GKN Armstrong

CASE SUMMARY 12

GKN ARMSTRONG WHEELS

Armstrong, Iowa
Emmet County

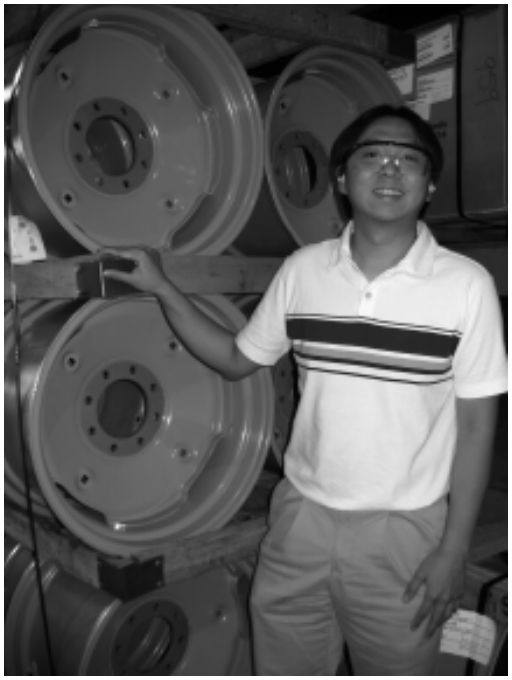
Intern: Faisal Tamin
Major: Electrical Engineering
School: Iowa State University

The Company

GKN, headquartered in the UK, is a leading global supplier to the world's automotive and aerospace manufacturers. GKN operates in more than 30 countries and employs 39,000 people in its subsidiaries and an additional 4,000 people in its joint ventures. GKN Armstrong Wheels, Inc., located in Emmet County, is a leading manufacturer of off highway wheels.

Project Background

GKN Armstrong Wheels has achieved ISO 9001 and ISO 14001 certification. GKN Armstrong Wheels has made a major commitment to reduce energy, water and waste generation by 10 percent in 2005. GKN Armstrong Wheels has an onsite wastewater treatment system and an organized solid waste recycling program.



Incentives to Change

GKN Armstrong Wheels desired to reduce water use and possibly reuse some water instead of processing it as wastewater. The facility is currently using some inefficient lighting fixtures and machines and desired to undertake upgrades.

Project Summary Table

Project	Environmental Impact	Economic Cost Savings	Status
Reuse wastewater	Reduce water usage by 0.65 million gallon/year	$850/year	Implementation pending
Filtration unit for 2-stage washer to reduce number of cleanings and improve water quality	Reduce water usage by 4,000 gallon/year and wastewater by 6,000 gallon/year	$12,500/year	Implementation in progress
Filtration unit for 6-stage washer to reduce number of cleanings and improve water quality	Reduce water usage 12,000 gallon/year and wastewater by 12,000 gallon/year	$16,500/year	Implementation in progress
Close-loop 6-stage washer	Reduce water usage by 2 million gallon/year and wastewater by 2.6 million gallon/year	$260,000/year	Implementation in progress
Metal sensor for DI water rinse of rims	Reduce water usage by 0.2 million gallon/year	$16,000 year	Implementation in progress
Replace DI water nozzles	Reduce water usage by 0.04 million gallon/year	$3,500/year	Implementation pending
Lighting upgrade to fluorescent	Reduce energy usage by 510,000 kWh/year	$32,000/year	Implementation in progress
Occupancy sensor in office and warehouse	Reduce energy usage 19,000 kWh/year	$2,300/year	Implementation in progress
Variable Frequency Drives for the pumps	Reduce energy usage by 190,000 kWh/year	$10,500/year	Implementation pending
Replace RO system	Reduce wastewater	$30,000/year	Implementation pending
Restroom renovation to low-flow fixtures	Reduce water usage by 0.3 million gallon/year	$700/year	Recommended
Skylight system for rim line area only	Reduce energy usage by 9,000 kWh/year	$8,500/year	Recommended