

Tollman take their water and energy savings to a new level

Resource Efficiency Co-Funding Case Study

Business Resource
Efficiency



Project Overview

PARTNER

Tollman Pty Ltd

PROJECT TITLE

Cleaning In Place (CIP) system

OBJECTIVE

To investigate using a more water and energy efficient CIP system for cleaning vessels

HOW THE SAVINGS WERE ACHIEVED

By changing the tank wash method from boil out (which used 16,000 to 24,000 litres of water per wash) to a CIP system (which uses just 700 litres per wash)

TECHNOLOGY UTILISED

Fluid driven orbital high pressure cleaning nozzle and high pressure pump

WATER VOLUME SAVING

3.7 million litres per year

ENERGY SAVINGS

Reduced gas consumption by 1 terajoule per year

OTHER SAVINGS OR IMPROVEMENTS

- Reduced total dissolved solids or salt discharge by 1.5 tonnes per year
- Reduced greenhouse gas emissions by 50 tonnes CO₂e per year
- Reduced downtime by 624 hours per year

TOTAL PROJECT COST

\$18,500

PROJECT FUNDING

\$5,500 from City West Water

PROJECT COMPLETED

June 2009

TOLLMAN

Tollman Pty Ltd is a contract chemical manufacturer that formulates, blends, packages and distributes chemicals for a range of industries including agriculture, mining, paper, building/construction, cement and recycling throughout Australia.

Having already installed a system to recycle vacuum pump seal water and a hot box to reduce steam requirements, Tollman were keen to do even more to save water and energy, and reduce their trade waste discharge.

After consultation with a City West Water Cleaner Production Consultant and studying other business examples and researching suppliers, Tollman decided to trial a new

Cleaning in Place (CIP) system to reduce their use of wash water.

The system consists of portable orbital high pressure cleaning nozzles – situated inside cleaning tanks – that eliminate the need to completely fill the tanks with water and boil them out with steam.

As a result of the CIP system, the water savings achieved to date have been enormous



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for a small chemical manufacturer: 3.7 million litres per year or approximately a third of the site's total water use. Trade waste discharge has also been reduced by this amount.

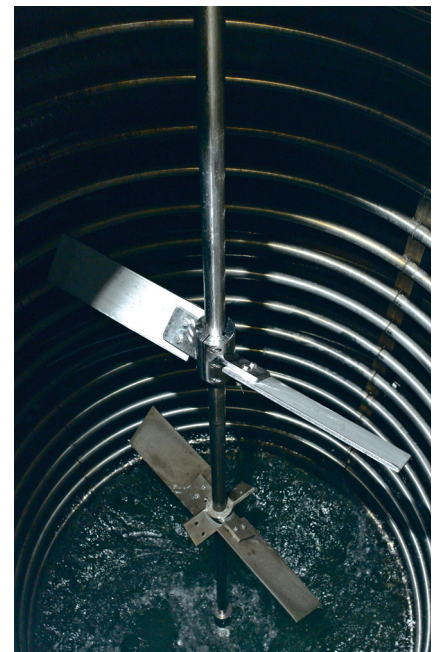
Reducing the amount of water used for each tank wash has also had flow on benefits. Now, only a fraction of the energy and chemicals are required to achieve the same temperature and chemical concentration in the wash water.

The reduction in energy use has resulted in Tollman using 1 terajoule per year less of natural gas in their boiler, removing the annual equivalent of 50 tonnes of carbon emissions from the atmosphere.

The reduction in chemical use has seen total dissolved solids entering the sewer from Tollman's operations reduce significantly, thus helping to make recycling easier at Melbourne's Western Treatment plant.

Tollman will continue to monitor their CIP system to ensure it continues to deliver the great water, energy and waste savings they have benefited from to date.

The company, located in Laverton North, won a 2009 Wyndham Council Business Award (in the category of small manufacturer) for their resource efficiency initiatives that save water, money and reduce waste generation.



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