REQUEST FOR PROPOSAL (RFP)

Moody-Price

PROJECT OVERVIEW

Name: Synth Renee Modernization
Type: Modernization
Location: Lake Renee, NE (Factory Complex)
Industry: Chemical Processing
Value: $4,025,477
Complexity: 1/5
Date: April 09, 2025
Disciplines: Environmental Engineering, Mechanical Engineering, Process Engineering
Regulations: NFPA Codes, ISO 14001

SCOPE OF WORK

Scope of Work: Chemical Processing Plant Modernization ? Generic Upgrade

Project Goal: To modernize a section of the existing chemical processing facility, improving efficiency and safety while adhering to relevant regulations (NFPA Codes where applicable, ISO 14001 for waste management).

I. Environmental Engineering

1. Wastewater Treatment Optimization: Assess the existing wastewater treatment system's capacity and efficiency. Recommend and implement minor upgrades to improve biological oxygen demand (BOD) and chemical oxygen demand (COD) removal efficiency by at least 10%, delivering a revised process flow diagram (PFD) and operational procedure documentation. All modifications must comply with relevant local discharge permits.

2. Air Emission Monitoring Enhancement: Install a new, calibrated continuous emission monitoring system (CEMS) for one identified emission point (e.g., a vent stack from a specific reactor) to monitor particulate matter (PM) concentrations, meeting EPA Method 5 standards for sampling and analysis. Deliver a calibration report and ongoing maintenance schedule for the CEMS equipment.

3. Spill Prevention, Control, and Countermeasures (SPCC) Plan Update: Review and update the existing SPCC plan to reflect current process modifications, ensuring compliance with EPA regulations. This includes revising the containment and response strategies for identified hazardous materials. Deliver a revised and approved SPCC plan document.

II. Mechanical Engineering

1. Pump Replacement: Replace three existing centrifugal pumps (model X-123, capacity 50 GPM each) handling a specific chemical solution (specify chemical, e.g., dilute sulfuric acid) with energy-efficient models (specify new model), resulting in a minimum 15% energy savings. Provide detailed specifications for the new pumps, including material compatibility certificates and a detailed installation plan.

2. Valve Upgrades: Upgrade 10 existing manual valves in a critical process line to automated ball valves (specify size and material, e.g., 2-inch stainless steel), improving control and reducing manual intervention. This will incorporate programmable logic controller (PLC) integration and deliver updated process and instrumentation diagrams (P&IDs).

III. Process Engineering

1. Process Optimization for Reactor X: Analyze the performance data of Reactor X (capacity 1000L) to identify opportunities for improved yield and reduced reaction time. Implement minor procedural changes and optimize operating parameters to achieve a minimum 5% improvement in yield or a 10% reduction in reaction time. Deliver a revised process flowsheet and detailed operating procedures.

2. Instrumentation Calibration and Upgrade: Calibrate all pressure and temperature sensors associated with Reactor X (approximately 10 sensors). Replace any sensors beyond their calibration limits, ensuring accuracy within ±2% of the full-scale range for all parameters. Provide a calibration report for all instruments, including sensor specifications and calibration certificates.

IV. Cross-Disciplinary Tasks

1. HAZOP Study (Hazardous Operability Study): Conduct a HAZOP study focusing on the modified sections of the facility, covering all aspects of the process, including environmental and mechanical systems. Document all identified hazards and implement appropriate mitigation strategies, delivering a HAZOP report with all action items and their resolutions.

2. Waste Minimization Strategy: Develop a comprehensive strategy to reduce the overall amount of hazardous waste generated from the modified sections of the facility, incorporating elements from both environmental and process engineering. The strategy will include process optimization suggestions, and recommendations for improved waste segregation and handling procedures. Deliver a detailed waste minimization plan with quantitative targets.

Complexity Impact: This project is considered low complexity due to the nature of the upgrades, involving mostly incremental improvements and replacements.

REQUEST FOR QUOTATION

Request for Quotation (RFQ): Synth Renee Modernization

Project: Synth Renee Modernization ? Chemical Processing Plant Upgrade (Lake Renee, NE)

Issued: April 09, 2025

Response Due: May 08, 2025

Project Start: May 29, 2025

Project Duration: 5 Months

Contract Type: Fixed Price

1. Introduction:
This RFQ seeks proposals for the modernization of a section of our chemical processing facility at Lake Renee, NE. The project focuses on improving efficiency, safety, and regulatory compliance (NFPA, ISO 14001, EPA). See detailed scope below.

2. Scope of Work: Chemical Processing Plant Modernization ? Generic Upgrade. This includes:
I. Environmental Engineering:
* Wastewater Treatment Optimization (10% improvement in BOD/COD removal)
* Air Emission Monitoring Enhancement (CEMS installation for PM monitoring)
* SPCC Plan Update (to reflect process modifications)
II. Mechanical Engineering:
* Pump Replacement (3 x 50 GPM centrifugal pumps; 15% energy savings)
* Valve Upgrades (10 manual valves to automated ball valves, PLC integration)
III. Process Engineering:
* Process Optimization for Reactor X (5% yield increase or 10% reaction time reduction)
* Instrumentation Calibration and Upgrade (Reactor X sensors; ±2% accuracy)
IV. Cross-Disciplinary Tasks:
* HAZOP Study (modified facility sections)
* Waste Minimization Strategy (quantitative targets)

3. Qualifications:
Bidders must demonstrate 3+ years of experience in chemical processing plant modernization, proven regulatory compliance (NFPA, ISO 14001, EPA), and relevant expertise in the specified areas.
4. Proposal Requirements:
Proposals must include:
* Technical Design: 1-2 page summary of proposed solutions and methodologies.

*** Cost Breakdown: Detailed cost estimate for all aspects of the project.**
5. Evaluation Criteria:
Proposals will be evaluated based on: Technical Approach (50%), Cost (30%), and Experience (20%).

6. Contact:
Submit proposals electronically to procurement@chemicalprocessing.com. Questions regarding this RFQ may be submitted by April 24, 2025, to the same email address.

Complexity: Low (1/5)

CONTACT

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TIMELINE

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