REQUEST FOR PROPOSAL (RFP)

Crawford-Bennett

PROJECT OVERVIEW

Name: Indust Millerville Emergency Response
Type: Emergency Response
Location: Millerville, FL (Factory Complex)
Industry: Manufacturing
Value: $4,475,676
Complexity: 1/5
Date: April 09, 2025
Disciplines: Industrial Automation, Mechanical Engineering
Regulations: OSHA Regulations

SCOPE OF WORK

Scope of Work: Industrial Manufacturing Project - Automated Pallet Handling System Upgrade

Project Goal: Upgrade the existing pallet handling system in a manufacturing facility to improve efficiency and reduce manual labor. This involves automating the movement of pallets between production lines and the warehouse.

Discipline: Industrial Automation
1. PLC Programming and HMI Design: Develop a new Programmable Logic Controller (PLC) program using Allen-Bradley ControlLogix platform to manage the automated pallet movement. This includes designing a user-friendly Human Machine Interface (HMI) using FactoryTalk View SE for system monitoring and control, ensuring all code adheres to IEC 61131-3 programming standards. Deliverables include the PLC program code, HMI screens, and a detailed operational manual.
2. Safety System Integration: Integrate a safety system using light curtains (Type 4, PL d according to ISO 13849-1) and emergency stop buttons to prevent accidents during pallet movement. The safety system will be designed to meet OSHA safety regulations for machine guarding and will be wired according to NEC standards. Documentation will include a safety risk assessment and a safety system functional description.
3. Robotics Integration (Optional): Integrate a collaborative robot (cobot) with a payload capacity of 50kg (Universal Robots UR5e or equivalent) for tasks such as pallet stacking and depalletizing at the end of the production line. The cobot will be programmed using the manufacturer's software and integrated with the existing PLC system. Deliverables include the cobot program, safety documentation for robot operation, and a commissioning report.

Discipline: Mechanical Engineering
1. Conveyor System Design and Fabrication: Design and fabricate a 20m long roller conveyor system (using steel construction, complying with ASME B30.1 standards) to transport pallets between the production line and the automated storage and retrieval system (AS/RS). The conveyor will utilize 150mm diameter rollers with a 100mm pitch and will include a variable speed drive for optimal throughput. Drawings, material specifications, and fabrication plans will be provided.
2. Pallet Positioning System Design: Design and implement a pallet positioning system using pneumatic cylinders with a clamping force of 5kN to accurately position pallets on the conveyor system before transferring them to the AS/RS. The design will include detailed CAD drawings, pneumatic circuit diagrams, and a bill of materials that meets OSHA requirements for safe machine operation.
Cross-Disciplinary Tasks
1. System Integration and Testing: The industrial automation and mechanical engineering teams will collaborate to integrate all components of the automated system. This involves coordinating the PLC programming with the mechanical design and functionality of the conveyor and positioning system, ensuring proper communication and data exchange. This will be done through regular meetings and documented test procedures. Extensive testing will be conducted to verify system functionality and safety.
2. Commissioning and Documentation: Both teams will collaborate on the commissioning phase, ensuring that the integrated system meets all performance requirements and safety standards. This will involve troubleshooting and resolving any issues that arise during the commissioning process. Final documentation will include a comprehensive system operation manual including procedures for maintenance and troubleshooting.

Complexity Impact: This project represents a relatively low complexity upgrade due to the defined scope and limited integration challenges.

REQUEST FOR QUOTATION

Request for Quotation (RFQ): Indust Millerville Emergency Response

Project Name: Indust Millerville Emergency Response (Automated Pallet Handling System Upgrade)

Issued: April 9, 2025 **Due: May 6, 2025**

Project Location: Millerville, FL Manufacturing Facility

Project Goal: Upgrade existing pallet handling system to improve efficiency and reduce manual labor via automation.

Scope of Work: This project involves the design, fabrication, integration, and commissioning of an automated pallet handling system including:

* Industrial Automation: PLC programming (Allen-Bradley ControlLogix, FactoryTalk View SE HMI), safety system integration (light curtains, emergency stops), optional cobot integration (UR5e or equivalent).
* Mechanical Engineering: 20m roller conveyor system design & fabrication, pallet positioning system (pneumatic cylinders).
* Cross-Disciplinary: System integration, testing, commissioning, and comprehensive documentation.

Detailed Scope: See attached Appendix A for complete scope details.

Qualifications: Minimum 3 years' experience in industrial manufacturing automation projects, proven regulatory compliance (OSHA, NEC, ISO 13849-1, ASME B30.1, IEC 61131-3).

Proposal Requirements:

1. **Company qualifications and relevant project experience.**
2. **Technical design proposal (1-2 pages max), including system architecture diagrams.**
3. **Detailed cost breakdown.**

Evaluation Criteria: Technical Approach (50%), Cost (30%), Experience (20%).

Project Timeline:

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

*** Questions Due: April 19, 2025**

*** Proposals Due: May 6, 2025**

*** Project Start: May 14, 2025**

* Project Duration: 12 months

Contract Type: Fixed Price

Submit Proposals To: procurement@manufacturing.com

Appendix A: (Attached separately ? detailed scope of work as described in the prompt)

CONTACT

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TIMELINE

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