

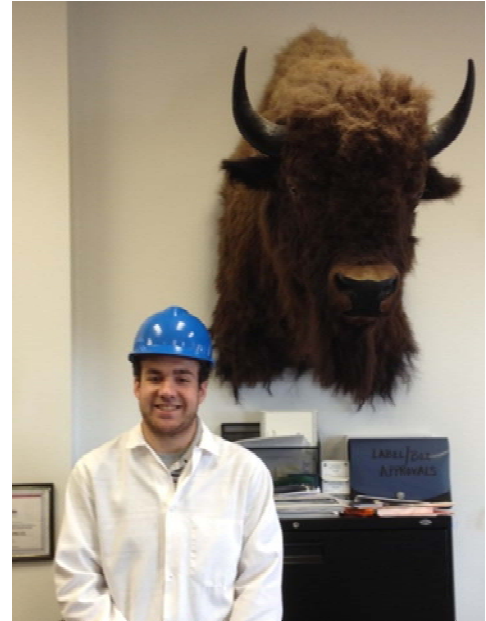
Project Overview



Intern: Stephen Schlender
Major: Chemical Engineering
School: University of Nebraska-Lincoln

Company Background

O'Neill Packing Company in Omaha, NE is a small beef packing plant that offers products to clients that have specific needs. The size of the plant allows O'Neill to tailor their process to produce different cuts for the specific need of a client. The plant employs about 100 employees and operates about 10 hours a day when slaughtering for 5 days a week. Their unique ability to tailor their process to a client's specific need allows them to stay in the market with larger businesses.



Project Description

The purpose of this project was to reduce the amount of water and energy used in the facility. Creating a water map and identifying main energy users in the facility was the first task. Then water sub-meters and electricity sub-meters were installed at specific locations in the facility quantify usage and identify possible monetary, energy, and water savings for facility.

Pollution Prevention Benefits

The summer intern identified several opportunities for energy and water reduction that would reduce costs around the facility. Also, the water submeters in place will continue to be in place over multiple years to help O'Neill benchmark their usage in specific parts of the process. The pollution prevention benefits from this project are provided in Table 1 below.

Table 1. Pollution Prevention Benefits

P2 Opportunity	Cost Savings	Reduction	Greenhouse gas emissions reduced	Payback Period
Insulating Boiler Feed tank	\$650/yr	1520 therms/yr	8.086 MTCO ₂ E	1.5 months
Fixing major compressed air leaks	\$2,380/yr	41,000 kWh/yr	39.126 MTCO ₂ E	Immediate
Changing incandescent to CFLs	\$960/yr	16,510 kWh/yr	15.755 MTCO ₂ E	2 months
Changing 8 foot T12 to T8	\$770/yr	13,250 kWh/yr	12.644 MTCO ₂ E	3.33 years
Fixing Water Leaks	\$400/yr	98,000 gallons/yr	0.309 MTCO ₂ E	Immediate
Shutting Cattle Holding Water Valves	\$0.28/hr	200 gallons/hr	-	Immediate