



Engineered Piping & Mechanical Services

FMF has the experience and expertise to resolve your facility's critical piping and mechanical needs.

FMF Engineering provides consulting, engineering and maintenance services specializing in critical piping and mechanical systems. Proper design of these systems rated at extreme temperatures and pressures is crucial to the reliable operation of process units:

- FCCU's, Hydrocrackers, Hydrotreaters, Cokers and CCR's.
- Power recovery trains, flue gas expanders and waste heat recovery.
- Ammonia SMR's.
- Ethylene Cracking/TLE's.
- Superheated Steam/HRSG's.
- LNG-cryogenic applications.

Engineering and design of these systems requires a fundamental and sound understanding of the cyclic behavior of mechanical and piping systems related to startup, cold operation, hot operation and unit shut downs.

Regarded as one of the industry's most talented experts, Mr. Bruce Foote, P.E., FMF's President and Chief Engineer, has 44 years experience in the design, construction, and operation of piping and mechanical systems. Under Mr. Foote's direction, FMF provides practical engineering and business solutions to drive your project's success.

Engineering and Consulting

- Specialized computer modeling for rotating equipment, pipe stress, and finite element analysis.
- Evaluation of piping and mechanical systems including expansion joints, constant and variable pipe supports, and rotating equipment.
- Options studies to improve longevity of vulnerable mechanical and piping systems.
- FCCU mechanical-piping system integrity studies.
- Front end engineering and detail design packages.
- Equipment and specialty item engineering, estimating, and procurement.
- Preventative maintenance program for critical piping and mechanical systems.
- Pre-commissioning, commissioning, startup, and initial operation teams.
- Operating manual re-writes & upgrades.

Field Services

- Shop inspections for expansion joints, large diameter piping, ducting, spring supports, or other related equipment and specialty items.
- Mechanical & piping audits and troubleshooting including new construction & turnarounds (pre, during, post) for critical piping systems.
- Spring support auditing, diagnostics, repair and replacement, including sourcing replacement parts and supplying / managing the crews to repair and replace piping supports and springs.
- Turnaround disassembly and assembly procedures and crew training to assure proper methods and order of restraint / support during disassembly and reassembly of critical piping systems.
- Provide turnkey construction and maintenance services for all of the above.
- Field technical support for construction, commissioning, and startup.
- Full time technical support during turnaround including inspections and diagnostics of critical piping systems with problem solving and technical supervision.

FMF takes pride in offering the best quality for the best value in the industry!

11500 Northwest Freeway, Suite 315 Houston TX 77092

Phone: 713 680 1100 Fax: 713 481 8376

www.FMFEngineering.com

Team@FMFEngineering.com