



Pearson's Candy



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Company Background

Pearson's Candy is a Minnesota candy company founded in 1909 and residing in its current building since 1959. Pearson's makes the Salted Nut Roll, Bit-O-Honey, Mint Patties, Nut Goodie, and BUN candies.



"This summer I left behind dust and grease for starch and chocolate, gaining hands on experience at Pearson's Candy Company. From installing valves, testing paint, and making maps to running calculations, writing an RFP, and leading consultants around the facility, I was given the freedom to take charge on a variety projects while being provided with the resources and help that I needed to succeed." ~ LD

Project Background

Many additions and alterations have been made to the building in the sixty years Pearson's has occupied it. The age of the building and much of its equipment allows for many opportunities to conserve energy through updating and maintaining current equipment. More thorough documentation of the HVAC system was desired in order to heat and cool the building more thoroughly and efficiently.

Incentives To Change

An energy assessment was recently performed for Pearson's offering Xcel Energy rebates for many energy saving projects along with additional Turn Key Incentives on many of the projects. In order to claim these benefits, projects must be implemented within 12 months of the energy assessment. Additionally, the St. Paul Port Authority Trillion BTU program is available to help finance energy saving projects such as these.



SOLUTIONS

Turn off Lights on Weekends

Because the building is staffed approximately 20 hours per day, the majority of the lights are never turned off. However, there is no staff in the facility on weekends allowing for the possibility of significant lighting reduction over that time. With the age of the building, turning off the lights is not a straightforward task as the locations of many switches and their functions are unknown. This led to a search for switches which were then numbered and documented with location and function and added to a map dictating an efficient route to follow to reach each indicated switch.

Reduce Compressed Air Leakage

Compressed air is used to some extent in most of the candy making equipment. This means there are a large number of joints with much potential for leakage. When there is no production in progress, compressed air leaks can be heard throughout the production floor. Leaks can be reduced by better sealing joints, patching or replacing hoses with holes, and adding shutoff valves to equipment that has open exhaust lines.

Solutions

Insulate Shared Walls Between Heated and Cooled Spaces

Tank rooms are maintained at between 100°F and 120°F while the production floor is kept approximately 65°F to 75°F. In several places, these two areas share walls and doors which are not thoroughly insulated leading to undesired heat transfer through the wall affecting both areas. Thermal insulating paint was recommended as a simple, cost effective method to improve insulation without taking up extra space in these crowded areas. After testing, it was determined that this paint did not create a statistically significant difference in either interior or exterior wall temperature so more traditional methods of insulating should be investigated.

Reuse Air Scrubber Wastewater in Liquid Sugar Batches

Water used by the kitchen air scrubber can be used in liquid sugar batches rather than going down the drain. As long as the piping meets food grade standards the only contaminate to the water is sugar from the air, which will not harm the liquid sugar batches as they are boiled.

“We believed that we had potential to upgrade our 40-year old HVAC equipment and generate significant energy savings and cost reductions, but we never seemed to have time to untangle the nest of details in that system. Lydia literally walked, crawled and climbed into every dark and hidden corner to track down each piece of the hodge-podge system that included over 100 various heaters, air handlers, fans and blowers. With her efforts and excellent details we were able to receive engineering proposals for a system re-design that will reduce our site-wide energy usage by 30% at half the capital cost of replacing each individual piece. She did such a great job that we hired her into a permanent role here at Pearson Candy. We’re looking forward to implementing the solutions she identified and seeing what else she is able to help us achieve”

~ Alex Allen, VP of Operations

Recommendation	Annual Reduction	Annual Savings	Status
Shut off lights on weekends	86,000 kWh	\$9,000	Implemented
Upgrade plant and office lighting to LEDs	180,000 kWh	\$16,000	Recommended
Install occupancy sensing light switches	13,000 kWh	\$1,400	Tentatively recommended
Reduce compressed air leakage	220,000 kWh	\$24,000	Implementing
Upgrade HVAC system	890,000 kWh	\$79,800	In Progress
Reuse air scrubber wastewater in liquid sugar batches	47,000 gallons	\$1,500	Recommended
Thermal insulating paint	N/A	N/A	Not Recommended

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