2014 Southwest Ohio P2 Intern Program

Valeo

P2 INTERNSHIP PROGRAM

The Southwest Ohio Pollution Prevention (P2) Internship Program is a collaboration between Butler County, Montgomery County and Hamilton County Solid Waste Districts and TechSolve. The program pairs outstanding undergraduate engineering students with area manufacturers. Interns are provided training in energy, waste reduction, and environmental performance and are employed for 12 weeks. Participating Industries in the Southwest Ohio P2 program expect to realize average annual savings of **$131,000** year.

Butler County Ohio Recycling and Solid Waste District

TechSolve

Hamilton County Recycling and Solid Waste District
A division of the Department of Environmental Services

Montgomery County Ohio Environmental Services

Ricky Sasmal on site at Valeo

Project	Annual Savings	Payback	Environmental Results	Status
Replace aerosol degreaser	$624	immediate	18.75 gallons of hazardous waste	Implemented
Replace MR311	$7,281	Immediate	96 gallons of hazardous waste	Recommended
Lighting Efficiency	$9,256	.426 years	140,224 kWh/yr (99 tons of CO2/yr)	Recommended
115 PSI to 105 PSI for Air Compressor	$3,005	Immediate	45,525 kWH/yr (32.2 tons of CO2)	Recommended
Shutdown Procedures	$47,469	.125 years	907,632 kWh/yr (99.2 tons of CO2)	Recommended
Add VFDs for Hydraulic Motors	$130,174	1.9 years	1,906,027 kWh/yr (48.89 tons of CO2)	Recommended

Total Savings: $ 197,809

Energy Savings kWh 2,999,408

Ricky Sasmal– Southwest Ohio P2 Intern 2014

Valeo Climate Control is an industrial corporation that ranks among the world's top automotive suppliers with a corporate presence in 28 countries, and over 75,000 employees. Valeo Hamilton manufactures automotive HVAC units. The plant consists of several production areas for injection molding fabrication.

PROJECT SUMMARY

Lighting Efficiency - Conversion to T5 lighting is recommended for existing T12 fixtures. To accommodate the more efficient lights ROI calculates the purchase of a retrofit kit to upgrade to the higher efficiency bulbs, and the increased purchase cost for higher efficiencyT5 bulbs.

Shutdown Procedures - Injection molding presses currently running 24 hours/ 7 days/week. Recommendations are to shutdown on day 7 since no production occurs on Sundays. Proper shutdown of all equipment will reduce KWh use for the presses. This project is expected to save $47,469, and includes the added labor cost for a manual operator to shut down presses Saturday evening and turn back on Sunday evening.

Air Compressor Energy Reduction - Using pressure gauges and observation the intern determined that reducing the compressed air set points from 115 to 105 would be an effective means to save kWh usage and save money while maintaining the quality of the injection molded product.

Variable Frequency Device (VFD)- the purpose of installing a VFD is to reduce the power consumption on each of the injection molding presses and thereby reduce kWh consumption. Applying VFD to each injection molding press will reduce power consumption by 35% per unit.