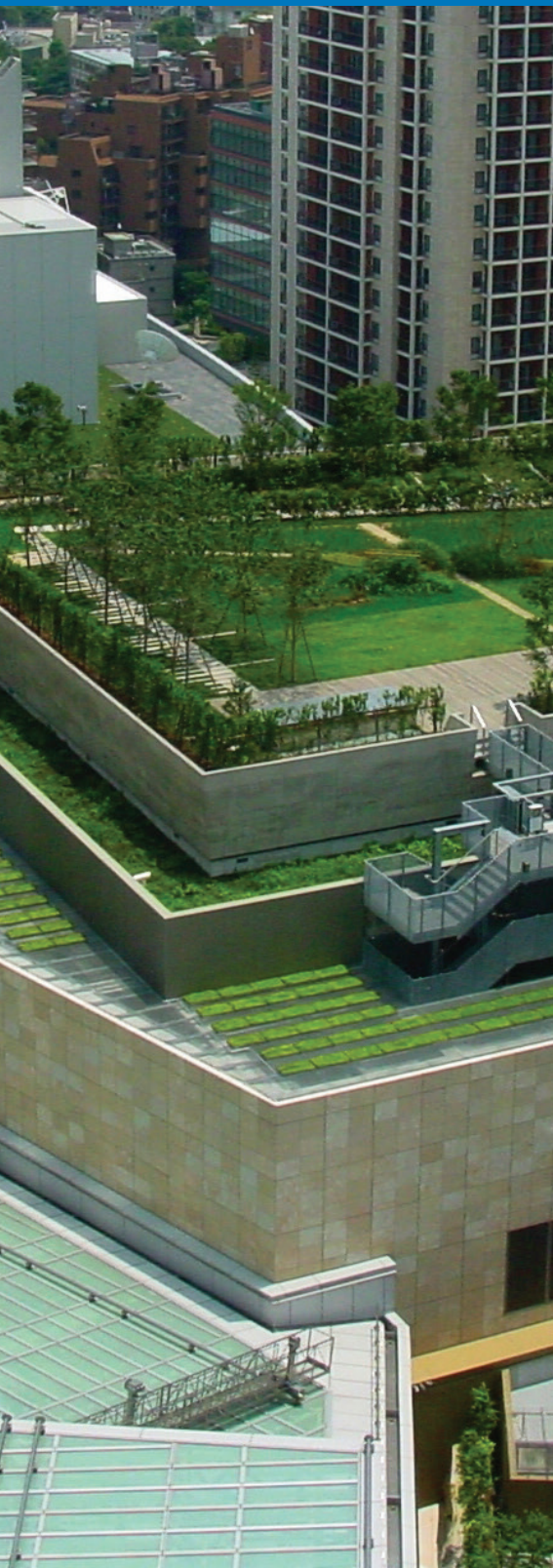




# 3D TRASAR™ Water Saver Technology reduces tower blowdown at commercial office building by 22%: Saving over 263,451 gallons of water



## BACKGROUND

The State of California has issued water use reduction guidelines for all Institutional and Industrial users in the state. Each user must reduce total water use by 20% in the next three years.

A Class "A" commercial office building in Southern California, had achieved Energy Star designation several years ago. To comply with the new state guidelines, site management recognized they would need to look to new technology to help meet the goal.

## SITUATION

One of Nalco Water's newest programs for cooling tower water is called 3D TRASAR Water Saver Technology, which consists of on-line electrochemical softening equipment, 3D TRASAR control technology and a Nalco Water chemical program. Nalco Water and site management audited the site to see if the technology was a good fit.

Normal cooling tower operation would run 3.3 cycles of concentration due to the high hardness and alkalinity levels in the city makeup water. Both Nalco Water and site management recognized that this new technology could reduce tower blowdown while maintaining efficient operation of the chiller system. The unit was installed in May 2012.

## PROGRAM

In the four months since the 3D TRASAR Water Saver program was installed, tower cycles increased to an average of 11.1 cycles with no effect on chiller operation KW/ton draw, exchanger deposits or increased corrosion rates.

Additionally, because of the increased cycles, scale and corrosion chemical feed was reduced by more than 50% and biocide demand dropped by more than 40%. These reductions reduced the total chemical footprint of the building. Bio counts were maintained at 5,000 cfu/ml or less.

### CUSTOMER IMPACT

Water savings from reduced blowdown was 263,451 gallons in three months



### ECONOMIC RESULTS



Savings of \$3.00 per 1,000 gallons

*eROI is our exponential value: the combined outcomes of improved performance, operational efficiency and sustainable impact delivered through our services and programs.*

## ENVIRONMENTAL/ECONOMIC RESULTS

Water savings from reduced blowdown was 263,451 gallons in three months of operation. Facility water costs are \$3.00 per 1,000 gallons.

Data Table	
Make-up Reduction of 22%	
Previous Tower Cycles Average 3.3	3.3
Average Cycles w/ WaterSaver = 11.1	11.1
Average Water Consumptions of Cooling Tower between June and Sept 2012	1,200,000 gallons
Water Consumption of Cooling Tower with 3D TRASAR Water Saver program between June and Sept 2012	934,053 gallons
<b>Water Savings YTD</b>	<b>263,451 gallons</b>
Reduction in scale/corrosion chemical use	>50%
Reduction of Biocide Usage	>40%
Bio Counts	1,000-5,000 cfu/ml

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