

Project Overview

Industrial Placement

Intern: Nathan Vanis

Major: Mechanical Engineering

School: University of Nebraska-Lincoln



Company Background

Four brothers started Hughes Brothers, Inc. in 1921 manufacturing a few wood parts for utility poles, but now 87 years later Hughes Brothers has grown to 300 employees and is an industry leader in utility pole design and manufacturing. With wood, steel, & fiberglass operations at the Seward, Nebraska facility Hughes Brothers is now able to produce nearly every component used in its finished products.

Project Description

Nathan Vanis, a 2008 Partner in Pollution Prevention (P3) intern, evaluated three main areas of the Hughes Brothers factory: compressed air usage, galvanizing operations, and wood treating alternatives. Pollution prevention opportunities were suggested that could reduce costs, reduce energy, or improve the environment.

Recently Hughes Brothers began construction of a new galvanizing operation. The intern's project evaluated the annual waste reduction and cost savings as a result of the new modern efficient facility. By comparing the existing facility to the new one, Hughes Brothers is expected to save **\$157,000** annually as a result of decreasing their waste generation by **125,000 lbs.** per year.

Another project involved analysis and recommendations related to the facility's compressed air system. Table 1, below, gives a summary of the recommendations made and the expected potential savings and benefits.

Table 1. Summary of Compressed Air System Recommendations and Benefits

P2 Suggestions	Potential Cost Savings	Other Benefits
Repairing compressed air leaks	\$17,500/yr	<ul style="list-style-type: none">• Better performing tools and machines• Less compressor wear
Reducing air line pressure	\$5,600/yr	<ul style="list-style-type: none">• Reduced compressor operating time
Total Savings	\$23,100	