REQUEST FOR PROPOSAL (RFP)

Harvey, Lane and Bradford

PROJECT OVERVIEW

Name: Forge Manuelbury Facility Upgrade
Type: Facility Upgrade
Location: Lake Manuelbury, VT (Refinery Zone)
Industry: Manufacturing
Value: $2,197,437
Complexity: 2/5
Date: April 09, 2025
Disciplines: Electrical Engineering, Mechanical Engineering
Regulations: ISO 9001

SCOPE OF WORK

Scope of Work: Automated Packaging Line Upgrade

Project Goal: Upgrade an existing automated packaging line to increase production speed by 20% and improve packaging quality, while maintaining compliance with existing safety standards.

Disciplines: Electrical Engineering, Mechanical Engineering

Regulations: ISO 9001 (relevant documentation and quality control procedures to be implemented throughout).

Electrical Engineering Tasks:

1. PLC Program Modification: Modify the existing Programmable Logic Controller (PLC) program (Allen-Bradley PLC-5) to incorporate a new high-speed conveyor system (maximum speed 150 units/minute). This will involve updating the HMI (Human Machine Interface) to reflect the changes and implementing safety interlocks to prevent malfunctions. The deliverable will be updated PLC code, HMI screens, and a revised safety plan.
2. Motor Control System Upgrade: Replace existing AC motor drives (ABB ACS550) on the packaging machinery with new variable frequency drives (VFDs) capable of precisely controlling the speed of the upgraded conveyor and packaging equipment. The new VFDs must comply with IEC 61800-5-1 standards, and the project will include the development of wiring diagrams and installation specifications.

Mechanical Engineering Tasks:

1. Conveyor System Integration: Design and install a new 20-meter long high-speed roller conveyor system (stainless steel construction, 100mm wide rollers) to replace the existing slower system. The system must be designed to handle packaging units weighing up to 5kg and incorporate features to minimize vibration and noise, adhering to OSHA safety standards. Deliverables include CAD drawings, bill of materials, and installation instructions.
2. Packaging Mechanism Optimization: Modify the existing robotic packaging arm (KUKA KR 6 R700 sixx) end-effector and its control parameters to increase the speed and accuracy of the packaging process. This includes designing and fabricating a new gripper mechanism made from aluminum alloy (6061-T6) capable of handling the new packaging format. Detailed design specifications and engineering drawings will be delivered.

Cross-Disciplinary Tasks:

1. Safety System Integration: Collaborate on the design and implementation of a comprehensive safety system that integrates both electrical and mechanical safety measures. This will include ensuring proper grounding of all electrical equipment, implementing emergency stop mechanisms, and developing a detailed risk assessment according to relevant safety standards (e.g., ANSI/RIA R15.06). The deliverable is a combined Electrical and Mechanical Safety Plan.
2. Testing and Commissioning: Collaborate on testing and commissioning the upgraded packaging line to verify its functionality and performance. This will involve conducting thorough testing of both electrical and mechanical components to ensure that they meet the project specifications and requirements. The deliverable is a comprehensive test report documenting performance metrics and compliance with specifications.

Complexity Impact Note: The project complexity is assessed as a 2/5 due to the manageable scope and existing infrastructure.

REQUEST FOR QUOTATION

Request for Quotation (RFQ): Forge Manuelbury Facility Upgrade

Project Title: Forge Manuelbury Facility Upgrade - Automated Packaging Line Upgrade

Issued By: Procurement Department

Date: April 09, 2025

Project Location: Refinery Zone, Lake Manuelbury, VT

Industry: Manufacturing

Project Goal: Upgrade existing automated packaging line to increase production speed by 20% and improve packaging quality while maintaining compliance with existing safety standards (ISO 9001, OSHA, ANSI/RIA R15.06, IEC 61800-5-1).

Scope of Work: Detailed in Appendix A (attached). This includes electrical and mechanical engineering tasks encompassing PLC programming (Allen-Bradley PLC-5), motor control system upgrades (ABB ACS550 replacement), conveyor system integration (20m high-speed roller conveyor), robotic packaging arm optimization (KUKA KR 6 R700 sixx), and comprehensive safety system integration.

Deliverables: Updated PLC code & HMI, revised safety plan, CAD drawings, bill of materials, installation instructions, engineering drawings of new gripper, combined electrical and mechanical safety plan, comprehensive test report.

Qualifications: Minimum 3 years experience in manufacturing automation; proven track record of regulatory compliance (ISO 9001, OSHA, relevant safety standards).
Proposal Requirements: Technical designs (1-2 pages) detailing proposed solutions and a comprehensive cost breakdown.
Evaluation Criteria: Technical approach (50%), Cost (30%), Experience & Qualifications (20%).

Contract Type: Fixed Price

Timeline:

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

*** Questions Due: April 23, 2025**

*** Proposals Due: May 11, 2025**

*** Project Start: June 03, 2025**
* Project Duration: 4 months
Submit Proposals To: procurement@manufacturing.com
Appendix A (attached): Detailed Scope of Work *(Refer to the detailed scope of work provided in the original prompt)*

CONTACT

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TIMELINE

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