2013 Case Study

Gates Corporation

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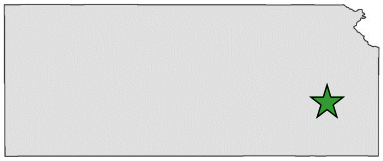

Iola, Kansas

Company background

In 1911, the Gates Corporation began when Charles Gates, Sr. bought the Colorado Tire and Leather Company for $3,500. Since then, Gates has grown into an international corporation with 22 manufacturing locations worldwide. The Gates plant in Iola, Kansas, currently employs 710 full-time, non-seasonal employees, while operating regularly for 24 hours each day, five days per week. The plant remains open and manufactures on the weekends when production is not meeting current demands; this additional overtime is voluntary for workers. Gates-Iola produces hydraulic hose for industrial and automotive markets, while serving as a distribution center for American plants and servicing international projects, sites, and customers.

Project background

Gates Corporation has been searching unsuccessfully for a way to reduce scrap and defects for the 37 years it has been in operation. As an intern, I was assigned to research quality control measures which would reduce this burdensome waste. Additionally, a team working on an ongoing project to reduce contamination in the plastic Gates uses requested my help. For two years, the plastic line team has been researching and employing methods to keep the plastic at Gates free of moisture and rubber contamination.

Incentives to change

Gates Corporation requested pollution prevention interns to address two specific needs in its manufacturing processes: water conservation, and scrap and defect reduction. In 2012, Gates spent more than $77,000 in landfill and tipping fees to dispose of its scrap industrial hose waste. The costs of landfilling all scrap and defect waste is astronomical and quickly adds up for Gates. Rather than focusing on identifying companies that would buy or recycle the hose, Gates decided to research root causes of scrap and defect, and identify changes to protocol that would alleviate the amount of scrap and resulting costs.

Projects reviewed for E2/P2 potential

In the beginning of the internship, the focus was placed mainly on defect reduction through procedural and operational changes. To begin, I observed the processes in the braiding section of the plant, which generate the most scrap according to data given by Gates on the Gates Iola resource homepage. My findings, however, reflected that while braiders generally found the most defects and reported it, the scrap came from many different areas of the plant. Each section of production generates scrap and defects. With multiple defects at every stage of the manufacturing process, my mission to make operational changes was not feasible, given the time restriction of the intern program.

There were two equipment changes I recommended to mitigate the scrap coming from the plastic line. First was a continuous screen changer. Currently, the screen which is meant to filter out contaminants from the rubber is changed out manually once a shift, or three times per day. The plastic running through the screen packs to be filtered build up head pressure after the screen becomes too clogged with contaminants.

The second item I recommended was a desiccant dryer. The current dryer blows only hot air, which increases moisture levels. Currently, the Gates Iola plant does not have air conditioning, resulting in very hot and humid conditions in the plant during the summer months when scrap routinely increases. Operators from the plastic line remarked that after particularly moist days, they have problems with the hose having a rippled cover. Assuming a desiccant

dryer would reduce scrap, there is a potential cost savings of up to $30,000 if Gates can reduce scrap levels before implementing its the blending plastic system.

Summary of 2013 E2/P2 intern recommendations for Gates Corporation

Project description	Annual estimated environmental impact	Annual estimated cost savings	Status
Continuous screen changer	Not calculated	$170,100	Recommended
Desiccant Dryer	Not calculated	Not calculated	Recommended
Total savings *	**Not calculated**	**$170,100**	
GHG reductions *	**Not calculated**		

* Does not include projects that are “not recommended” or where “further research is needed.”