REQUEST FOR PROPOSAL (RFP)

King, Smith and Bowen

PROJECT OVERVIEW

Name: React Donnaberg Safety Compliance
Type: Safety Compliance
Location: Donnaberg, WV (Factory Complex)
Industry: Chemical Processing
Value: $9,443,586
Complexity: 1/5
Date: April 09, 2025
Disciplines: Piping & Pipeline, Mechanical Engineering, Process Engineering
Regulations: NFPA Codes

SCOPE OF WORK

Scope of Work: Chemical Processing Unit Upgrade ? Batch Reactor Feed System

Project Goal: Upgrade the existing feed system for a batch chemical reactor to improve efficiency and safety. This involves minor piping modifications, minor equipment additions, and updated process control strategies.

1. Piping & Pipeline Engineering:

*** Task 1: Design and specify the replacement of 20 meters of existing 4-inch schedule 40 carbon steel piping connecting the storage tank to the reactor. The new piping will be constructed from 4-inch schedule 80 316L stainless steel pipe to handle a more corrosive chemical feedstock. Deliverables will include isometric drawings, material specifications, and a bill of materials compliant with ASME B31.3.**

*** Task 2: Design and detail a new 2-inch stainless steel vent line from the reactor feed tank to the existing scrubber system. This will include a pressure relief valve (PRV) sized to comply with NFPA 69 standards for venting flammable mixtures, with the PRV specifications included in the drawings and specifications. The piping will be routed to minimize potential hazards.**

2. Mechanical Engineering:

*** Task 1: Select, specify, and procure a new positive displacement pump (capacity: 50 GPM, pressure: 50 PSI) with associated motor and controls for the feed system. The pump will be a centrifugal type, constructed of 316L stainless steel to match the piping. Deliverables include pump specifications, vendor drawings, and a pump curve.**

*** Task 2: Design and detail the mounting platform for the new pump, ensuring adequate vibration isolation and accessibility for maintenance. The platform will be fabricated from structural steel and will be designed to support the pump weight and associated piping loads, with load calculations included in the design package.**

3. Process Engineering:

*** Task 1: Develop a revised process control strategy for the reactor feed system incorporating the new pump and piping. This involves adjusting the existing PLC program to incorporate feedback from the new pump's flow sensors and level sensors in the reactor and storage tank. Deliverables include updated PLC logic diagrams and a detailed process description.**

*** Task 2: Perform a hazard and operability study (HAZOP) review of the modified feed system, identifying and mitigating potential hazards. The HAZOP report should include recommendations for procedural changes as well as engineering design modifications, focusing on ensuring safe operation according to NFPA standards where applicable.**

Cross-Disciplinary Tasks:

*** Task 1: Conduct a joint piping/mechanical design review to ensure proper integration of the new pump and piping components, verifying that the pump's physical dimensions and piping connections are compatible with the structural design and support systems. This will involve ensuring correct alignment and accessibility for maintenance.**

*** Task 2: The process engineers will collaborate with the piping and mechanical engineers to finalize the P&ID (Piping and Instrumentation Diagram) incorporating all modifications, thereby ensuring consistency in the design and allowing for a smooth transition during construction and commissioning.**

Complexity Impact: The project complexity is appropriately classified as Level 1 due to the relatively small scope and straightforward nature of the modifications.

REQUEST FOR QUOTATION

Request for Quotation (RFQ): React Donnaberg Safety Compliance

Project: Upgrade of Batch Reactor Feed System at Donnaberg, WV Factory Complex

Issued: April 09, 2025 **Due: May 18, 2025**

Questions Due: April 20, 2025 **Project Start: May 02, 2025**

Project Duration: 9 Months **Contract Type: Fixed Price**

1. Project Overview:

This RFQ seeks proposals for upgrading the feed system of a batch chemical reactor at our Donnaberg, WV facility. The project involves minor piping modifications, equipment additions, and updated process control strategies to improve efficiency and safety. The scope includes piping and pipeline engineering, mechanical engineering, and process engineering tasks (detailed below). The project complexity is rated 1/5.

2. Scope of Work:

* Piping & Pipeline Engineering: Replacement of 20m of 4? schedule 40 carbon steel piping with 4? schedule 80 316L stainless steel; design and detail a 2? stainless steel vent line with PRV (NFPA 69 compliant).
* Mechanical Engineering: Selection, specification, and procurement of a 50 GPM, 50 PSI centrifugal pump (316L stainless steel); design and detail the pump mounting platform.
* Process Engineering: Develop a revised process control strategy (PLC programming); perform a HAZOP study.
* Cross-Disciplinary Tasks: Joint piping/mechanical design review; finalize the P&ID.

3. Deliverables:

* Detailed technical designs (1-2 pages)
* Cost breakdown
* Isometric drawings, material specifications, bill of materials (ASME B31.3 compliant)
* Pump specifications, vendor drawings, pump curve
* Updated PLC logic diagrams, detailed process description
* HAZOP report

*** P&ID**

4. Qualifications:

Minimum 3 years? experience in chemical processing; proven regulatory compliance experience.

5. Evaluation Criteria:

* Technical Approach (50%)
* Cost (30%)
* Experience (20%)

6. Submission:

Submit proposals electronically to procurement@chemicalprocessing.com.

7. Contact:

For any questions, please contact procurement@chemicalprocessing.com.

CONTACT

Michelle Kennedy, Technical Director
Phone: +1-638-983-8966
Email: michelle@kingsmithandbowen.com

TIMELINE

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