

## 2011 Case Study

# Schwan's Global Supply Inc.

Intern: Taylor Scott  
Major: Architectural Engineering  
School: Kansas State University

Topeka, Kansas



### *Company background*

The Schwan Food Company was started in Minnesota in 1952 by Marvin Schwan. The company has since grown to selling products in 50 countries. In 1970, Schwan expanded its business when Tony's Pizza became a part of the company. Tony's Pizza plant has grown to a facility of more than 450,000 square feet. Likewise, it has become one of the largest producers of frozen pizza, including brands such as Tony's, Red Baron, and Freschetta. The company employs more than 1,500 people, making it the largest employer in Salina, Kansas. Currently The Schwan Food Company is the largest supplier of frozen foods with manufacturing plants in seven states. The company serves as the leading supplier to many educational facilities, companies, and entertainment venues.

### *Project background*

At the beginning of the internship, Schwan's had already selected specific projects for Taylor to focus on to improve the plant efficiencies. The focus of the compressed-air project was to complete an air-leak audit and recommend opportunities to reduce usage. Schwan's lighting is inconsistent and outdated. A lighting audit would determine the current lighting and identify how much the company would save with more efficient lighting. Compressed air and lighting are typically two large parts of the utility bill. Improving efficiencies in these two areas could lead to a long-term cost savings for the plant.

### *Incentives to change*

Schwan has participated in the Pollution Prevention Intern Program since 2007. This year, the intern was Taylor Scott, an architectural engineering student from Kansas State University. Due to the size of the plant, it consumes considerable amounts of energy. The plant management and operations are always looking for ways to improve and gain efficiencies.

### *Projects reviewed for E2/P2 potential*

#### *1. Compressed-air-leak audit*

The first project involved a compressed-air-leak audit using the company's UE systems Ultraprobe 10000 ("ultrasonic leak detector"). Following the current compressed-air-leak audit procedure, Taylor was able to identify a total of 109 air leaks. These leaks are costing an estimated \$56,000 annually. In 2007 the company had engaged an intern to analyze compressed-air usage. However, some of the recommendations from the 2007 study have gradually become less effective. The audit procedure was completed less frequently. In addition, the repair tags, which were placed where a leak was identified were being washed away by power washes during the sanitation process. Therefore, the leaks were going unnoticed. Taylor recommended that Schwan's maintenance staff follow the same procedure, but make it a priority, since the cost of air leaks is expensive and the return on investment is significant. Taylor also recommended the repair tags be laminated, so they can withstand the power washes and remain readable throughout the repair process.

#### *2. Lighting audit*

The second project was to complete a facility lighting audit and recommend more efficient options. Taylor separated the plant into five areas: office, freezer, oven, warehouse, and production. This resulted in a more efficient lighting audit and also illustrated the savings in each targeted area. Currently, the plant consists of 400W metal halides, 8 foot 95W T12s, and 4-foot 34W T12s with magnetic ballasts. Taylor recommended the T12s be replaced with energy-efficient 4 foot 32W T8s with electronic ballasts. The 400W metal halides would be replaced with 350W metal halides in the oven area and freezer areas, because fluorescent bulbs aren't able to withstand the extreme temperatures, ranging from -20 to 200 degrees Fahrenheit. Implementing the recommendations will result in an estimated energy savings of 712,000 kWh and cost savings of \$48,000 annually.

*Summary of 2011 E2/P2 intern recommendations for Schwan's Global Supply, Inc.*

<b>Project description</b>	<b>Annual estimated environmental impact</b>	<b>Annual estimated cost savings</b>	<b>Status</b>
Compressed air	909,090.07 kWh	\$55,699.93	Recommended
Lighting	711,606.23 kWh	\$47,723.55	Recommended
<b>Total savings *</b>	<b>1,620,696.30 kWh</b>	<b>\$103,423.48</b>	
<b>GHG reductions *</b>	<b>513 metric tons CO2e</b>		

\* Does not include projects that are "not recommended" or "further research is needed."