

## Cooling Tower Incentive Helps City and Customers Save

*By Victoria Cross*

Los Angeles Department of Water and Power (LADWP) cooling tower expert, Mark Gentili, is looking forward to providing \$3,000 or more in cash incentives to the first 150 customers who want to save money on cooling tower operations.

"LADWP now has a new cooling tower incentive program in which customers can qualify for \$3,000 or more to cover the expense of the installation of a pH/conductivity controller on any 100-ton or larger cooling tower," he said. The water savings for the city and the customer is significant and the program is simple. Additional monies may be available for cooling tower projects if the water conservation potential is significant.

A cooling tower's basic purpose is to cool water that in turn cools the building's air conditioning equipment. In the tower, the water runs through a system of louvers and baffles cooling the water through evaporation. As the heat evaporates upward, fans pull cooler air across the flow of water adding more cooling through heat exchange with the atmosphere. Most of the cooled water is then returned to the air conditioning equipment to again be used as a cooling agent.

Cooling towers often represent a significant portion of a facility's water use. Gentili indicated that efficiency can be improved in virtually all existing cooling towers. The LADWP's average cooling tower conservation project saves approximately \$450 per month in water and sewer costs in addition to the incentive payment.

Cooling tower operation and maintenance is a balance between many often opposing issues such as water quality, scale formation, metallurgy corrosion, biological fouling versus cycles of concentration, energy and water consumption and waste discharge requirements. Efficient operation and maintenance are essential to conserving water in cooling tower systems. Tower efficiency is maximized when the cycles of concentration ratio increases and bleed off decreases.

Important parameters to consider about your cooling towers are the evaporation and the bleed off rates. LADWP can provide meters to measure these two efficiency indicators. Besides the potential for operational savings, learning a few basic features about your cooling

towers can also ensure the performance of work conducted by contracted vendors.

Call LADWP at **213-367-0925** for information.

### **BASIC COOLING TOWER WATER CONSERVATION TIPS**

- Minimization of bleed off and proper water treatment offer the greatest opportunity for saving water in cooling towers.
- Make-up water can be taken from reverse osmosis reject water, or wastewater from a once-through cooling process. City recycled water can be used as make-up water, if it is available.
- Sub-metering of make-up and bleed off lines provide more information for efficient operation. LADWP will provide free water meters if your cooling tower project savings are high enough. These meters may be used to obtain a sewer adjustment.
- When the ambient dew point temperature is low around your cooling towers, fans can be cycled off and on or slowed to save energy and water.
- Drift losses can be reduced by the use of baffles or drift eliminators.
- If the supply water is unusually turbid, consider filtering the side stream, or any other constrained water passages that may be susceptible to clogging.
- Consider running a pH control water treatment program which minimizes scale and saves additional water.
- Know and schedule routine maintenance according to the manufacturer's specifications.
- Include water conservation options in any service contracts.