

Reduce water and energy use at Johnson Screens

The Minnesota Technical Assistance Program (MnTAP) is seeking a junior or senior college student to work as project manager to examine ways to reduce water and energy use at a manufacturing facility located in New Brighton.

PROJECT:

The goal of the project is to identify ways to reduce waste water emissions, improve energy efficiency, and minimize losses occurring in the compressed air system.

JOB DUTIES:

1. Understand current metal welding and wire milling requirements including quality parameters, system settings for equipment, water use for each welder and mill, and water quality requirements for cooling. Gather data from utility bills, equipment manufacturers, internal documentation, and equipment operators, engineers, and maintenance.
2. Understand oil skimmer water recycling throughout the plant. Identify basins and pipelines to add load to the centers. Develop a proposed layout for equipment that could be added to the current system, as well as recommend reclamation equipment changes.
3. Investigate alternatives to water cooling welds including, but not limited to, air cooling with forced air knives and cryogenic fluids.
4. Work with the company's management and employees to implement and document standard work procedures for cooling welds with a non-contact cooling water system. Ensure that the quality of the weld is maintained or improved. Develop a cost comparison between the use of existing and new procedures.
5. Understand the operation of the compressed air system including electrical use, compressed air storage, source of leaks, and pressure drops across dryers, filters, and plumbing. Gather data from electrical bills, internal documentation of the plant layout, and equipment operators, engineers, and maintenance. Suggest improvements based on investigation of leaks, system capacity and usage, and efficiency of control system.
6. Understand the operation of the facility HVAC system including electrical and fuel use, load profiling, and zone usage. Gather data from utility bills, internal documentation of the plant layout, and facility engineers and maintenance. Suggest geo-thermal or other improvements and equipment replacement.
7. Time permitting, assist in the evaluation of lighting in the facility and provide a comparative analysis of current systems against proposed upgrades.
8. Summarize findings in a detailed report, including recommended procedures and system configuration along with an economic analysis and justification of any changes. 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
kjlars@umn.edu (preferred)
200 Oak Street SE, Suite 350
Minneapolis, MN 55455

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

MnTAP is a non-regulatory program in the School of Public Health at the University of Minnesota, which provides free assistance and information to Minnesota businesses to encourage pollution prevention and energy efficiency.