REQUEST FOR PROPOSAL (RFP)

Cortez Group

PROJECT OVERVIEW

Name: React Ryanville Modernization
Type: Modernization
Location: Ryanville, NC (Refinery Zone)
Industry: Chemical Processing
Value: $2,270,878
Complexity: 1/5
Date: April 09, 2025
Disciplines: Process Engineering, Mechanical Engineering, Environmental Engineering
Regulations: ISO 14001

SCOPE OF WORK

Scope of Work: Chemical Processing Unit Modernization ? Refinery Zone

Project Goal: Modernize a section of the existing chemical processing unit within the refinery zone to improve efficiency and safety while adhering to relevant environmental regulations (ISO 14001 where applicable). This project focuses on basic upgrades and replacements, not significant process changes.

1. Process Engineering:

* **Task 1: Improve existing process control system.** Upgrade the existing distributed control system (DCS) by replacing outdated analog instrumentation with digital smart transmitters for level, pressure, and temperature measurements across five process vessels. This will involve developing a detailed instrumentation and control (I&C) specification document and procuring the necessary hardware adhering to ISA standards.
* **Task 2: Optimize chemical feed system.** Redesign the chemical feed system for Reactor-1 by replacing the existing centrifugal pump with a positive displacement pump capable of handling the increased viscosity of the new feedstock. Perform a process simulation to confirm that the pump selection ensures adequate flow rate and pressure, documenting the simulation results and pump specifications in a technical report.
* **Task 3: Update Process Safety Information (PSI).** Review and update the existing Process Safety Information (PSI) documents for the modernized section to reflect the changes made during the upgrade. This includes updated P&IDs, hazard and operability study (HAZOP) review for the updated system, and updating the Safety Data Sheets (SDS) to account for the updated chemicals and equipment.

2. Mechanical Engineering:

* **Task 1: Replace aging heat exchangers.** Replace two existing shell and tube heat exchangers (1.5m diameter, 3m length) in the cooling circuit with new units constructed from 316L stainless steel, complying with ASME Section VIII, Division 1 standards. This task includes creating detailed fabrication drawings, overseeing procurement, and performing a pre-commissioning inspection.
* **Task 2: Upgrade pipeline sections.** Replace 50 meters of existing carbon steel piping (6-inch diameter) with schedule 80 316L stainless steel piping to improve corrosion resistance in a specific high-temperature zone. This involves producing detailed isometric drawings and material procurement specifications adhering to ASME B31.3 standards.

3. Environmental Engineering:

* **Task 1: Improve wastewater treatment efficiency.** Upgrade the existing wastewater treatment system by installing a new automated chemical dosing system for pH adjustment, improving neutralization efficiency. This will involve selecting appropriate dosing pumps, designing the installation scheme, procuring necessary chemicals and safety equipment, and producing an updated environmental impact assessment.
* **Task 2: Conduct an air emissions inventory update.** Conduct a review of existing air emissions permits and perform an updated emissions inventory for the modified process unit. This will involve using industry-standard emission factors, documenting calculations, and proposing modifications if required to ensure compliance with applicable environmental regulations (ISO 14001 aspects).

Cross-Disciplinary Tasks:

* **Task 1: Joint HAZOP review:** Conduct a joint HAZOP review involving all three disciplines to ensure the safety of the upgraded system. The review will focus on identifying and mitigating potential hazards associated with the process, mechanical, and environmental aspects of the modernization project, resulting in a comprehensive HAZOP report.
* **Task 2: Integrated commissioning plan:** Develop a comprehensive integrated commissioning plan that incorporates the tasks of all three disciplines. This plan will ensure a coordinated and efficient start-up and commissioning process minimizing downtime and maximizing safety, outlining the sequence of activities and associated responsibilities.

Complexity Impact: The project's scope and complexity are appropriately categorized as Level 1, representing basic upgrades and replacements.

PROJECT GOAL

Upgrade existing oil processing unit to enhance efficiency and comply with relevant EPA emission standards for reduced VOCs.

DISCIPLINES

Process Engineering, Mechanical Engineering, Environmental Engineering

I. PIPING & PIPELINE ENGINEERING

1. Pipeline Rerouting & Sizing: Design and detail a new 2 km, 8-inch diameter carbon steel pipeline (API 5L X65) rerouting existing condensate transfer line from Unit A to Unit B. This includes hydraulic calculations, stress analysis using Caesar II software, and development of isometric drawings and material specifications to meet ASME B31.4 and B31.8 standards. The reroute must incorporate a new isolation valve station with API 6D compliant valves.

REQUEST FOR QUOTATION

Request for Quotation (RFQ): React Ryanville Modernization

Project Name: React Ryanville Modernization
Location: Ryanville, NC Refinery Zone
Industry: Chemical Processing
Complexity: 1/5

1. Introduction:

This RFQ solicits proposals for the modernization of a chemical processing unit at our Ryanville, NC refinery. The project involves basic upgrades and replacements to improve efficiency, safety, and environmental compliance (ISO 14001 where applicable). See the detailed scope of work below.

2. Scope of Work: Chemical Processing Unit Modernization ? Refinery Zone

(Summarized Scope ? Detailed Scope provided separately)

This project encompasses process, mechanical, and environmental engineering upgrades, including DCS upgrades, chemical feed system optimization, heat exchanger replacement, piping upgrades, wastewater treatment improvements, and air emissions inventory updates. Key deliverables include updated P&IDs, HAZOP reports, and a comprehensive commissioning plan. A complete scope of work document is available upon request.

3. Qualifications:

Bidders must demonstrate a minimum of 3 years of experience in chemical processing projects and a proven track record of regulatory compliance.

4. Proposal Requirements:

Proposals must include:

* A detailed cost breakdown.
* Technical designs (1-2 pages maximum) outlining proposed solutions for each task.

5. Evaluation Criteria:

Proposals will be evaluated based on:

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

6. Timeline:

* RFQ Release Date: April 09, 2025
* Questions Due: April 17, 2025
* Proposals Due: May 12, 2025
* Project Start Date: May 06, 2025
* Project Duration: 11 months
* Contract Type: Fixed Price

7. Contact:

Submit proposals electronically to procurement@chemicalprocessing.com

CONTACT

[Insert Contact Name and Phone Number Here (Optional)]

TIMELINE

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