



USACE, MOBILE DISTRICT

AIR POLLUTION CONTROL DESIGN, PERMITTING, AND CONSTRUCTION
Jonathan Dickinson Missile Tracking Annex, Florida

PROJECT HIGHLIGHTS

CLIENT PROFILE

The U.S. Army Corps of Engineers (USACE) Mobile District manages a variety of programs in Alabama, Georgia, Florida, Mississippi, and Tennessee as well as Central and South America. The District's mission includes supporting all branches of the military, other federal agencies such as the U.S. EPA, and providing design and construction for civil works projects. Jonathan Dickinson Missile Tracking Annex (JDMTA) is an installation of the US Air Force Space Command 45th Space Wing that provides in-flight monitoring of launch vehicle performance, electronics, and associated subsystems.

PROJECT OVERVIEW

JDMTA has six compressor ignition engines (four 600-kW and two 400-kW generators), which required installing oxidizing catalysts in order to comply with the requirements of 40 CFR Subpart ZZZZ, National Standards of Hazardous Air Pollutants (NESHAP) for reciprocating internal combustion engines (RICE). The project team designed, permitted, and installed new catalysts on all six engines including continuous parameter monitoring systems (CPMS) for each of the catalysts, and was responsible for testing the new catalysts to ensure compliance with emissions requirements for reducing carbon monoxide. The team also developed a long-term monitoring and maintenance plan in accordance with NESHAP RICE requirements.

CHALLENGES

- Budget limitations
- Space launch window-dependent
- Compressed daily and weekly work schedules
- Expedited regulatory schedule based on permit requirement
- Coordination with external operations contractors

THE MSE GROUP APPROACH

The project team self-performed all phases of design, permitting, construction, and testing, working closely with the U.S. Air Force and operations contractors to identify solutions to meet budget requirements. Through value engineering, the team was able to retrofit existing components to reduce overall costs and allow the project to be completed. The single-biggest challenge was construction implementation around constantly changing launch schedules, which involved balancing goals of numerous stakeholders to support the national space launch program. The team coordinated with the Air Force and site operations personnel to work extended hours on weekdays, bring on additional staff, and work weekends at no additional cost to the government, reducing the construction schedule from 4 weeks to 2 weeks to fit a narrow launch window. The team used a layered scheduling approach, combined with significant teambuilding and collaborative efforts, to achieve project goals and objectives.

ACCOMPLISHMENTS

- Completed over 2 months of additional services at no additional cost.
- Identified unrelated issues that were potentially detrimental to system operations.

AREAS OF EXPERTISE

- Engineering (multiple disciplines)
- Air permitting and modeling
- Construction



Safety planning and team training was essential due to limited workspace and many energized utilities.



Design enhancements at no cost to the government included custom-made heat blankets to simplify equipment access.