses and all necessary fittings.

#### PATENTED STEAM VAPOR PHASE CHEMISTRY

USA DeBusk offers patented cleaning technology for removal of LEL, H<sub>2</sub>S, benzene, and heavy oil gums in steam vapor phase processes. We have an accomplished track record deploying our processes and chemistries while following vapor phase cleaning best practices. Our steam vapor phase technology is proven effective in decreasing cleaning timelines, lowering costs, and alleviating environmental concerns.

#### PATENTED REACTOR CLEANING

USA DeBusk is one of two companies in the U.S. with the ability to effectively chemically clean high-pressure reactor loops. The process uses specially engineered chemistries to remove hydrocarbon deposits while also degassing reactors online. Our reactor cleaning yields faster cleaning timelines, improves schedule predictability, reduces costs, produces cleaner equipment, and increases the fluidity of the spent catalyst to streamline dumping.

## **TURNKEY UNIT TURNOVER**

Only USA DeBusk complements unit decontamination, chemical cleaning, and reactor cleaning with a full range of unit turnover services. These services may include proprietary emission control, coker services, hot catalyst removal, and inert catalyst removal, as well as traditional hydro blasting, vacuum, transportation and other support services. These capabilities are orchestrated to deliver unmatched value for your next shutdown.

