



Boston Scientific



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Company Background

Boston Scientific is an internationally recognized medical device researcher and manufacturer. The Maple Grove, MN, site is focused on interventional cardiology devices and surgical equipment, including drug coated stents, balloon catheters, and WATCHMAN™, a device that reduces the risk of stroke.



“Boston Scientific welcomed me with open arms. Throughout my entire internship, I had full access to specialists, technicians, engineers, and the campus. Everyone was extremely interested in my ideas and brought their own too! Some of the best ideas were discussed right on the production floor. I am incredibly grateful for my supportive co-workers, thank you for the fantastic opportunity and the amazing friendships!” ~ HL

Project Background

The site in Maple Grove consumes 40,000,000 gallons of water annually for production, domestic, and operational needs. This water is purchased from the City of Maple Grove and discharges are regulated by Metropolitan Council. A major goal of the internship was to identify gaps in knowledge related to the use and discharge of water. A process analysis and water balance were performed to determine gaps and find opportunities for water conservation.

The project was divided into 2 stages: first, major water-consuming areas in the facility were identified and quantified; second, opportunities for water and/or energy and material conservation were evaluated.

Incentives To Change

Anticipated audits and a re-application period for an industrial wastewater discharge permit spurred the desire for a better understanding of water usage at the Maple Grove site. A MnTAP intern could help the site find new ways to conserve resources, support their ISO 14001 Environmental Management System, and reduce costs.

“Boston Scientific has a long history providing summer intern opportunities for students – this was the Maple Grove site’s first experience with a MnTAP Intern and it was a great experience. The work on water life cycle and water conservation that Heather did this summer was of the highest quality. The projects that Heather completed and the ideas that she has generated fit exactly with Boston Scientific’s Global EHS policy to protect ‘the planet, our people and our property.’ By the completion of the summer Heather had saved the company many times the small fee that it cost to have her here. So, would we recommend the MnTAP summer intern program – Yes most definitely, these students are carefully selected and do a really great job.”

~ Sonia James
Environmental, Health & Safety Manager
Boston Scientific

Solutions

Reduce Corrosive Rinse Tank Dump Frequency

Corrosive rinse tanks account for most of the water consumed by the site's industrial processes. By switching a configuration setting in several tanks from one rack per dump to five racks per dump, a considerable amount of water and money could be saved with immediate payback.

Add Faucet Aerators

Several faucets in high-use coffee station sinks did not have faucet aerators. The installation of these aerators could allow for a reduction in domestic water usage.

Self-report Evaporative Losses to the Utility

The site in Maple Grove pays sewer charges on water lost to evaporation. By reporting evaporative loss calculations and meter readings to the utility for relevant cooling tower and boiler systems, the facility could reduce their water bill costs.



Reclaim Water Softener Brine Discharge

Brine discharge during water softener regeneration can be rerouted back into a salt tank for a 30% salt savings. This could reduce chlorides released into the environment and facility salt costs.

Fix Steam Valve Leak

The facility loses energy due to a small steam valve leak. Fixing this leak during planned production shutdown time could save future energy loss and fixture damage.

Recommendation	Annual Reduction	Annual Savings	Status
Reduce Corrosive Rinse Tank Dump Frequency	3,800,000 gallons water	\$15,000	Implemented
Add Faucet Aerators	177,000 gallons water	\$700	Implemented
Self-Report Evaporative Losses to Utility	N/A	\$18,000	Planned
Reclaim Water Softener Brine Discharge	96,000 lbs salt	\$8,000	Recommended
Fix Steam Leak	2,000 therms	\$900	Implemented

MnTAP Advisor: Matt Domski, Waste Prevention Specialist