REQUEST FOR PROPOSAL (RFP)

Fuller-Robinson

PROJECT OVERVIEW

Name: Forge Lauren Facility Upgrade
Type: Facility Upgrade
Location: Port Lauren, NM (Refinery Zone)
Industry: Manufacturing
Value: $8,814,649
Complexity: 2/5
Date: April 09, 2025
Disciplines: Industrial Automation, Mechanical Engineering, Electrical Engineering
Regulations: OSHA Regulations

SCOPE OF WORK

Scope of Work: Automated Pallet Handling System Upgrade

Project Goal: Upgrade an existing pallet handling system in a manufacturing facility to improve efficiency and reduce manual labor. This involves automating the palletizing and depalletizing processes for a specific product line (Product X). Product X pallets are 48" x 48" and weigh approximately 1000 lbs each.

1. Industrial Automation:

* **Task 1.1: PLC Programming and HMI Design:** Develop a Rockwell Automation PLC program (using Studio 5000) to control the automated system, including sensors, actuators, and conveyors. The HMI will be designed using FactoryTalk View SE and will provide real-time monitoring and control of the system, including error handling and reporting capabilities. All code will be documented and commented according to company standards.
* **Task 1.2: Robot Integration and Programming:** Integrate a FANUC R-2000iB industrial robot into the system for palletizing. Develop and implement the robot program using FANUC's R-30iB controller and teach pendant, focusing on optimized cycle times and minimizing pallet collisions. The robot program must interface seamlessly with the PLC program.
* **Task 1.3: Safety System Design and Implementation:** Design and implement a safety system compliant with relevant OSHA regulations, including light curtains, emergency stop buttons, and interlocks for all critical components. Safety system components will be sourced from reputable suppliers and undergo rigorous testing to ensure reliable operation.

2. Mechanical Engineering:

* **Task 2.1: Conveyor System Design and Installation:** Design and install a new conveyor system using aluminum profile extrusions and appropriate roller bearings to transport pallets between the depalletizer, robot, and palletizer. The system must accommodate pallet dimensions and weight, and should be designed for easy maintenance and cleaning. Conveyor design must incorporate OSHA-compliant guarding.
* **Task 2.2: Pallet Handling Fixture Design and Fabrication:** Design and fabricate custom fixtures for both the depalletizer and palletizer to ensure accurate and reliable handling of Product X pallets. The fixtures will be constructed from durable steel, designed to minimize wear and tear, and will include features for preventing pallet slippage. Detailed fabrication drawings will be provided.

3. Electrical Engineering:

* **Task 3.1: Power Distribution and Wiring:** Design and install the electrical power distribution system for the entire automated system. This includes appropriate power transformers, circuit breakers, and wiring to each component, adhering to NEC standards. Detailed schematics and wiring diagrams will be provided.
* **Task 3.2: Sensor Integration and Wiring:** Integrate and wire all necessary sensors including proximity sensors, photoelectric sensors, and limit switches. These sensors will be appropriately selected to provide reliable feedback to the PLC. Wiring will be clearly labeled and organized to facilitate troubleshooting and maintenance.

Cross-Disciplinary Tasks:

* **Task 4.1: System Integration Testing:** All three disciplines will collaborate on the complete system testing and integration of all components. This will include running comprehensive test cycles to verify functionality, safety features, and performance metrics. Documentation of the tests and results will be provided.
* **Task 4.2: Final Documentation and Handover:** All disciplines will contribute to create a comprehensive operations and maintenance manual including electrical schematics, PLC programs, mechanical drawings, and safety procedures. This documentation will be transferred to the client upon successful completion of the project and site acceptance testing.

Complexity Impact: The complexity is rated as 2/5 due to the use of off-the-shelf components and relatively straightforward integration.

REQUEST FOR QUOTATION

Request for Quotation: Forge Lauren Facility Upgrade

Project Title: Forge Lauren Facility Upgrade - Automated Pallet Handling System Upgrade

Client: Manufacturing Company

Location: Refinery Zone, Port Lauren, NM

Date: April 09, 2025

Project Overview: This project involves upgrading an existing pallet handling system for Product X (48"x48", 1000 lbs) at our manufacturing facility. The scope includes automating palletizing and depalletizing processes using a FANUC R-2000iB robot integrated with a Rockwell Automation PLC (Studio 5000) and HMI (FactoryTalk View SE). The system will incorporate a new conveyor system, custom pallet fixtures, and a comprehensive safety system compliant with OSHA regulations.

Scope of Work (Detailed description available upon request):

* **Industrial Automation:** PLC programming, HMI design, robot integration & programming, safety system design & implementation.
* **Mechanical Engineering:** Conveyor system design & installation, pallet handling fixture design & fabrication.
* **Electrical Engineering:** Power distribution & wiring, sensor integration & wiring.
* **Cross-Disciplinary:** System integration testing, final documentation & handover.

Qualifications:

* Minimum 3 years of experience in industrial automation within the manufacturing sector.
* Proven track record of regulatory compliance (OSHA, NEC).
* Expertise with Rockwell Automation PLCs, FANUC robots, and relevant safety systems.

Proposal Requirements:

* Technical designs (1-2 pages) detailing proposed solutions for each task.
* Comprehensive cost breakdown.

Evaluation Criteria:

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

Timeline:

* RFQ Release Date: April 09, 2025
* Questions Due: April 19, 2025
* Proposals Due: May 16, 2025
* Project Start Date: May 20, 2025
* Project Duration: 10 months

Contract Type: Fixed Price

Submission: Please submit your proposal electronically to procurement@manufacturing.com

Contact: [Insert Contact Name and Phone Number Here (Optional)]