



Water and Cleaning

By Klaus Reichardt
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I have been asked to introduce this article because it is about a topic I am familiar with — water and, more specifically, conserving water in cleaning.

As the manufacturer of restroom products and systems that help conserve water as well as a frequent author on the subject, I must tell you that water concerns are going to be a bigger issue in the near future. Further, this issue will affect not only dry and underdeveloped areas of the world and booming areas such as China but also the United States.

Changing climate, increased demand from industry, and population growth are the roots of the problem. There are areas of the world that just 20 years ago had few concerns about water. For instance, in the United States, Atlanta and other locations in the South were once considered essentially water plentiful. However, three years ago, Atlanta came within a few days of running out of its entire water supply as a result of climate change.

Demand has also grown. Parts of China have always been drought stricken, but the country usually could address its needs with little hardship on its citizens. Now, however, as an industrial giant, China is challenged by its need for water for manufacturing. As of March 2011, water rationing is a way of life in large areas of China. In many parts of the country, water to households is turned off completely from 11 p.m. to 5 a.m. so that reserves are plentiful to industry for the next business day.*

Population growth will also lead to bigger water challenges in the future. We are already witnessing this occurring in the United States in such places as California, Arizona, and New Mexico, which have always had water concerns. But now with population growth, these states are strained even further, and in many cases water infrastructure is more than 50 years old — simply not designed to meet today's water needs.

Fortunately, there are new technologies available — including new restroom fixtures as well as products and systems used for cleaning — that can help us reduce water demand and use water more responsibly. The following information should help managers conserve water in cleaning.

—Klaus Reichardt, CEO and founder of Waterless Co., LLC.

Cleaning and Water: Floorcare and Carpet Care

Water is used in many cleaning procedures, and the two cleaning tasks that use more water than any others are carpet cleaning and floorcare. Cleaning equipment manufacturers, increasingly conscious of making their equipment greener and more environmentally responsible, have been developing systems that use water in a more conservative manner.

Today's carpet extractors are some of the best examples of how new technologies are reducing the amount of water used in cleaning. For instance, according to Doug Berjer, product manager for CFR, manufacturer of portable recycling carpet extractors, an older carpet extractor typically uses one to 1.5 gallons of water per minute. "[Therefore,] a couple of hours of carpet cleaning would require about 180 gallons of water with an older machine; with a low-moisture carpet extractor, this can be reduced to about 120 gallons, and with a recycling extractor, this can be further reduced to about 20 to 25 gallons of water," explains Berjer.

Similar developments are occurring with floorcare equipment. According to David Frank, *president of the American Institute for Cleaning Sciences*, we can expect to see more "low-moisture floorcare" machines in the near future. In fact, virtually all the major manufacturers in the professional cleaning industry are now introducing machines that use less water and less chemical while maintaining expected cleaning effectiveness.

However, some new floorcare technologies have made significant progress in this process. For instance, Frank notes, cylindrical brush machines, which have been popular in Europe for more than two decades, were introduced in the United States a few years ago. These machines are perfect examples of low-moisture floorcare machines.

Instead of using rotating pads found on conventional machines that have a tendency to just clean the top surfaces of floors, cylindrical brush machines have counter-rotating brushes that can reach deeper into floors and grout areas using considerably less chemical and water. This is both greener and more water responsible, "and that's a good thing," says Frank.

Further, floor cleaning and mopping are also changing. According to Robert Kravitz, a former building service contractor, commercial kitchen floors as well as outdoor plazas and sidewalks were typically hosed down for cleaning in the past. "Depending on the size of the hose and the pressure, hosing down a floor can discharge six to as much as 20 gallons of water per minute," says Kravitz.

Kravitz indicates that more and more facilities have transferred to pressure washing systems to clean these areas. Although they can still use large amounts of water, he says, "the big advantage of pressure washing systems is that the added pressure loosens and helps wash away soils faster and more effectively. Ultimately, this process can use less water overall because the pressure does more of the work."

Other Systems and Procedures

We are also starting to see many facilities are also now installing auto-dilution systems. According to Kravitz, these devices are often considered an essential part of a green cleaning program because they more accurately measure chemical and water. "Historically, cleaning professionals would dilute chemical and water manually. Often, too much water or too much chemical was used, which is wasteful. With an auto-dilution system, just the right amount of water and chemical are mixed, which can not only save water but cut costs as well," he says.

More options include the use of microfiber cleaning cloths and mop heads. According to a study by the University of California Davis Medical Center, Sacramento, microfiber mop heads use up to 5 percent less water than conventional string mops.

Even just using hot water can prove to be a water-saving step. Heat improves the effectiveness of cleaning chemicals. The chemicals work harder, so overall less water is needed.

Taking the First Step

We now realize there are ways to reduce water consumption when cleaning, and the first question many facility managers ask is, Where do we start? Many successful facility managers start with a cleaning water audit. The process involves seeing where water is used in the facility and, if possible, how much. This serves as a benchmark.

From here, managers can then incorporate some of the systems or technologies discussed in this article to help reduce water consumption and use water more responsibly. The audit will let them determine whether changes are making a difference and decide which issues can be addressed now — with little, if any, cost — and which can be addressed in six months or a year. Usually what happens is they find many ways to conserve water and it becomes a way of life, says Klaus Reichardt, CEO and founder of Waterless Co., LLC. When selecting cleaning equipment, they now consider whether the machine will improve cleaning, bolster worker productivity, and save water. This is how all of us have to start thinking in all areas of our business and personal lives.

Article by Dawn Shoemaker, a writer for the professional cleaning industry.

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