REQUEST FOR PROPOSAL (RFP)

Hernandez-Weaver

PROJECT OVERVIEW

Name: Tech Averyborough Emergency Response
Type: Emergency Response
Location: Averyborough, NH (Refinery Zone)
Industry: Manufacturing
Value: $4,362,282
Complexity: 1/5
Date: April 09, 2025
Disciplines: Industrial Automation, Process Engineering, Mechanical Engineering
Regulations: OSHA Regulations, ISO 9001

SCOPE OF WORK

Scope of Work: Industrial Manufacturing Project - Automated Packaging Line Upgrade

Project Goal: Upgrade an existing manual packaging line to a semi-automated system, improving efficiency and reducing manual labor.
Project Complexity: 1/5
Applicable Regulations: OSHA Regulations (general industry), ISO 9001 (relevant documentation and process control).
I. Industrial Automation:
1. PLC Programming & HMI Design: Program a Rockwell Automation PLC (Allen-Bradley CompactLogix 5370) to control the automated packaging process, including conveyor belt speed control, robotic arm activation (FANUC R-2000iB), and sensor-based packaging detection. The HMI (using FactoryTalk View SE) will display real-time status, production counts, and error messages, with intuitive operator controls and alarm management.
2. Safety System Integration: Integrate a safety system using Pilz safety relays and light curtains to ensure operator safety during the automated operation. Configure safety interlocks to halt operations if safety sensors are triggered or emergency stops are activated, documented in a safety system specification document. All safety components will adhere to relevant OSHA standards.
3. Network Communication Setup: Configure Ethernet/IP communication between the PLC, HMI, robotic arm controller, and other sensors/actuators. This will include cabling, network topology design (star configuration), and IP addressing according to a provided network diagram. The network will be tested for reliability and data integrity prior to commencement of production.
II. Process Engineering:
1. Line Optimization and Layout: Redesign the existing packaging line layout to optimize workflow for the semi-automated system, incorporating the robotic arm and conveyor system (dimensions: 10m x 5m). This will involve developing a detailed process flow diagram and a 3D model of the upgraded line (SolidWorks), specifying new conveyor belt dimensions and material (stainless steel).
2. Packaging Material Specification: Define requirements for packaging materials (boxes, tapes, labels) compatible with the new automated system. This includes specifying material dimensions (box size: 20cm x 30cm x 15cm), material strength and durability, and adherence to industry packaging standards (e.g., ASTM D4169 for corrugated boxes). A bill of materials for consumables will be created.
III. Mechanical Engineering:
1. Robotic Arm Integration: Design and fabricate mounting brackets for the robotic arm (FANUC R-2000iB) ensuring secure and stable placement on the existing structure. The design will be validated through Finite Element Analysis (FEA) to ensure it can withstand the operational loads. Drawings will be created in AutoCAD, adhering to ASME Y14.5 standards.
2. Conveyor System Modification: Modify the existing conveyor system to integrate with the robotic arm and accommodate the new packaging process. This includes the addition of a new section of conveyor (3m long, utilizing aluminum framing), modification of existing rollers and belt material as per the process engineering recommendations, and creation of detailed shop drawings.
IV. Cross-Disciplinary Tasks:
1. System Integration Testing: The industrial automation, process engineering, and mechanical engineering teams will collaborate to conduct rigorous integrated system testing. This will include testing individual components, subsystems, and the entire system to ensure proper functionality, safety, and performance. Testing results will be documented and any necessary adjustments will be implemented.
2. Operator Training Program: The teams will jointly develop and deliver an operator training program covering safe operation, basic troubleshooting, and preventive maintenance for the new semi-automated packaging line. Training materials will include operating manuals, visual aids, and hands-on practical sessions.
Complexity Impact Note: The project's low complexity is due to the scope being limited to a semi-automated upgrade of an existing line rather than a completely new system design and installation.

REQUEST FOR QUOTATION

Request for Quotation (RFQ): Tech Averyborough Emergency Response

Project: Semi-Automated Packaging Line Upgrade

Location: Averyborough Refinery Zone, Averyborough, NH

Industry: Manufacturing

Date: April 9, 2025

Due Date: May 7, 2025
Project Start Date: May 18, 2025

Project Duration: 12 Months

Contract Type: Fixed Price

1. Scope of Work: Upgrade existing manual packaging line to a semi-automated system utilizing a FANUC R-2000iB robotic arm, Rockwell Automation PLC (CompactLogix 5370), and FactoryTalk View SE HMI. Includes PLC programming, safety system integration (Pilz), network communication setup (Ethernet/IP), line optimization (10m x 5m), packaging material specification (20cm x 30cm x 15cm boxes), robotic arm mounting, conveyor system modification (3m addition), system integration testing, and operator training. Detailed scope in attached document.
2. Qualifications: Minimum 3 years' experience in industrial automation projects within manufacturing, proven compliance with OSHA regulations and ISO 9001.
3. Proposal Requirements:
* Technical design proposal (1-2 pages max) including relevant schematics and diagrams.
* Detailed cost breakdown.
4. Evaluation Criteria:
* Technical Approach (50%)
* Cost (30%)
* Experience and Qualifications (20%)

5. Timeline:

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

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

*** Proposals Due: May 7, 2025**

6. Contact:
Submit proposals electronically to procurement@manufacturing.com.

Attachments: Detailed Scope of Work Document (attached separately)

CONTACT

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TIMELINE

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