Interest in Waterless Urinals Grows; Systems Save Water, Money

By Robert Kravitz
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NEW YORK—New York's Times Square seems an unlikely place to build one of the greenest, most high-tech, and most expensive skyscrapers in the United States. But that's exactly where the $1 billion Bank of America Tower will rise.

The 2.1 million-square-foot building will become the bank's New York headquarters when it opens in 2008. At 51 stories, the building will incorporate a variety of leading-edge technologies such as the most advanced security and antiterrorism systems now available; super-sophisticated wiring and electronics for high-speed Internet, data, and other communications systems; wind turbines for the generation of power; water recycling equipment; and advanced energy application systems to regulate and reduce energy use.

Even the restrooms will be state of the art. Lighting and high-performance HVAC and ventilation systems will all be centrally controlled electronically and activated as needed or requested. Advanced water conservation measures—such as low-flow faucets, toilets, and showers—are also planned. And, when it comes to the urinals, the developers decided to go a step further. No-flush or waterless urinals will be installed in all the men's restrooms throughout the building.

The new Bank of America is not alone in putting in waterless urinals. All types of facilities, new and old, including schools, dormitories, office buildings, and hotels are now installing urinals that require no water. For instance, the Royal Hotel in Sydney, Australia, has recently decided to use waterless urinals in all of their common area men's restrooms.

"We installed waterless urinals for several reasons," says Dennis Callahan, owner of the Royal Hotel. "I thought it was a more efficient way to go, as water is becoming increasingly expensive, but we also did it to help eliminate restroom odors."

The Issue of Odor

"It's interesting to note that this hotel owner installed the waterless urinals to help eradicate restroom odor problems," says Klaus Reichardt, managing partner of Waterless Co. in Vista, Calif. "Usually, the first concern property managers and building engineers have about waterless urinals is whether there will be an odor problem using a no-flush urinal, as there often is with flushed urinals."

Reichardt explains that this is because most people, including architects, contractors, and many building engineers, do not know how a waterless urinal works.

"With a conventional flush urinal, the urinal bowl retains a small amount of water after each flush," he says. "This water prevents sewer gases from escaping into the restroom. As long as the urinal and surrounding areas are flushed and kept clean, malodors from the urinals should not be a problem."

Waterless urinals work in similar ways and use a trap, but it's a different kind of trap. According to Reichardt, waterless urinals have a vertical trap design; a cylinder filled with a thin layer of sealing liquid sits atop the drain area of the urinal. Urine passes through the trap and sealant, forming a barrier that continuously prevents odors from escaping.

"It works essentially the same as a flush urinal, just without the water," says Reichardt. "The urine flows under the barrier layer and into the central tube connected to the conventional drainpipe, allowing the urine to be drained."

Other than this, waterless urinals look—and are used—the same as traditional urinals but without the flush handles or sensors to activate water. They are also cleaned essentially the same way. Usually, all that is required is a general-purpose cleaner applied with a cleaning cloth, mop, or sponge.

Savings and Health Benefits

According to some experts, there are several reasons for the growing interest in waterless urinals, especially in hotels. Although waterless urinals still need to be connected to a drain, there is no need to install the plumbing that carries water to the urinal, which can be a sizable savings for a large hotel or other structure. Additionally, electronic sensors, batteries and other components of a traditional flush urinal are unnecessary. All the above also reduce urinal maintenance.