



Water Conservation and Pollution Prevention Fact Sheet

Promoting water conservation within a business or industry can result in significant savings in water, sewer and energy billings. Additional savings may occur in pretreatment and chemical costs.

Water Conservation Opportunities

Opportunities to reduce water demand may exist in the following common areas:

- **Improve plant facilities maintenance.** Water losses within a system can be attributed to several key areas:
 - Leaking faucets;
 - Improper functioning of ball check valves on toilets;
 - Leaking distribution main;
 - Leaking automatic sprinkler system, especially at blow-off.

Losses can be minimized by periodically repairing faucets, dye testing and repairing faulty toilets, pressure testing and repairing water mains, and testing the sprinkler system. **A slow, steady drip can waste 75 gallons of water a week!** Loss prevention measures- such as pipe cleaning or lining- should also be considered.

- **Reduce clean-up water use.** Install high-pressure low-volume automatic shut-off nozzles on hoses and promote dry clean-up procedures with the following activities:
 - Use brooms/vacuums to remove dry spills from floors and equipment;
 - Use squeegees, shovels or vacuums to remove liquids or semi-liquids from floors and equipment;
 - Examine handling/transport procedures that result in spillage;
 - Place collection pans under drips/leaks until repairs are made;
 - Schedule production to reduce required clean-up;
 - Work with employees to minimize water usage in all process and cleanup operations; and
 - Use steam cleaning.
- **Eliminate once-through cooling.** Evaluate ice machines, refrigeration systems, air conditioning systems, air compressors, and process tanks/baths for water losses.
- **Reduce system operating pressure.** A pressure-reducing valve can regulate the system pressure so that a maximum pressure, such as 60 psi, is not exceeded.
- **Install in-line water meters.** Metering internal system water use can allow a company to assess water consumption and identify areas of excessive use. A water management plan is only as good as the data available.
- **Meter water-consuming processes.** Sewage fees are generally based on water records. Some utilities will give sewage credit for water that is consumed without discharge to the sanitary sewer.
- **Identify potential water reuse opportunities within the system.** Use treated wastewater (municipal or treated process water) for landscape irrigation, dust control, air scrubbers, and cooling. Collect and reuse steam condensate as boiler feed or cooling tower makeup.
- **Minimize water demands.** You can accomplish this by:
 - Install control devices on process lines to stop water use;
 - Use air cooling for chilled water;
 - Decrease vehicle washing;

Water

- Reduce irrigation demands through proper plant selection, water scheduling, and system design and maintenance;
 - Retrofit toilets with water saving devices or install low-flow toilets; and
 - Install flow restrictors on sinks and showers.
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- **Evaluate water use in energy systems.** Maintain cooling tower concentration ratio of 6 to 10; Use proper chemical additives to minimize bleed-off; Use conductivity controller rather than manual bleed-off; Check steam traps and lines for leaks; Insulate pipes; Minimize blowdown; Avoid use of cold water mixing valves for blowdown cooling.

To answer a question, for more information or to schedule an initial consultation, contact Jeff Brennan at (515) 281-8499 or Jeff.Brennan@dnr.state.ia.us.