

# Sustainable water management program delivers BP Kwinana an impressive 38 per cent reduction in total water consumption

**Water Corporation through its Key Customer Relationship Management program (KCRM) has developed a range of partnering initiatives with key customers aimed at improving their water management process.**

To date 138 customers have participated in the diagnostic sessions and the ongoing support programs.

BP Refinery Kwinana is one of the selected customers in the KCRM program and a success story.

BP Refinery management and workforce have long recognized the importance of water and the need to conserve this valuable resource through greater water efficiency.

The refinery was the largest user of water in the Perth region in 1996 and used it in a variety of ways from the refining process to boiler feed water, cooling tower makeup, process wash water, pump cooling and cleaning.

BP Refinery Environmental Manager Dr Rod Lukatelich said a water minimization program was introduced in early 1997 to optimize the refinery water supply. The program aimed to reduce consumption of high quality drinking water and minimise treated wastewater discharge to the environment.

"The refinery processes approximately 138,000 barrels of crude per day and in this process, the facility was using 7250 kl of water every day with most of it purchased from Water Corporation," Dr Lukatelich said.

"Boiler feed water for waste heat steam generation was the largest single use of fresh water in the

complex refining process, with water cooling the next largest use."

## Water Management Audit

A cross functional team ran an economic analysis of water use and wastewater treatment to identify the total cost of water management to the business.

The goal was to deliver suitable quality water to the refinery at the lowest possible cost, reduce consumption of quality drinking water and minimize any potential environmental risks from water discharges.

As part of the operational excellence campaign, training sessions were established to emphasize water savings. Other initiatives included recycling seal pot water on the residue cracker unit, reusing stripped sour water by replacing process water for washing crude and implementing a steam trap program to reduce leakage and return condensate.

The piping system was improved to return process water for reuse, groundwater replaced municipal water for cooling makeup, spills were reduced and less water was used for cleaning up.

The campaign will receive a significant boost later this year when Water Corporation's Kwinana Water Recycling Plant (KWWRP) on the BP site starts to supply reclaimed water to the refinery.

## Future Initiatives

As a result of this concerted effort, the BP Kwinana Refinery has achieved a 38 per cent reduction in total water consumption amounting to a water cost savings of approximately \$1.1 million per year.

BP Kwinana is now working in partnership with government and

other industries toward its long-term goals of zero waste water discharge to the ecologically sensitive Cockburn Sound. It also is aiming for a zero use of drinking water for industrial use.

Water Corporation Relationship Manager Max Viskovich said that BP and the Corporation have successfully partnered on water management initiatives over many years. Max said that BP made a valuable contribution by being a founding partner in the original KWWRP concept. Their achievements in minimising water use and associated environmental impacts are very impressive



*Training exercise, showing one of our uses of water, fire fighting.*



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