REQUEST FOR PROPOSAL (RFP)

Smith LLC

PROJECT OVERVIEW

Name: Indust Timothy Automation Retrofit
Type: Automation Retrofit
Location: West Timothy, AL (Refinery Zone)
Industry: Manufacturing
Value: $9,835,876
Complexity: 1/5
Date: April 09, 2025
Disciplines: Mechanical Engineering, Process Engineering, Industrial Automation
Regulations: ISO 9001

SCOPE OF WORK

Scope of Work: Generic Automation Retrofit in a Refinery Zone

Project Goal: To upgrade existing manual valve operation with automated control systems in a designated refinery zone, improving operational efficiency and safety.

Complexity Level: 1/5
Applicable Standard: ISO 9001 (where relevant for documentation and quality control).
I. Mechanical Engineering
1. Valve Actuator Installation: Install pneumatic actuators (Fisher Type 667, 100-200 Nm torque) onto 6 existing 6-inch gate valves located in Zone Alpha, using stainless steel mounting brackets (AISI 316, minimum 6mm thickness). All installations must adhere to refinery safety standards and include detailed as-built drawings indicating actuator positions and pipeline connections.
2. Support Structure Modification: Modify existing pipe support structures to accommodate the weight and dimensions of the new actuators (max. dimensions: 500mm x 300mm x 200mm per actuator). Welding will be required to attach new support brackets fabricated from carbon steel (ASTM A36) and must include weld inspections per AWS D1.1. Detailed shop drawings and stress calculations confirming structural integrity must be provided.
II. Process Engineering
1. Instrumentation Sizing and Selection: Select and specify appropriate pneumatic instrumentation (pressure transmitters, pressure regulators, and solenoids) for the automated valve control system. Instrument sizing must be based on existing process parameters and piping diagrams with consideration for pressure drop and safety factors. All instrumentation must be compliant with relevant industry standards (e.g., ISA, IEC).
2. Process Control Loop Design: Design basic process control loops for each automated valve based on provided process data and flow diagrams. This includes defining control strategies (e.g., proportional, PI), selecting appropriate control valve sizing, and defining safety interlocks. Process simulations should verify functionality and stability of the automated control loops.
III. Industrial Automation
1. PLC Programming and HMI Development: Develop the PLC program (using Allen-Bradley PLC, ControlLogix platform) to control the new valve automation system. This includes ladder logic programming for valve operation, data acquisition, alarm management, and integration with the existing SCADA system. A user-friendly HMI must be developed to monitor and control the system.
2. Networking and Communication: Configure Ethernet/IP communication between the PLC, HMI, and existing refinery network. All network components must adhere to refinery network standards and include appropriate cybersecurity measures. Testing and documentation of the network configuration are required to ensure reliable operation.
IV. Cross-Disciplinary Tasks
1. Joint Site Survey and Inspection: Conduct a joint site survey to verify existing valve conditions, pipe dimensions, and available space for actuator installation. Confirm process parameters and instrumentation requirements with process engineering, addressing any discrepancies before proceeding with the design phase. Document the survey findings with photos and detailed sketches.
2. System Integration and Testing: Conduct thorough system integration testing following installation to verify functionality and performance of the complete automated valve control system. This involves loop testing, functional testing, and safety testing to confirm alignment of mechanical, process, and automation systems. This test phase includes a detailed test plan and reporting of results.
Complexity Impact Note: The project's low complexity stems from the relatively straightforward nature of the valve automation retrofit, involving basic components and processes.

REQUEST FOR QUOTATION

Request for Quotation (RFQ): Indust Timothy Automation Retrofit

Project: Indust Timothy Automation Retrofit (Refinery Zone, West Timothy, AL)

Industry: Manufacturing

Date: April 09, 2025

Due Date: May 18, 2025

Project Goal: Upgrade existing manual valve operation to automated control in Zone Alpha, improving efficiency and safety. (6 x 6-inch gate valves)

Scope of Work: This RFQ details a relatively straightforward automation retrofit. The work includes:
I. Mechanical Engineering:
* Installation of 6 pneumatic actuators (Fisher Type 667, 100-200 Nm torque) with AISI 316 stainless steel mounting brackets (min 6mm). As-built drawings required.
* Modification of existing pipe supports to accommodate actuators (max. dimensions: 500mm x 300mm x 200mm). Requires welding (AWS D1.1) and structural calculations.
II. Process Engineering:
* Sizing and specification of pneumatic instrumentation (transmitters, regulators, solenoids) compliant with ISA/IEC standards.
* Design of basic process control loops (proportional, PI) with safety interlocks and process simulations.
III. Industrial Automation:
* PLC programming (Allen-Bradley ControlLogix) including ladder logic, data acquisition, alarm management, and SCADA integration. User-friendly HMI development.
* Ethernet/IP network configuration adhering to refinery standards, including cybersecurity measures.
IV. Cross-Disciplinary:
* Joint site survey and inspection with detailed documentation.
* System integration testing with a detailed test plan and report.
Applicable Standard: ISO 9001 (where relevant)

Qualifications: Minimum 3 years' experience in manufacturing automation projects, proven regulatory compliance.
Proposal Requirements:
* Technical designs (1-2 pages)
* Detailed cost breakdown
Evaluation Criteria: Technical (50%), Cost (30%), Experience (20%)

Contract Type: Fixed Price

Timeline:

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

*** Questions Due: April 17, 2025**

*** Proposal Due: May 18, 2025**

*** Project Start: June 07, 2025**

*** Project Duration: 3 months**

Submission: Submit proposals electronically to procurement@manufacturing.com

Complexity Level: 1/5

CONTACT

Adrian Conway, Engineering Manager
Phone: 305-670-8669x326
Email: adrian@smithllc.com

TIMELINE

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