

REQUEST FOR PROPOSAL (RFP)

Cain Group

PROJECT OVERVIEW

Name: React Theresa Safety Compliance
Type: Safety Compliance
Location: Port Theresa, NV (Industrial Park)
Industry: Chemical Processing
Value: \$17,739,898
Complexity: 3/5
Date: April 09, 2025
Disciplines: Piping & Pipeline, Mechanical Engineering
Regulations: NFPA Codes, ISO 14001

SCOPE OF WORK

Scope of Work: Industrial Chemical Processing Plant Upgrade

Project Goal: Upgrade the existing chemical processing plant's reactor feed system to increase processing capacity by 25% while maintaining safety and environmental compliance.

Disciplines: Piping & Pipeline, Mechanical Engineering

Complexity: 3/5

Piping & Pipeline Engineering:

- Design and specification of a new 6-inch diameter, 316L stainless steel feed line: This includes detailed piping isometric drawings, Bill of Materials (BOM) specifying ASTM A312 seamless pipe and ASME B16.9 forged steel flanges, and pressure drop calculations adhering to ASME B31.3 for a maximum operating pressure of 150 psig and temperature of 250°F. The design must incorporate appropriate expansion loops to accommodate thermal expansion.
- Develop Piping and Instrumentation Diagrams (P&IDs): Create updated P&IDs reflecting the new feed line integration, incorporating all necessary valves (e.g., ball valves, control valves), instrumentation (e.g., pressure transmitters, flow meters), and safety devices (e.g., pressure relief valves) compliant with NFPA standards. The deliverables will include electronic P&IDs and a revised instrument index.
- Prepare detailed specifications for pipeline insulation: Specify the type, thickness, and installation method for thermal insulation (e.g., calcium silicate, fiberglass) of the new feed line to minimize heat loss, complying with relevant energy efficiency standards. This includes detailed drawings indicating insulation thickness and materials for all pipe sections and fittings.

Mechanical Engineering:

- Design and selection of a new high-capacity centrifugal pump: Select a pump capable of delivering the increased flow rate (specify required flow rate and head), considering factors such as material compatibility (316L stainless steel preferred) with the process chemicals, efficiency, and API 610 standards. Deliverables include pump specifications, performance curves, and a 3D model of the pump assembly.
- Develop detailed fabrication drawings for a new chemical reactor support structure: Design a structural support for the upgraded reactor, considering the increased load and vibration. The drawings should specify material (e.g., structural steel, A36 grade), dimensions, and weld details, ensuring compliance with relevant safety codes and providing detailed load calculations.

Cross-Disciplinary Tasks:

- Integration of piping and mechanical components: The piping and mechanical engineering teams will collaboratively ensure seamless integration of the new feed line, pump, and reactor support structure, addressing potential conflicts and optimizing space utilization within the plant. This includes joint review sessions of designs and a coordinated installation schedule.
- HAZOP (Hazard and Operability) Study: Both teams will jointly participate in a HAZOP study to identify and mitigate potential hazards associated with the upgrade project, ensuring compliance with relevant safety regulations (e.g., NFPA). Deliverables include a HAZOP report documenting identified hazards and proposed mitigation strategies.

Complexity Impact Note: The project complexity is moderate due to the integration of new equipment and piping, requiring detailed design and coordination across disciplines.

REQUEST FOR QUOTATION

Request for Quotation (RFQ): React Theresa Safety Compliance

Project: Upgrade of Reactor Feed System at Port Theresa, NV Chemical Processing Plant

Issued: April 9, 2025 Due: May 7, 2025

Project Goal: Increase reactor processing capacity by 25% while maintaining safety and environmental compliance.

Scope of Work: Detailed in Appendix A (attached). This includes piping and pipeline engineering (design of a new 6-inch 316L stainless steel feed line, P&IDs, insulation specifications), mechanical engineering (design and selection of a high-capacity centrifugal pump, reactor support structure design), and cross-disciplinary integration, including a HAZOP study.

Location: Port Theresa Industrial Park, Port Theresa, NV

Industry: Chemical Processing

Complexity: Moderate (3/5)

Contract Type: Time & Materials

Project Duration: 15 Months (Start Date: June 1, 2025)

Qualifications: Minimum 3 years of experience in chemical processing plant design and construction, with a proven track record of regulatory compliance (OSHA, NFPA, etc.). Experience with HAZOP studies is required.

Proposal Requirements:

- 1. Technical Proposal (1-2 pages): Outline your proposed approach to the project, highlighting your understanding of the scope of work and your qualifications. Include preliminary designs and schematics where applicable.
- 2. Cost Breakdown: Detailed breakdown of labor, materials, and other costs.

Evaluation Criteria:

- * Technical Approach (50%)
- * Cost (30%)
- * Experience and Qualifications (20%)

Submission: Submit proposals electronically to procurement@chemicalprocessing.com

Questions Due: April 18, 2025

Appendix A (attached separately): Detailed Scope of Work (as described in the original prompt)

CONTACT

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TIMELINE

Include key dates such as submission deadlines, inquiry deadlines, and project start dates.