REQUEST FOR PROPOSAL (RFP)

Hayes, Quinn and Chan

PROJECT OVERVIEW

Name: Forge Riveraville Facility Upgrade
Type: Facility Upgrade
Location: Riveraville, IL (Refinery Zone)
Industry: Manufacturing
Value: $9,954,988
Complexity: 2/5
Date: April 09, 2025
Disciplines: Industrial Automation, Process Engineering, Mechanical Engineering
Regulations: ASME Standards, ISO 9001

SCOPE OF WORK

Scope of Work: Automated Pallet Handling System Upgrade

Project Goal: Upgrade the existing pallet handling system in a manufacturing facility to increase throughput and improve efficiency. The upgrade will involve automation of existing manual processes.

I. Industrial Automation:

1. PLC Programming and HMI Design: Develop a PLC program (using Allen-Bradley ControlLogix platform) to control the automated guided vehicles (AGVs) and conveyor system. This includes programming AGV navigation algorithms, integrating safety features (emergency stops, light curtains), and designing an intuitive HMI (Human Machine Interface) for operator monitoring and control using FactoryTalk View SE. The final deliverable will be fully documented PLC code, HMI screens, and a functional test report.

2. AGV Integration and Path Planning: Integrate two new AGVs (model XYZ-123, payload 1500kg) into the existing facility layout. This involves defining AGV paths using laser guidance technology, programming waypoints and speed profiles within the PLC, and performing system integration testing to ensure smooth operation across the entire automated system. The deliverable will be a completed AGV path plan, integration testing documentation and AGV operational manuals.

II. Process Engineering:

1. Process Flow Optimization: Analyze the existing pallet flow and propose an optimized layout for the automated system. This will involve mapping existing bottlenecks, suggesting alternative routes and sequencing of operations to minimize cycle time and maximize efficiency. The final deliverable will be a detailed process flow diagram (PFD) with cycle time calculations and justifications for proposed changes.

2. Material Handling System Design: Design a new conveyor system (roller conveyors and chain conveyors) to connect existing production areas to the AGV system, considering factors such as pallet dimensions (1200x1000mm), throughput requirements (10 pallets per hour), and safety regulations. Deliverables will be detailed engineering drawings of the conveyor system, a bill of materials, and a risk assessment for the implemented design.

III. Mechanical Engineering:

1. Conveyor System Structural Design: Design and specify structural supports for the new conveyor system, ensuring adequate strength and stability for the anticipated load (1500kg per pallet). This includes detailed calculations based on ASME Y14.5 standards, material selection (structural steel, A36), and detailed fabrication drawings. The deliverable will include structural calculations, material specifications, and fabrication drawings.

IV. Cross-Disciplinary Tasks:

1. System Integration Testing: Conduct comprehensive system integration testing to verify proper functionality of all integrated components (PLCs, AGVs, conveyor system). This will involve testing individual components, subsystem testing and overall system performance testing for smooth pallet movement throughout the updated process flow. The final deliverable is a detailed test report, including any necessary modifications or adjustments.

2. Safety Compliance and Documentation: Ensure the automated system meets all relevant safety standards and regulations. This involves creating and maintaining a comprehensive safety documentation package including risk assessments, lockout/tagout procedures, and operator training manuals.

Complexity Impact Note: The project's complexity is considered moderate due to the integration of new automation components with an existing facility, requiring careful planning and coordination across disciplines.

REQUEST FOR QUOTATION

Request for Quotation (RFQ): Forge Riveraville Facility Upgrade

Project Name: Forge Riveraville Facility Upgrade - Automated Pallet Handling System Upgrade

Project Location: Refinery Zone, Riveraville, IL

Issue Date: April 09, 2025

Due Date: May 07, 2025

Project Goal: Upgrade the existing pallet handling system to increase throughput and efficiency by automating manual processes. This involves integrating two new AGVs (model XYZ-123, 1500kg payload) and a new conveyor system (roller and chain conveyors) within the existing facility.

Scope of Work:
* Industrial Automation: PLC programming (Allen-Bradley ControlLogix), HMI design (FactoryTalk View SE), AGV integration (laser guidance), path planning, and system integration testing.
* Process Engineering: Process flow optimization, conveyor system design (10 pallets/hour throughput), and risk assessment.
* Mechanical Engineering: Conveyor system structural design (ASME Y14.5 compliant), material selection (A36 steel), and fabrication drawings.
* Cross-Disciplinary Tasks: Comprehensive system integration testing, safety compliance (lockout/tagout, training manuals), and documentation.

Deliverables: Fully documented PLC code & HMI, AGV path plan & operational manuals, detailed PFD, conveyor system drawings & BOM, structural calculations & fabrication drawings, comprehensive system test report, and safety documentation package.

Qualifications: Minimum 3 years' experience in manufacturing automation projects, proven regulatory compliance record.
Proposal Requirements: A detailed technical proposal (1-2 pages) outlining your approach and a comprehensive cost breakdown.
Evaluation Criteria: Technical Approach (50%), Cost (30%), Experience (20%).

Project Timeline:

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

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

*** Proposals Due: May 07, 2025**

*** Project Start: May 21, 2025**

*** Project Duration: 5 months**

Contract Type: Fixed Price

Submission: Submit proposals electronically to procurement@manufacturing.com

Contact: [Insert Contact Name and Phone Number Here]

CONTACT

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TIMELINE

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