REQUEST FOR PROPOSAL (RFP)

Brown, Chambers and Lewis

PROJECT OVERVIEW

Name: Synth Kristenborough Safety Compliance
Type: Safety Compliance
Location: New Kristenborough, MT (Refinery Zone)
Industry: Chemical Processing
Value: $2,915,794
Complexity: 2/5
Date: April 09, 2025
Disciplines: Mechanical Engineering, Piping & Pipeline
Regulations: NFPA Codes

SCOPE OF WORK

Scope of Work: Chemical Processing Plant ? Minor Process Line Upgrade

Project Goal: Upgrade an existing chemical processing line to increase throughput by 15% and improve operational efficiency.

I. Mechanical Engineering:

1. Pump Selection and Integration: Select a centrifugal pump with a capacity of 500 GPM and a head of 150 ft to replace an existing underperforming unit. This selection must meet ANSI B73.1 standards and incorporate vibration isolation mounts per API 610 specifications. Deliverables include pump specifications, vendor drawings, and a detailed integration plan into the existing system.

2. Heat Exchanger Modification: Modify an existing shell-and-tube heat exchanger (dimensions: 4ft diameter x 10ft length) to increase its heat transfer efficiency by 10%. This involves replacing the existing tube bundle (material: 316L stainless steel) with a higher efficiency design. Deliverables include detailed engineering drawings and a thermal performance analysis demonstrating the increased efficiency.

3. Safety System Enhancement: Design and install a pressure relief valve (PRV) system for the upgraded process line, adhering to NFPA 654 standards for pressure relief systems. This system must include a pressure relief valve (set pressure: 150 psi, capacity: 200 SCFM) and a suitable discharge header to vent to a safe location. Deliverables include P&ID updates, valve specifications, and a safety relief system analysis.

II. Piping & Pipeline:

1. Process Line Rerouting: Reroute a section of the existing 4-inch schedule 80 carbon steel process line (approx. 20ft) to optimize flow and reduce process downtime during the upgrade. This rerouting will incorporate new ASME B31.3 compliant welds and flanged connections. Deliverables will include isometric drawings, bill of materials, and welding procedures.

2. Instrumentation Piping: Design and install new instrumentation piping (1/2? schedule 40 stainless steel) for pressure and temperature sensors on the modified heat exchanger. This piping must be routed according to ASME B31.1 standards and incorporate appropriate isolation valves. Deliverables will include piping isometrics, instrument loop drawings, and a material take-off.

III. Cross-Disciplinary Tasks:

1. Mechanical-Piping Integration: The Mechanical Engineering team and the Piping & Pipeline team will collaborate to ensure seamless integration of the new pump and heat exchanger into the existing process line, minimizing disruption to other plant operations. This will involve detailed coordination of equipment placement, piping routing, and valve locations. A joint review of all designs and deliverables before installation will be required.

2. Safety Review: A joint hazard and operability (HAZOP) study will be conducted by both teams to identify and mitigate any potential safety hazards associated with the modifications. This will involve reviewing all aspects of the design, including pressure relief, emergency shutdown systems, and potential process hazards.

Complexity Impact Note: The project's complexity is appropriate for the assigned complexity level (2/5) given the relatively straightforward nature of the modifications.

REQUEST FOR QUOTATION

Request for Quotation (RFQ): Synth Kristenborough Safety Compliance

Project: Synth Kristenborough Safety Compliance ? Chemical Processing Plant Minor Process Line Upgrade

Location: New Kristenborough Refinery Zone, MT

Date: April 9, 2025

1. Introduction:
This RFQ seeks proposals for a project to upgrade an existing chemical processing line at the New Kristenborough Refinery to increase throughput by 15% and improve operational efficiency. The project involves mechanical modifications, piping and instrumentation upgrades, and a comprehensive safety review. The project complexity is rated 2/5.

2. Scope of Work:
The project includes, but is not limited to:
* Mechanical Engineering: Pump replacement (500 GPM, 150 ft head, ANSI B73.1, API 610), heat exchanger modification (increased efficiency by 10%), and PRV system installation (NFPA 654).
* Piping & Pipeline: Process line rerouting (approx. 20ft, ASME B31.3), and instrumentation piping installation (ASME B31.1).
* Cross-Disciplinary Tasks: Mechanical-Piping integration and a HAZOP study. Detailed scope provided in Appendix A (attached separately).

3. Qualifications:
Bidders must demonstrate at least 3 years of experience in chemical processing projects and a proven track record of regulatory compliance.
4. Proposal Requirements:
Proposals should include:
* Detailed technical designs (1-2 pages) addressing all aspects of the scope of work.
* A comprehensive cost breakdown.
5. Evaluation Criteria:
Proposals will be evaluated based on: Technical approach (50%), Cost (30%), and Experience (20%).

6. Timeline:

*** RFQ Release: April 9, 2025**

*** Questions Due: April 26, 2025**

*** Proposals Due: May 13, 2025**

*** Project Start: June 2, 2025**
* Project Duration: 9 months

*** Contract Type: Fixed Price**

7. Submission:
Submit proposals electronically to procurement@chemicalprocessing.com. Appendix A (detailed scope of work) will be provided separately.

CONTACT

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TIMELINE

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