

REQUEST FOR PROPOSAL (RFP)

Hill-Brown

PROJECT OVERVIEW

Name: Tech Megantown Automation Retrofit
Type: Automation Retrofit
Location: Megantown, RI (Refinery Zone)
Industry: Manufacturing
Value: \$9,188,643
Complexity: 2/5
Date: April 09, 2025
Disciplines: Process Engineering, Industrial Automation
Regulations: OSHA Regulations, ISO 9001

SCOPE OF WORK

Scope of Work: Generic Automation Retrofit in a Refinery Zone

Project Goal: Retrofit existing manual control systems in a designated refinery zone with a PLC-based automated system, enhancing safety, efficiency, and reducing operational costs.

1. Process Engineering:

* **Task 1: Process Flow Diagram (PFD) Update and HAZOP Study:** Develop an updated PFD for the retrofit zone incorporating the new automation system, clearly depicting all process streams, instrumentation, and control loops. Conduct a HAZOP study on the updated PFD to identify potential hazards and recommend mitigation strategies, documenting findings in a HAZOP report adhering to industry best practices. This will ensure safe and efficient operation of the upgraded system.

* **Task 2: Instrumentation Specification and Sizing:** Specify and size all necessary instrumentation (level transmitters, pressure transmitters, temperature sensors, flow meters etc.) for the automated system, choosing instruments compliant with ISA standards and specifying materials compatible with the process fluids (e.g., 316L stainless steel for corrosive environments). Provide detailed datasheets for all specified instruments, including calibration and accuracy requirements.

* **Task 3: Process Control Strategy Development:** Develop a detailed process control strategy document outlining the control logic, setpoints, alarms, and safety interlocks for the automated system. This document will include control loop descriptions, PID tuning parameters, and emergency shutdown procedures, ensuring reliable and safe process control.

2. Industrial Automation:

* **Task 1: PLC Hardware Selection and Panel Design:** Select suitable PLC hardware (CPU, I/O modules, communication modules) based on the process requirements and I/O count, considering Allen-Bradley or Siemens PLC platforms. Design the control panel layout, specifying dimensions (e.g., 48" x 24" x 12"), materials (e.g., powder-coated steel), and ensuring compliance with NEC standards. Deliver detailed panel fabrication drawings and PLC hardware specifications.

* **Task 2: HMI Development and SCADA Integration:** Develop a user-friendly HMI (Human Machine Interface) using a SCADA system (e.g., Wonderware, Ignition) to monitor and control the automated process. The HMI will display real-time process data, alarms, trends, and provide operators with intuitive control interfaces. Ensure the HMI design adheres to ergonomic principles and is easily navigable for operators.

* **Task 3: Network Design and Communication Protocol Selection:** Design the industrial network infrastructure for the automated system, selecting appropriate communication protocols (e.g., Ethernet/IP, Profibus) based on speed and reliability requirements. Specify network components (switches, routers, cables) and ensure network design adheres to relevant industry standards for secure communication. Provide network diagrams and device specifications.

Cross-Disciplinary Tasks:

* **Task 1: Joint HAZOP Review and Risk Mitigation:** Both Process and Automation engineers will participate in a joint HAZOP review of the integrated system, ensuring that process safety requirements are properly addressed within the automation design. This collaborative review will identify and resolve any safety concerns before implementation.

* **Task 2: System Integration and Testing:** Process and Automation engineers will work together to integrate the PLC system with the process instrumentation, validate the control strategies, and conduct factory acceptance testing (FAT) followed by site acceptance testing (SAT). This coordinated effort will ensure seamless integration and efficient commissioning.

Complexity Impact Note: The complexity of this project is rated as 2/5 due to the straightforward nature of the retrofit and the absence of highly specialized or complex process control requirements.

REQUEST FOR QUOTATION

Request for Quotation (RFQ): Tech Megantown Automation Retrofit

Project Name: Tech Megantown Automation Retrofit

Project Location: Refinery Zone, Megantown, RI

Industry: Manufacturing

Project Goal: Retrofit existing manual control systems in a designated refinery zone with a PLC-based automated system, enhancing safety, efficiency, and reducing operational costs. (See attached Scope of Work for detailed tasks).

Scope of Work: Generic Automation Retrofit in a Refinery Zone (Detailed scope attached)

Complexity: 2/5

Required Qualifications: 3+ years experience in manufacturing automation retrofits; proven regulatory compliance (e.g., ISA, NEC).

Proposal Requirements:

- * Technical design (1-2 pages) detailing proposed solutions for each task outlined in the attached scope of work.
- * Comprehensive cost breakdown.

Evaluation Criteria:

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

Timeline:

- * RFQ Release Date: April 9, 2025
- * Questions Due: April 20, 2025
- * Proposals Due: April 30, 2025
- * Project Start Date: May 7, 2025
- * Project Duration: 5 months

Contract Type: Fixed Price

Submission Instructions: Submit proposals electronically to procurement@manufacturing.com.

Attachments: Detailed Scope of Work

CONTACT

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TIMELINE

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