City West Water LIMITED

A cool way to save water and energy

Variable Speed Drives on Cooling Towers – A Research and Development Project

Cleaner Production

Project Overview

PARTNER
Olex Cables

OBJECTIVE
To reduce the amount of water and energy used by cooling towers in the cable manufacturing process

HOW THE SAVINGS WERE ACHIEVED
Applying technology that allowed greater control over cooling tower operation

TECHNOLOGY UTILISED
Variable speed drives were installed in the existing motor control systems of cooling towers

WATER VOLUME SAVING
4.8 million litres per year

ENERGY SAVING
Energy reduction of 78.1 megawatt hours per year, which is equivalent to a reduction of 95.2 tonnes of greenhouse gas emissions, or 1,904,000 black balloons

TOTAL PROJECT COST
$67,144

PROJECT FUNDING
$20,000 from City West Water

PROJECT PAYBACK
- 5.2 years without City West Water funding
- 3.7 years with City West Water funding

PROJECT COMPLETED
December 2009.

Olex a Nexans company

Olex is Australia's largest manufacturer of electrical cables for the energy and infrastructure sectors. The company's plant in Tottenham uses a water recirculation system to cool water from the various processes involved in cable insulating and sheathing. The system involves two cooling towers, which both use two fans. The fans were run at 100% capacity, regardless of the water temperature, consuming nearly 15 million litres of drinking water per year and a great deal of energy.

Significant opportunities were identified when the operation and maintenance of the cooling system was analysed from a water and energy efficiency perspective. Olex decided to address this inefficiency by using variable speed drives on the cooling towers. Installation of variable speed drives allowed the cooling tower fans to operate at their optimal speed, depending on the weather conditions and the degree of cooling required at any given time.

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The results of Olex's project have been outstanding. The changes have saved 4.8 million litres of drinking water per year, by reducing water losses through cooling tower drift. Additionally, there has been a significant reduction in energy consumption of 78.1 megawatt hours per year and greenhouse gas savings of 95.2 tonnes per year.

Olex's proactive water saving plan was supported with funding to the tune of $20,000 from City West Water to implement the project. The energy savings that have resulted from the project are a bonus towards further improving Olex's sustainability.

In addition to slashing the consumption of precious drinking water and lessening its carbon footprint, Olex's commitment to implementing more efficient processes has brought the company's annual operating costs down by almost $13,000.

Contact

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