REQUEST FOR PROPOSAL (RFP)

Washington-Taylor

PROJECT OVERVIEW

Name: Synth Perezmouth Modernization
Type: Modernization
Location: Perezmouth, DC (Factory Complex)
Industry: Chemical Processing
Value: $16,405,723
Complexity: 3/5
Date: April 09, 2025
Disciplines: Piping & Pipeline, Mechanical Engineering, Process Engineering
Regulations: NFPA Codes

SCOPE OF WORK

Scope of Work: Chemical Processing Plant Modernization

Project Goal: Modernize existing chemical processing unit to improve efficiency, safety, and comply with updated operational requirements.

1. Piping & Pipeline Engineering

*** Task 1.1: Replace Existing Process Piping Section: Replace 500 feet of existing 6-inch schedule 80 carbon steel process piping within Unit 3, handling corrosive chemicals (specify chemical composition), with new 6-inch schedule 160 316L stainless steel piping. This task includes detailed isometric drawings, bill of materials, and pressure drop calculations in accordance with ASME B31.3.**

*** Task 1.2: Upgrade Chemical Feed System: Design and install a new automated chemical feed system for Reactor 2, incorporating a new 2-inch diameter polypropylene piping system for precise delivery of catalyst solution. This will involve creating P&IDs, specifying flow meters, valves and control systems, along with a functional test plan and operational safety procedures.**

2. Mechanical Engineering

*** Task 2.1: Upgrade Reactor Agitator System: Replace the existing agitator in Reactor 1 with a new high-efficiency, variable-speed motor-driven system. This includes detailed specifications for the motor (HP, RPM, efficiency rating), the agitator design (material selection, dimensions based on the process), and the development of a safety interlock system to prevent overspeed conditions.**

*** Task 2.2: Install New Heat Exchanger: Design and install a new shell and tube heat exchanger (specify dimensions, material, and heat transfer requirements) to improve the cooling capacity of the product stream leaving Reactor 3, ensuring compliance with relevant NFPA fire codes for the exchanger?s proximity to flammable material storage. This will include thermal calculations, stress analysis, and installation drawings.**

3. Process Engineering

*** Task 3.1: Optimize Reaction Process: Perform a process simulation study using Aspen Plus (or equivalent) to optimize the reaction process in Reactor 2, focusing on improving yield and reducing byproduct formation. Deliverables will include a process flow diagram (PFD), mass and energy balances, and a detailed report outlining the optimized operating parameters.**

*** Task 3.2: Develop Safety Instrumented System (SIS) Logic: Develop and document the logic for a new Safety Instrumented System (SIS) for the upgraded Unit 3, addressing potential hazards such as high pressure and temperature excursions. This will involve hazard and operability studies (HAZOP), safety requirements specifications (SRS), and detailed logic diagrams following IEC 61511 standards.**

Cross-Disciplinary Tasks:

*** Task 4.1: Piping and Mechanical Integration: The Piping and Mechanical Engineering teams will collaborate to ensure proper integration of the new piping system and equipment into the existing plant infrastructure. This includes coordinating the layout of new equipment, verifying clearances and accessibility, and integrating the new systems with existing instrumentation and control systems.**

*** Task 4.2: Process & Safety Integration: The Process and Safety Engineering teams will jointly validate the process safety implications of the proposed upgrades and ensure alignment between the optimized process parameters and the newly developed SIS. This involves reviewing the HAZOP analysis to ensure proper safety measures are in place and confirming SIS response times to satisfy process requirements.**

Complexity Impact Note: The project's complexity level of 3/5 reflects the need for significant design work, integration challenges and multi-disciplinary coordination, though it doesn?t involve entirely novel technologies or extensive site modifications.

REQUEST FOR QUOTATION

Request for Quotation (RFQ): Synth Perezmouth Modernization

Project: Synth Perezmouth Modernization ? Chemical Processing Plant Modernization

Location: Factory Complex, Perezmouth, DC

Date: April 9, 2025

1. Introduction:
This RFQ solicits proposals for the modernization of a chemical processing unit at our Perezmouth facility. The project aims to improve efficiency, safety, and regulatory compliance. Complexity level: 3/5.

2. Scope of Work: (See detailed scope in attachment) The project encompasses piping and pipeline engineering, mechanical engineering, and process engineering tasks, including design, installation, and commissioning of new equipment and systems. Specific tasks include replacing process piping, upgrading chemical feed and reactor systems, optimizing reaction processes, and developing a new Safety Instrumented System (SIS). Cross-disciplinary integration is crucial. (Detailed scope of work attached).
3. Contractor Qualifications:
Bidders must demonstrate a minimum of 3 years? experience in chemical processing plant modernization, a proven track record of regulatory compliance (specify relevant regulations if needed, e.g., OSHA, EPA), and relevant experience with the specified technologies (e.g., Aspen Plus).
4. Proposal Requirements:
Proposals should include:
* A 1-2 page technical design summary outlining the proposed approach for each task.
* A detailed cost breakdown.
5. Evaluation Criteria:
Proposals will be evaluated based on:
* Technical Approach (50%)
* Cost (30%)
* Contractor Experience (20%)

6. Timeline:

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

*** Questions Due: April 27, 2025**

*** Proposals Due: May 12, 2025**

*** Project Start: May 26, 2025**
* Project Duration: 10 months

7. Contract Type: Time & Materials

8. Contact:
Submit proposals electronically to: procurement@chemicalprocessing.com

Attachment: Detailed Scope of Work (as described above)

CONTACT

Sean Osborne, Contracts Administrator
Phone: (265)343-5887x0962
Email: sean@washington-taylor.com

TIMELINE

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