Electrolux Major Appliances

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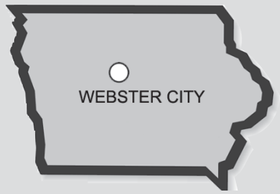


Electrolux is a global leader in home appliances and appliances for professional use, selling more than 40 million products to customers in 150 countries every year. The company provides innovative and exceptionally designed products to meet the needs of consumers and professionals. Products designed and manufactured by Electrolux include refrigerators, dishwashers, washing machines, vacuum cleaners and cookers sold under esteemed brands such as Electrolux, AEG-Electrolux, Zanussi, Eureka and Frigidaire. In 2005, Electrolux had sales of $14 billion and employed 57,000 workers.

Project Background

Electrolux Home Products, being an environmentally conscious company, recognized the benefits of utilizing Pollution Prevention (P2) Services when its electricity use was increasing over the years. The purpose of the project at Electrolux Major Appliances was to investigate the energy use of the present lighting system as well as the compressed air system. The intern was able to discover some other areas with potential energy savings as well.

Incentives to Change

The electrical energy consumption for the Electrolux plant at Webster City was exceeding $200,000 and 4.5 million kWh per month. This remarkably high utility consumption provided an incentive for change. The management at Electrolux wanted energy consumption resulting from lighting and the compressed air system to be reduced for a total energy cost and use reduction of 25 percent.

Results

Energy Savings from Lighting Upgrade

The lighting system currently utilized has the potential for upgrade. A change in the lighting equipment along with the layout of the lights was suggested. This will provide better quality light, higher CRI and will reduce energy consumption. It was suggested that the currently used 250W and 400W Metal Halide HID fixtures be replaced with Low Bay T8 fixtures and High Bay T5 fluorescent fixtures, respectively. The fixtures used throughout the plant consisted mainly of T12 fluorescent fixtures and it was suggested that they be replaced with more efficient T8 fluorescent fixtures while maintaining the required Foot-Candle requirement as set by the IESNA. The proposed system will offer $100,000 in annual potential energy cost savings, 1,975,720 kWh of annual energy savings with a payback period of approximately 2.5 years. The upgrade also qualified for tax cuts of approximately 194,946, according to EPAct 2005.

Energy Savings from Compressed Air System

Electrolux has a total of 11 compressors working to fulfill compressed air needs. The compressors range from 100 HP to 350 HP. According to estimates, it is possible that compressor controls could be made more efficient, causing the lead compressors to be fully loaded rather than the load spread out among the compressors. This could allow some of the compressors to be turned off resulting in approximately $40,000 annual cost savings and 110,000 kWh annual energy savings.

A compressed air leak detection survey was performed as well. A total of 228 CFM of leaks was detected and their repair can result in an annual savings of $20,000. A regular leak detection test has also been suggested.

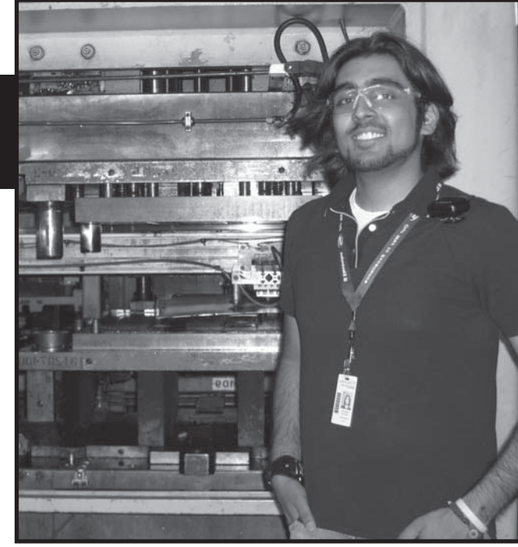
Vending machines

Vending machines were also recognized as an area of potential energy and cost savings. The use of the VendingMiser™ and the SnackMiser™ devices regulates the machines to meet Energy Star requirements and ensure a 35-40 percent savings in annual energy consumption and costs. Installation can be performed by the maintenance staff themselves. Annual cost savings of $1,074 is possible with energy savings of 20,273 kWh annually.

Exit Signs

Fluorescent exit signs are still in use throughout the plant. LED exit signs were suggested as replacements because they are more efficient and longer lasting. The LED exit signs last for over 10 years and only 40 kWh are consumed annually as compared to 350 kWh of the fluorescent exit signs. A potential energy savings of 4,284 kWh and cost savings of $227 annually are possible.

Project	Annual Cost Savings	Environmental Results	Status
LIGHTING UPGRADE	$100,000	1,975,720 kWh	Recommended
COMPRESSED AIR SYSTEM	$60,000	110,000 kWh	Recommended
VENDING MACHINES	$1,074	20,273 kWh	Recommended
EXIT SIGNS	$227	4,284 kWh	Recommended



Air Pollutants Diverted in Tons

	Total for all sectors
SO2	9.58
CO	0.97
NOX	4.6
VOC	0.16
LEAD	0.0
PM	0.23

Green House Gases Diverted in Tons (CO2 Equivalent)

	Total for all sectors
CO2	1,789
CH4	59.0av
N2O	19.5
CFCS	21.6