Romech

CASE SUMMARY 18

ROMECH

Red Oak, Iowa
Montgomery County

Intern: Monica Vendan
Major: Master's in Mechanical Engineering
School: Iowa State University

The Company

Romech is a division of Intier Automotive, the interiors company of Magna International. Intier Automotive is an innovative leader in the development and manufacture of vehicle interiors, vehicle closure components and systems for the global automotive industry. Romech specializes in manufacturing seating hardware systems for automobiles such as the Chrysler mini-van, Pacifica, Ford pickup and van, Aztec and Saturn SUV.

Project Background

The objective of the project is to reduce energy consumption and electrical use. Current lighting systems in Romech consume 29 percent of total electric cost. A significant amount of energy and electric cost can be saved by replacing 1,000 watt metal halide with T5 HO fluorescent bulbs.

Compressed air is another major area where energy can be conserved. By installing the proper equipment, compressed air can be used more efficiently and a considerable amount of energy can be saved.

Incentives to Change

Romech is an ISO 14001 certified company and undertakes all possible measures to reduce waste, operating cost and energy consumption.

Results

Lighting

Currently, Romech has 375 high bay fixtures fitted with 1,000 watt metal halide bulbs to light the plant floor, with an operating cost of $115,830 per year. By replacing the current fixtures with the same number of T5 HO fluorescent fixtures, energy consumption can be reduced up to 68 percent. This results in a possible annual electrical savings of $82,147.

Compressed Air

Currently, Romech is using three compressors (one 150 HP and two 200 HP) and a 1,060 gallon air receiver to supply air to all machines. The total annual operating cost is $71,920 and the annual energy consumption is 1,598,230 kW. The air receiver, with 1,060 gallon capacity, is not sufficient to meet the air demand and therefore causes pressure drops in the system.

These pressure drops increase the operating costs. By installing an additional air receiver of 6,000 gallon capacity and a system controller, the additional load due to this pressure drop can be reduced. The annual potential savings is 25 percent of the current operating cost, amounting to $18,087.

Project Summary Table

Project Description	Environmental Impact	Economic Cost Savings	Status
Lighting		$82,147	In Progress
Air Compressor		$18,087	In Progress
Total		$100,234	