

## **Identify sources & ways to eliminate zinc at Lou-Rich Inc.**

The Minnesota Technical Assistance Program (MnTAP) is seeking a junior or senior college student to work as project manager to examine ways to eliminate zinc from the wastewater at an engineering and manufacturing facility located in Albert Lea.

### **PROJECT:**

The goals of the project are to eliminate zinc from the wastewater, document the switch to a phosphate free / low temperature conversion coating system, and assist in powder coating system optimization and energy conservation.

### **JOB DUTIES:**

1. Understand current metal pretreatment requirements, system settings, chemical use in the iron phosphate paint pretreatment, water / sewer use, and costs of operating the system. Gather data from utility bills, system equipment ratings, and system design documents.
2. Identify, research, and evaluate materials and processes which may be sources of zinc. Work with material suppliers, the City of Albert Lea POTW and vendors to test parts, products, and chemistries.
3. Investigate alternative conversion coating settings or products which may prevent zinc from entering wastewater system.
4. Work with the company's management and employees to implement and document standard work procedures for operation and maintenance of the new phosphate free / low temperature conversion coating system. Assure that the quality of the conversion coating is maintained or improved. Develop a cost comparison between the use of existing procedures and the new ones.
5. Time permitting, the student will assist in the optimization of the new powder coating system and evaluate energy conservation opportunities dealing with power consumption and compressed air use.
6. Prioritize suggested changes using simple payback methods. Implement approved changes or outline a strategy for implementation.
7. Summarize findings in a detailed report, including recommended procedures and system configuration along with an economic analysis and justification of any changes.
8. Present findings to the company and at MnTAP-hosted public presentation events, one of which may include a presentation at the Minnesota Pollution Control Agency (MPCA).

The intern will work at the company and report back to MnTAP. The position is full-time for 3 months to start after conclusion of spring semester or quarter. Pay is \$8.35/hour, with a lump sum stipend of \$2,500 upon completion of the project deliverables: final report and presentations (working out to \$13 an hour).

### **QUALIFICATIONS:**

- Cumulative GPA of at least 3.0
- Good oral & written communication skills
- A technical academic background
- Troubleshooting skills
- Appropriate majors:  
Chemical engineering, chemistry, civil engineering, mechanical engineering, physics, others as applicable

### **TO APPLY:**

Send a letter of interest/cover letter, your unofficial transcript, and resume to:

Krysta Larson, Intern Coordinator  
kjl Larson@umn.edu (preferred)  
200 Oak Street SE, Suite 350  
Minneapolis, MN 55455

**MNTAP IS THE HIRING BODY: DO NOT CONTACT THE COMPANY.**