

# Siemens UV Disinfection System Helps Big Ten University Improve Air & Water Quality in Natatorium

**The University of Wisconsin–Madison is among the largest and most-respected universities in the nation and home to the Wisconsin Badgers who have won 27 national championships in the NCAA’s Division Big Ten Conference.**

The University’s Division of Recreational Sports has a large and esteemed aquatics program offering a variety of activities for students, faculty / staff and through the “Wisconsin Idea” reaching out to the local and state wide community at the Natatorium (NAT) on a year-round basis.

## The Challenge

Built in 1963, the Natatorium has a seating capacity of 1,500 and often hosts meets for the Wisconsin men’s and women’s swimming and diving teams and WIAA boys & girls swimming and diving meets. Approximately 24,000 swimmers utilize the facility on an annual basis.

The racing pool and diving well at the Natatorium are used by the university’s swim team for practice and competitive meets as well as area high schools for their meets. The racing pool is 25 yards long (22.86 m) and 8 lanes wide and holds 175,000 gal (662.4 cu m). The diving well is a separate pool that measures 50 ft x 40 ft (15.2 m x 12.2 m) and holds 190,000 gal (719.2 cu m), equipped with one meter spring boards for recreational use. The diving well is also used for deep aqua fitness classes.

The Natatorium utilized breakpoint chlorination to control combined chlorine, a standard practice to ensure a safe water environment and good indoor air quality. This process requires excess amounts



of chlorine, labor and downtime to perform. In addition, breakpoint chlorination is difficult, at best, to achieve as the bather load varies. As with many indoor facilities, this practice often fails to control the noxious chloramine odors that irritate the eyes, skin, lungs and airways of swimmers, staff and spectators. This then, was the challenge, providing a safe water and air environment for all.

## Solution

When Siemens Water Technologies local UV distributor, Clyde Hegerfeld of Midwest Pool Supply began selling Barrier® UV disinfection systems, he consulted with Siemens’ UV expert, Bob Kappel. When Hegerfeld and Kappel visited the UW Natatorium, they immediately identified increased levels of combined chlorine caused by the heavy bather load which breakpoint chlorination was not able to adequately address.

Hegerfeld contacted John Paine, Associate Director, Division of the Recreational Sports to discuss how the Barrier® UV disinfection system could combat the increase of combined chlorine that was found during his inspection and improve the air quality and water quality.

## Case Study

In August 2009 during short routine maintenance period, Midwest Pool Supply, with the assistance of Badger Swim Pools of Sauk City, Wisconsin installed a Barrier® M275 UV system on the 175,000 gal (662.4 cu m) lap pool and a Barrier® M525 UV system on the 190,000 gal (719.2 cu m) diving well.

## Results

Since the installation, the normal chlorine usage has remained the same, however, the university is realizing savings in chlorine, labor costs and less downtime due to the elimination of the breakpoint chlorination process. John Arneson, physical plant staff member agrees the Barrier® UV system is also much easier to maintain. With the elimination of excessive chlorine and noxious chloramine odors, swimmers and spectators will be able to spend more time in the pool during practice sessions and meets. An added benefit of the UV systems resulted in and improvement of water clarity. When the Natatorium is closed next August for it's annual cleaning, it's anticipated less maintenance will be required to clean the pool's tile and grout since extra chemicals aren't being used to breakpoint chlorinate the pool.

Attending coaches have reported "the water clarity and air quality is the best they have seen in 15 years and consider the university's Recreational Sports Natatorium as one of the best facilities they visit, even though it is the oldest. The University of Wisconsin-Madison has strived to maintain that stature and Siemens' Barrier® UV disinfection system has helped that image," says Arneson.



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