

CASE SUMMARY

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Cargill

CARGILL, INC.
Cedar Rapids, Iowa (Linn County)

INTERN: Andrew Slotterback
MAJOR: Civil Engineering
SCHOOL: Iowa State University

The Company

Cargill, Inc. is a privately held international company with over 80,000 employees. Yellow dent corn is the main product milled at Cargill Corn Milling, Cedar Rapids, and waxy maize corn is milled on occasion. The milling process at the plant includes steeping, milling and separation. The plant produces over 150 different products, which fall into seven categories: Corn sweeteners, food starches, modified food starches, specialty starches, industrial starches, aligned products and corn germ.

Project Background

The primary purposes of the Pollution Prevention project at Cargill were to reduce the amount of city water being used on a daily basis and to reduce energy demands. The main opportunities for water reduction and energy savings were broken down into four subprojects of: water retention systems (pump and vacuum pump); heat exchangers; water system metering; and energy efficient lighting.

Incentives to Change

- ◆ **Economic:** In all water reduction projects there are real economic benefits. The obvious benefit is the reduced operating costs from savings on water, sewer, and energy.
- ◆ **Environment:** Making the plant more environmentally friendly through the reduction of waste helps to protect the environment.
- ◆ **Product Quality:** In many cases, the addition of the retention system even helps to ensure the quality of the product.

Results

After identifying processes with a high water demand, it became evident that an inventory of all pumps that used city water within the plant should be conducted. After the inventory, the next step was to perform a pump analysis. A flow rate for

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each pump was determined in order to quantify the amount of water being used and the potential dollar savings. Following a review of various options, the Seal Pot system was selected because it eliminated all water losses, and, as a closed loop system, there was no potential for cross-contamination. The last step in the project was to perform an economic analysis on the system, which resulted in:

- ◆ Savings of over \$144,000.
- ◆ Water reduction of 115,000,000 gallons.
- ◆ Suggested water retention system for vacuum pumps which could save an additional \$63,000 per year with a total of 156,000,000 gallons of water conserved.
- ◆ In some cases, the addition of the retention system also helps to ensure the quality of the product.

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