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From Gridiron to Pool: How Water Quality Technology Shaped the 2024 U.S. Swimming Trials

The 2024 U.S. Swimming Team Trials for the Paris Summer Games, held from June 15 to June 23 at Lucas Oil Stadium in Indianapolis, marked a historic moment in American swimming. For the first time ever, the trials were conducted inside a football stadium, transforming the iconic home of the Indianapolis Colts into a world-class aquatic venue.

This ambitious project not only shattered attendance records but also showcased cutting-edge water treatment technologies that ensured the event's success. A key player in this effort was the Pulsar® Precision calcium hypochlorite feed systems, whose reliably accurate and robust performance played a crucial role in maintaining the highest standards of water quality.

Transforming Lucas Oil Stadium

The decision to host the swimming trials inside Lucas Oil Stadium was unprecedented. The venue, typically associated with the roar of football crowds, was converted into an aquatic arena that accommodated two Olympic-

sized pools: a 10-lane, 50-meter pool for competition and a second 10lane, 50-meter pool for warm-up and cool-down, which also included an adjacent 7-lane, 25-meter pool for additional warm-up and cooldown needs. The construction of these pools was an engineering marvel, requiring approximately two million gallons of water, sourced from a single fire hydrant.

The transformation of Lucas Oil Stadium was overseen by a consortium of experts. Competitive pool designer and builder Myrtha Pools provided the design and construction of the pools. Spear Corporation was charged with the design, delivery (10 semi loads), and assembly of the piping, pumping, filtration, and ultraviolet (UV) and chemical treatment systems. Counsilman-Hunsaker, also a wellregarded engineering firm in the aquatics industry, served as the Engineering Firm on Record for the project, ensuring the design and specs met the required standards for Olympic-level competition.



Pulsar Precision: The Heart of Water Quality Management

One of the most critical aspects of the trials was the water quality. Swimming pools hosting elite competitions must maintain exceptional clarity and precise chemical balance—not just for the swimmers' safety and performance but also for the high-definition cameras capturing underwater footage for a global audience. To help achieve this, Spear Corporation opted for two Pulsar[®] Precision calcium hypochlorite feed systems to handle the chlorination duties.

This decision was based on their extensive experience with Pulsar[®] feeders in previous high-profile events, including the U.S. Swim Team Trials for the Rio Summer Games in 2016 and the Tokyo Summer Games in 2014. The Pulsar[®] Precision systems were specifically chosen for their high-capacity erosion (HCE) technology, which, when combined with Pulsar[®] Plus dry calcium hypochlorite briquettes, produces a fresh, concentrated liquid chlorine solution. This innovative cal hypo feed system does more than just chlorinate the water. It also treats organics, controls metals, boosts hardness, and provides shock

treatments—all in one streamlined process. The result is a consistently high level of water quality that meets the rigorous demands of Olympic-level competition.

Unparalleled Performance and Zero Maintenance

One of the most remarkable aspects of the Pulsar[®] Precision systems during the 2024 trials was their reliability. According to Spear Corporation President Brian Spear, the feeders required virtually no maintenance throughout the event. He noted that despite the intense demands of the trials—where pool water was tested manually three times a day and the filtration systems were under constant use—the Pulsar® units performed flawlessly.

"We were closely monitoring water chemistry and taking care of the filtration systems," says Spear. "But we had to do essentially nothing with the Pulsar[®] feeders during the nine days of trials. They required zero maintenance."

The positive feedback from the event was overwhelming. "A lot of the swimmers and coaches came up to me to tell me how much they appreciated the water quality. They mentioned how clear the water was, how good it felt, and even how it tasted. It was some of the best feedback we've ever received," Spear says, highlighting the importance of safe, consistent water quality in an event of this magnitude. Two swimming world records were broken during the trials.

Safety and Environmental Considerations

Safety was also a significant factor in the choice of the Pulsar[®] Precision feed systems. It was critical to maintain optimally balanced water chemistry to ensure the health and safety of the nearly 1,000 competing swimmers, as well as the guests in attendance. The 2024 swimming event in Indianapolis was the highest-attended aquatic competition event of all time anywhere. Unlike with the use of liquid sodium hypochlorite, which can pose certain risks including spillage and off-gassing, the Pulsar[®] system uses solid calcium hypochlorite briquettes that eliminate these risks and are easier to handle and store.



Moreover, the environmental impact of the Pulsar[®] systems was minimal. The system's ability to produce concentrated

chlorine solutions on-site reduced the need for transporting and handling large volumes of liquid chemical, thereby lowering the event's carbon footprint. This aligns with the broader trend in the sports industry towards more sustainable practices.

Industry Recognition

Darren Brevard, P.E., President and COO of Counsilman-Hunsaker, praised the work done by Spear Corporation. "Seeing how everything came together was truly impressive," Brevard says. "Our role was to review the designs and ensure everything was up to standard, but much credit goes to Brian Spear and his team. They did a phenomenal job with the design and installation of these systems. During the event, we had the opportunity to go below deck to give tours for many national and international aquatic industry leaders," he says. "Most were amazed by the level of sophistication and quality of the water management system."

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Looking Ahead

The success of the 2024 U.S. Swimming Trials at Lucas Oil Stadium has set a new benchmark for future aquatic events. The combination of innovative engineering, meticulous planning, and advanced water treatment technology has shown that even a football stadium can be transformed into a world-class swimming venue.

As the swimming world now looks forward following the 2024 Summer Paris Games, the lessons learned and the technologies showcased in Indianapolis will undoubtedly influence how future events are planned and executed. For Spear Corporation and Pulsar® Precision calcium hypochlorite feed systems, the trials were not just a moment of operational success but a demonstration of how innovation in water treatment can play a pivotal role in the success of major aquatics sporting events.



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