

Water Conservation Tips

Start 2015 with resources to tackle water conservation opportunities

MnTAP's water conservation project with Metropolitan Council Environmental Services (MCES) is focused on industrial water users in the north and east twin cities metro area. Using MnTAP's experienced staff and project-dedicated engineering interns, you could benefit from tailored water-use conservation strategies and solutions at your facility in 2015.

Take a moment to reflect on how much water is used (and the associated fees), the inputs needed to make it useful (softening, reverse osmosis, de-ionization, heating, cooling), wastewater treatment, and add all those costs per gallon together. With water use as important (and costly) as it is in your facility, the new year is a great time to give water conservation some renewed attention.

The experienced staff at MnTAP can help with our free, confidential technical assistance. But if the complexity of your processes requires extensive and detailed help with water balances, water optimization, sewer access or strength charges, and water/energy costs, we can talk about what an intern might accomplish working 40 hour per week for 500 hours over the course of the summer.

This metro water conservation project can support three intern projects in the MCES service area in 2015. We are currently lining up projects and allocating our technical staffing capacity to advise these projects. Make 2015 a year to chalk up water conservation gains on your list of environmental improvement projects.

To arrange for a free, business confidential site assessment to scope out an intern project, contact MnTAP at mntap@umn.edu. If you would like more information on MnTAP's long-standing successes with water conservation internships or background on what businesses should do to apply, visit http://mntap.umn.edu/intern/business.htm.

Contact MnTAP for More Information

CLEAN WATER LAND & LEGACY AMENDMENT

Let us know if you are interested in getting involved in this water conservation project, at no cost to your business. We welcome your questions and ideas for future newsletter topics, so please send them our way! For questions or further information, contact Mick Jost, MnTAP Program Coordinator and project lead, at jostx003@umn.edu or 612.624.4694.

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Did You Know...

Boiler system water use involves several pathways that need routine attention. Phase conversion from hot water to steam uses varying amounts of water depending on the amount of condensed steam returned, system size, and the amount of steam required.

- Boiler system best management practices include:
    - fine tuning the fuel combustion to minimize excess combustion air
    - maintaining the quality of system water
    - making sure the equipment, especially the steam traps, are functioning effectively
- Next, let's focus on steam traps. A stream trap is an in-line device used to discharge condensate and noncondensable gases with negligible loss of live steam. Much like leaks in a compressed air system, malfunctioning steam traps rob the system of its efficiency, losing heated water/steam to the surrounding environment. In steam systems that are not routinely inspected, 15-30% of steam traps could be failing and allowing steam to escape, thereby wasting energy and money.
- Facilities can reduce failure rates to less than 5% by developing and implementing a regularly scheduled trap maintenance and testing program, including cleaning strainers upstream of traps.
- A starting point in regular trap maintenance is to look for steam venting in the system and listening for increases in sound levels over time. Absence of temperature variation in front and behind the steam trap (30-40°F) is also an indication of a malfunction.
- Returning condensate back to the boiler for an already hot input reduces overall energy and water use. Less condensate discharged into a sewer system reduces disposal costs.
- Return of high purity condensate also reduces energy losses due to boiler blowdown. Significant fuel savings occur as most returned condensate is relatively hot (130°F to 225°F), reducing the amount of cold makeup water (50°F to 60°F) that must be heated. If any surface temperatures in the boiler system are greater than 120°F, it will pay to insulate.
- Overall boiler water supply, chemical use, and operating costs can be reduced up to 70% by recycling the condensate for reuse-*1*.

1 - Federal Energy Management Program, http://energy.gov/eere/femp/best-management-practice-8-boiler-and-steam-systems

About MnTAP

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A program of the University of Minnesota, MnTAP offers a variety of technical assistance services to help Minnesota businesses implement industry-tailored solutions that maximize resource efficiency, prevent pollution, increase energy efficiency, and reduce costs. Our information resources are available online at <mntap.umn.edu>. Please call MnTAP at 612.624.1300 or 800.247.0015 for personal assistance.

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