REQUEST FOR PROPOSAL (RFP)

Garcia Inc

PROJECT OVERVIEW

Name: Chem Alisonburgh Capacity Enhancement
Type: Capacity Enhancement
Location: Alisonburgh, NC (Refinery Zone)
Industry: Chemical Processing
Value: $19,866,782
Complexity: 3/5
Date: April 09, 2025
Disciplines: Environmental Engineering, Piping & Pipeline, Process Engineering
Regulations: EPA Requirements

SCOPE OF WORK

Scope of Work: Refinery Zone Chemical Processing Capacity Enhancement

Project Goal: Increase processing capacity of the existing chemical processing unit within the refinery zone by 20%, while maintaining operational safety and environmental compliance.

1. Environmental Engineering:

*** Task 1: Air Emission Permitting and Monitoring Plan: Develop a comprehensive plan for obtaining necessary air emission permits from the EPA, encompassing updated emission inventories, dispersion modeling (AERMOD) to demonstrate compliance with National Ambient Air Quality Standards (NAAQS), and a detailed monitoring strategy for stack emissions, including specifying the required monitoring equipment (e.g., continuous emission monitors ? CEMs for SO2, NOx, CO). The plan will include a schedule for permit acquisition and ongoing compliance reporting.**

*** Task 2: Wastewater Treatment Optimization: Assess the current wastewater treatment system capacity and efficiency, identifying bottlenecks and recommending upgrades to handle the increased process flow. This includes developing detailed engineering designs for modifications to the existing treatment system, potentially including the addition of a new clarifier (diameter 15m, designed to meet NPDES permit discharge limits) or enhanced biological treatment processes, with specifications for all equipment and materials. Deliverables will include detailed engineering drawings and cost estimates.**

*** Task 3: Spill Prevention, Control, and Countermeasure (SPCC) Plan Update: Update the existing SPCC plan to reflect the increased processing capacity and potential for larger spills. This involves revising the plan's sections related to secondary containment, spill response procedures, and employee training requirements. The updated plan should be submitted for regulatory approval (per EPA requirements) before project implementation.**

2. Piping & Pipeline Engineering:

*** Task 1: Process Piping Rerouting and Sizing: Design and detail the rerouting of existing process piping (including 6-inch and 8-inch diameter lines) to accommodate the new equipment and increased flow rates. The design must adhere to ASME B31.3 standards, including stress analysis and material selection (e.g., 316L stainless steel for corrosion resistance) for operating pressures up to 500 psi. Deliverables include isometric drawings and material take-offs.**

*** Task 2: New Chemical Feed Pipeline Design: Design a new 4-inch diameter pipeline (length: 500m) to transport a new feedstock chemical to the processing unit. The design must include detailed specifications for materials (considering chemical compatibility), pipe supports, and isolation valves, in accordance with ASME B31.4 and API 1104 for buried pipelines. Deliverables include pipeline route maps, detailed design drawings, and bill of materials.**

3. Process Engineering:

*** Task 1: Process Simulation and Optimization: Utilize process simulation software (e.g., Aspen Plus) to model the enhanced process, optimizing operating conditions to maximize throughput and efficiency. The model should include detailed thermodynamic property calculations for all chemicals involved, and deliver optimized parameters to the operations team for implementation.**

*** Task 2: Equipment Sizing and Specification: Based on the optimized process model, specify and size new and upgraded process equipment (e.g., reactors, heat exchangers, pumps). Equipment specifications should include vendor drawings and data sheets, adhering to relevant industry standards (e.g., ASME Section VIII for pressure vessels), along with justification for material selections.**

Cross-Disciplinary Tasks:

*** Task 1: HAZOP Study: Conduct a Hazard and Operability Study (HAZOP) to identify and mitigate potential process safety hazards related to the capacity enhancement project. This will require close collaboration between Process, Piping, and Environmental Engineers, focusing on identifying and mitigating risks at each stage of the project. The HAZOP study report will contain all identified hazards, recommended mitigating actions and safety recommendations.**

*** Task 2: Integrated Permitting and Compliance Review: Environmental and Process engineers will work together to ensure all aspects of the project comply with all applicable EPA regulations and obtain necessary permits before construction commences. This includes integrating design changes and operational procedures to satisfy air emission limits, water discharge permits, and waste management regulations.**

Complexity Impact Note: The project's complexity level of 3/5 reflects the need for detailed design, optimization, and regulatory compliance, but it doesn't involve entirely novel technologies or highly specialized expertise.

REQUEST FOR QUOTATION

Request for Quotation: Chem Alisonburgh Capacity Enhancement

Project: Chem Alisonburgh Capacity Enhancement ? Refinery Zone Capacity Increase

Industry: Chemical Processing

Location: Alisonburgh, NC

Date: April 09, 2025

Due Date: May 14, 2025

Project Goal: Increase chemical processing unit capacity by 20% while maintaining safety and environmental compliance.

Scope of Work: The project encompasses environmental engineering (air permitting, wastewater treatment optimization, SPCC plan update), piping and pipeline engineering (process piping rerouting, new feedstock pipeline), and process engineering (simulation, equipment sizing). A HAZOP study and integrated permitting/compliance review are crucial cross-disciplinary tasks. Detailed scope is attached.

Qualifications: Minimum 3 years of experience in chemical processing, proven track record of regulatory compliance (EPA).
Proposal Requirements: A detailed proposal including a 1-2 page technical design summary and a comprehensive cost breakdown.
Evaluation Criteria: Technical Approach (50%), Cost (30%), Experience (20%).

Timeline:

*** RFQ Release: April 09, 2025**

*** Questions Due: April 19, 2025**

*** Proposals Due: May 14, 2025**

*** Project Start: May 23, 2025**

*** Project Duration: 18 months**

Contract Type: Time & Materials

Contact: procurement@chemicalprocessing.com
Detailed Scope of Work (attached separately): [Link to detailed SOW as described in original prompt]

CONTACT

Meredith Crawford, Engineering Manager
Phone: 764.844.4705x74595
Email: meredith@garciainc.com

TIMELINE

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