

BEVERAGE INDUSTRIES

WATER USE EFFICIENCY IDEAS



GENERAL SUGGESTIONS

Ask your local water agency about rebates or financial incentives for water use efficiency.

Appoint a water conservation coordinator with the responsibility and authority for a water use efficiency program.

Make the plant manager and other employees aware of the water conservation coordinator's duties.

Conduct contests for employees (posters, slogans, or efficiency ideas).

Install submeters and read water meters regularly (daily, weekly) to monitor success of water use efficiency efforts and to help detect leaks.

Provide an easy way for employees to report leaks.

SURVEY THE PLANT

A plant survey identifies areas where water is wasted or where water could be reused.

Identify all points where water is used, including hose connections, and determine the quantity of water used at each point.

Determine the capacity of each water-containing unit (washers, flumes) and frequency of emptying.

Determine the quality, quantity, and temperature of water carried by each major water line.

Determine the quality of each continuous discharge not yet being re-used.

Determine whether flow rates in floor gutters are adequate to prevent solids accumulation.

EVALUATE SURVEY

Identify the major water-using operations. Review the water re-use practices currently employed.

Evaluate the feasibility of installing cooling towers.

Study the potential for screening and disinfecting reclaimed water to increase the number of times it can be re-used.

MAXIMIZE WATER USE

Install high pressure, low volume nozzles on spray washers.

Use fogging nozzles to cool product. Inspect nozzles regularly for clogging.

Adjust pump-cooling and flushing-water to the minimum required.

Determine whether water discharges can be substituted for fresh water being supplied to any other operation.

Potential water re-use:

- First rinses in wash cycles
- Can shredder, bottle crusher
- Filter backflush
- Caustic dilution
- Boiler makeup
- Refrigeration equipment defrost
- Equipment cleaning, floor and gutter wash

Potential discharge re-use:

- Final rinses from tank cleaning, keg washers, and fermenters
- Bottle and can soak and rinse water
- Cooler flushwater, filter backwash
- Pasteurizer and sterilizer water

Use water-efficient conveying systems, such as:

- handling waste materials in a dry state when possible
- using conveyor belts for product transport - preference should be given to those that are much easier to clean
- using pneumatic conveying systems wherever possible; and use flumes with parabolic cross sections rather than flat-bottom troughs.

Replace high-volume hoses with high-pressure, low-volume cleaning systems.

As equipment wears out, replace with water-efficient models.

BEVERAGE INDUSTRIES

AVOID WASTE

Handle waste materials in a dry state when possible.

Equip all hoses with spring-loaded shutoff nozzles. Be sure these nozzles are not removed.

Instruct employees to use hoses sparingly and only when necessary.

Adjust flows from recirculation systems by controlling the rate of makeup water by:

- Installing automatic valve on the makeup line.
- Closing filling line during operation.
- Providing surge tanks for each system to avoid overflow.

Turn off all flows during shutdowns (unless flows are essential for cleanup). Use solenoid valves to stop the flow of water when production stops. The valves could be activated by tying them into drive motor controls.

Adjust flows in sprays and other lines to meet the minimum requirements.

CLEANUP

Sweep and shovel solid materials from the floor instead of using hoses.

Provide an adequate number of receptacles for collecting solids. Empty the receptacles often to prevent odor and insect problems.

Inventory all the plant's cleaning equipment (such as hoses):

- number and types of units provided
- frequency of operation

Check all cleaning chemicals used in the plant to determine whether they are being used correctly.

EXTERIOR

Convert from high water-using lawns, trees, and shrubs to water efficient landscapes, incorporating plants that

provide beautiful color and require less water. Design landscapes that will require less water.

Inventory water use for landscaped areas.

Water landscapes only when needed; two to three times a week is usually sufficient for lawns. Trees and shrubs require less frequent but deeper watering.

Wash cars, buses, and trucks less often.

Use a broom to clean sidewalks, driveways, loading docks, and parking lots instead of hosing down. Consider using mobile sweepers.

Avoid landscape fertilizing and pruning that would stimulate excessive growth.

Remove weeds and unhealthy plants so remaining plants can benefit from the saved water.

In many cases, older, established plants require infrequent irrigation. Look for indications of water need such as wilt, change of color, or dry soil.

Install soil moisture overrides or timers on sprinkler systems.

Time watering for the morning or evening when evaporation is lowest. Do not water on windy days.

Make sure irrigation equipment applies water uniformly.

Investigate the advantages of installing drip irrigation systems.

Mulch around plants to reduce evaporation and discourage weeds.

Remove thatch and aerate turf to encourage movement of water to the root zone.

Avoid runoff. Set sprinklers to

cover only the lawn or garden, not sidewalks, driveways, or gutters.

Water in winter only during prolonged hot and dry periods. During spring and fall, most plants need about half the water needed during the summer.

Install native vegetation landscapes that require little to no irrigation once established.

Use turf only where necessary - such as picnic and play areas.

Consider installing a recycled water system.

FOR FURTHER INFORMATION

And to request this brochure in an alternate format, contact:

**California Department of
Water Resources**

Office of Water Use Efficiency

901 P Street, Third Floor

P.O. Box 942836

Sacramento, California

94236-0001

seching@water.ca.gov

(916) 651-9667

