

Putting WaterSense® to Work

Metering and Monitoring for Water Savings at Sheraton Seattle Hotel



Sector: Hotels; Focus: Water Use Monitoring and Management

Project Summary

Located in the heart of Seattle, Washington, the Sheraton Seattle Hotel has addressed both corporate sustainability goals and rising water costs by monitoring its water use and implementing innovative, water-saving changes specific to the 1,112,000 square foot facility's needs. With increased water rates in the Pacific Northwest, water use from the 1,236 guest rooms, 74,000 square feet of meeting space, a pool and fitness center, three restaurants, and a cocktail lounge onsite can create high operating costs. While participating in the U.S. Environmental Protection Agency's (EPA's) WaterSense H₂Otel Challenge, Sheraton Seattle assessed its overall water use to help identify areas for improvement and best practices needed to boost water efficiency. These efforts helped Sheraton Seattle contribute to the broader sustainability goals of its managing company, Starwood Hotels and Resorts, which aims to reduce energy use by 30 percent and water use by 20 percent across more than 1,500 properties by 2020.

Metering and Monitoring for Success

Establishing 2008 as its baseline year, Sheraton Seattle measured water use with routine internal and third-party utility bill audits and installed submeters on cooling towers and irrigation controllers. Through monitoring and normalizing water use, Sheraton Seattle discovered a ruptured water heating coil, which caused a surge in water use. By reviewing water use and submetering data regularly, the hotel had been able to identify an otherwise hidden issue and was able to repair the ruptured coil quickly to prevent further water waste.



Tracking submeters and utility bills lead to hidden sources of water waste.

Fixture Upgrades and Rebates

The hotel also worked with Seattle Public Utilities to upgrade from 2.5 gallons per minute (gpm) to 1.75 gpm WaterSense labeled showerheads, a project that saves them 1.8 million gallons of water per year under average occupancy. As part of a conservation rebate, the utility paid for approximately two-thirds of the \$58,000 project. Sheraton Seattle then replaced its guestroom faucets with high-efficiency 1.0 gpm faucets, and is installing 0.5 gpm faucet aerators in public restrooms. The utility also provided a 50 percent conservation rebate for switching from a water-cooled system to an air-cooled system to meet city water discharge standards for condensate. Sheraton Seattle anticipated that this \$35,000 investment would pay for itself in just nine months and save more than 1 million gallons of water annually.

Case Study Highlights



Hotel: Sheraton Seattle Hotel

Location: Seattle, Washington

Size: 1,112,000 square feet

Number of guest rooms: 1,236

Water savings: 5 percent reduction, total approx. savings of 25 million gallons of water between 2009 and 2015

Cost savings: \$36,537 between November 2014 and November 2015

Reducing Laundry and Recycling Water

In its laundry rooms, the hotel reduced water use by converting to a tunnel washer, which incorporates a system to recycle and reuse water. Throughout laundry operations, this alone contributed to approximately 75 percent water savings, or 4.5 million gallons of water per year. A towel and linen reuse program helped Sheraton Seattle obtain additional laundry water savings. The hotel implemented the “Make a Green Choice” program, which allows guests to forego room cleaning altogether. Just one night without housekeeping can save 37.2 gallons of water per room, enough for one person to drink almost two cups of water per day for a year. In return, participating guests receive either a food and beverage voucher or points added to their Starwood Preferred Guest account. The program currently has about a 30 percent participation rate.



In addition to a towel and linen reuse program, Sheraton Seattle gave guests the option to forego room cleaning altogether.

Savings and Recognition

Compared to the 2008 baseline, these water-efficient practices helped Sheraton Seattle reduce water use by 5 percent and energy use by 31 percent. As of November 2015, this accounted for more than \$36,500 in water and sewer cost savings over the course of a year. These savings were achieved despite the ruptured heating coil that resulted in increased water use and helped earn the hotel a renewal of their Green Seal Silver designation for 2015.

Looking ahead, the Sheraton Seattle is planning additional water efficiency upgrades and projects. The hotel is working on a plan to capture rainwater to use as makeup water in its tunnel washer. If successful, this plan could take the hotel's laundry water use completely off the city meter. Starting in 2016, as part of the hotel's next major renovation, the Sheraton Seattle will install 1.28-gallons-per-flush WaterSense labeled toilets and WaterSense labeled flushing urinals throughout the facility. These projects will help the hotel continue to reduce overall facility water use and operating costs while taking it one step closer to meeting the established corporate water- and energy-reduction goals.

Acknowledgements

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To learn more about water efficiency in commercial and institutional buildings, visit the WaterSense website at www.epa.gov/watersense/commercial to access *WaterSense at Work* best management practices, tools, case studies, and more.