

REQUEST FOR PROPOSAL (RFP)

Braun PLC

PROJECT OVERVIEW

Name: Refine Jesse Plant Expansion

Type: Plant Expansion

Location: East Jesse, NE (Industrial Park)

Industry: Oil & Gas

Value: \$5,915,300

Complexity: 1/5

Date: April 09, 2025

Disciplines: Process Engineering, Instrumentation & Controls, Piping & Pipeline

Regulations: OSHA Regulations

SCOPE OF WORK

Scope of Work: Minor Upgrade to Existing Oil Processing Facility ? Pump Station Bypass Line

Project Goal: Install a bypass line around an existing pump in an oil processing facility to allow for scheduled maintenance without completely shutting down the process. This project involves minimal changes to the existing facility.

Discipline: Process Engineering

1. Process Simulation and Sizing: Develop a steady-state process simulation model of the bypass line using Aspen Plus or similar software, considering existing operating conditions and anticipated flow rates (max 500 bpd of light crude oil). Define the required pipe diameter and pressure drop across the bypass, verifying that the bypass line will not negatively impact downstream operations. Deliver a process flow diagram (PFD) and a process and instrumentation diagram (P&ID) showing the new bypass loop.
2. Equipment Specification: Specify the required valves (2x 6" ANSI 150# ball valves) and associated instrumentation (pressure transmitters, flow meters) for the bypass line, including material selection (carbon steel) and vendor drawings review. Ensure all selected equipment is compliant with relevant industry standards (API 6D for valves) and OSHA regulations for hazardous environments. Provide a detailed equipment list with specifications and vendor recommendations.

Discipline: Instrumentation & Controls

1. Instrumentation Design: Design the instrumentation and control system for the bypass line, integrating it with the existing facility's control system (PLC-based system). This includes specifying and selecting pressure and flow transmitters (accuracy $\pm 0.5\%$), safety shutdown valves, and control logic for automated operation and emergency shutdown. Develop detailed instrument loop drawings (ILDs) and connection diagrams for installation and commissioning.
2. Control System Modification: Develop and document the necessary PLC program modifications to integrate the bypass line control system. Ensure that the new control logic includes safety interlocks and alarms to protect personnel and equipment. Provide detailed documentation of the modified PLC program and associated HMI screens for operator interface.

Discipline: Piping & Pipeline

1. Piping Design: Design a 50-meter bypass pipeline using 6" schedule 40 carbon steel pipe, adhering to ASME B31.3 standards. The design should include detailed isometric drawings, support calculations, and material specifications. The design must account for thermal expansion and ensure proper slope for drainage.
2. Pipeline Stress Analysis: Perform a stress analysis of the bypass pipeline using Caesar II or similar software to verify that the pipeline can withstand the expected operating conditions and thermal stresses. Ensure that the analysis accounts for all relevant loads (dead weight, thermal expansion, pressure, wind). Submit a detailed stress analysis report demonstrating compliance with ASME B31.3 requirements.

Cross-Disciplinary Tasks:

1. HAZOP Study: Conduct a Hazard and Operability (HAZOP) study involving process, instrumentation & control, and piping engineers to identify and mitigate potential hazards associated with the bypass line installation and operation. The HAZOP study will cover all aspects of the design, construction, and operation of the bypass line and produce a HAZOP report with recommended mitigation measures.
2. Pre-commissioning Checklist Development: Collaboratively develop a pre-commissioning checklist that covers all aspects of the project, involving representatives from each discipline. The checklist will be used to ensure that all systems are correctly installed and tested before start-up. This checklist should include testing procedures for the bypass line, instrumentation and controls.

Complexity Impact Note: This project's complexity is appropriately classified as Level 1 due to its relatively straightforward scope and limited impact on existing operations.

REQUEST FOR QUOTATION

Request for Quotation (RFQ): Refine Jesse Plant Expansion ? Pump Station Bypass Line

1. Project Overview:

Refine Jesse Plant, located in the East Jesse, NE Industrial Park, requires a minor upgrade to its oil processing facility: the installation of a bypass line around an existing pump. This project, classified as Complexity Level 1, involves process simulation, equipment specification, instrumentation & control design, piping design, a HAZOP study, and pre-commissioning checklist development. The bypass line will handle a maximum of 500 bpd of light crude oil.

2. Scope of Work: Detailed scope is outlined in the attached document (Appendix A). This includes but is not limited to:

- * Process Engineering: Process simulation (Aspen Plus or equivalent), PFD & P&ID development, equipment specification (valves, instrumentation).
- * Instrumentation & Controls: Instrumentation design (ILDs, connection diagrams), PLC program modifications, HMI development.
- * Piping & Pipeline: Piping design (isometric drawings, support calculations), pipeline stress analysis (Caesar II or equivalent).
- * Cross-disciplinary: HAZOP study, pre-commissioning checklist.

3. Qualifications:

Bidders must demonstrate at least 3 years of experience in the Oil & Gas industry with a proven track record of regulatory compliance (OSHA, API 6D, ASME B31.3).

4. Proposal Requirements:

Proposals must include:

- * A 1-2 page technical design summary addressing all scope elements.
- * A detailed cost breakdown.

5. Evaluation Criteria:

Proposals will be evaluated based on:

- * Technical Approach (50%)
- * Cost (30%)
- * Experience (20%)

6. Timeline:

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

* **Questions Due: April 30, 2025**

* **Proposals Due: May 06, 2025**

* **Project Start Date: May 08, 2025**

* **Project Duration: 10 months**

7. Contract Type: Fixed Price

8. Contact:

Submit proposals electronically to procurement@oil&gas.com.

Appendix A: (Attached - Detailed Scope of Work as described in the original prompt.)

CONTACT

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TIMELINE

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