

Olympic Pool Passes a Fitness Test

National Aquatic Center survives near-extinction to become world-class, energy-efficient facility

Once plagued by rusting pipes, algae and a vast community of tadpoles, the U.S. Water Polo National Training Center in Los Alamitos, Calif. – home of the world-champion U.S. women’s and men’s water polo teams – is once again today striving to regain its grandeur. And, with the installation of new, high-efficiency boilers, the training center is one step closer to becoming the state-of-the-art facility its sponsors and operators envision.

“We’re always interested in ways to be more energy efficient,” says Mark Wagner, director of Recreational and Community Services, City of Los Alamitos, which oversees facility operations. “And, we’re looking at a minimum of \$5,000 in energy savings each year [from the boiler retrofit]. Especially with the budget impacts we’re all facing, these are the kinds of numbers that mean a lot.”

Years of neglect

Located on the grounds of the Joint

Forces Training Base (formerly the Los Alamitos Naval Air Station), the pool was built in 1942 for training World War II pilots in ocean survival techniques. Because of the pool’s size, it also became a part-time training and competition site for water polo – hosting the U.S. National Championship tournament in 1952 and serving as the training center for the 1972 U.S. Olympic team. After the Vietnam conflict, use of the base was transferred to the California National Guard. But because of military budget cuts, the pool became a victim of neglect – requiring a complete overhaul in order to be put back into use.

Initial repairs began prior to the 1996 Olympics in Atlanta, but efforts stalled when the men’s national water polo team – which used the pool for training – failed to win a medal. Two years later, the City of Los Alamitos entered into a joint effort with USA Water Polo Inc. to open the facility for regional use, spear-



Dave Carlson completes piping of the Rheos+ boiler.

heading the funding that allowed new water-filtration and heating systems, as well as lighting and permanent bleachers to be installed. Today, the facility is used by more than 300 people each day (400 in the summer months), including local swim club members, city resident

and military personnel.

According to City of Los Alamitos Recreation Coordinator, Heather Gutfeld, the pool is a rarity because of its size and construction. Its 649,000 gallons are contained within a

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50-meter-by-25-yard dimension to meet both European and U.S. length requirements. It has an average depth of eight feet, and military-spec, all-concrete construction.

New boilers installed

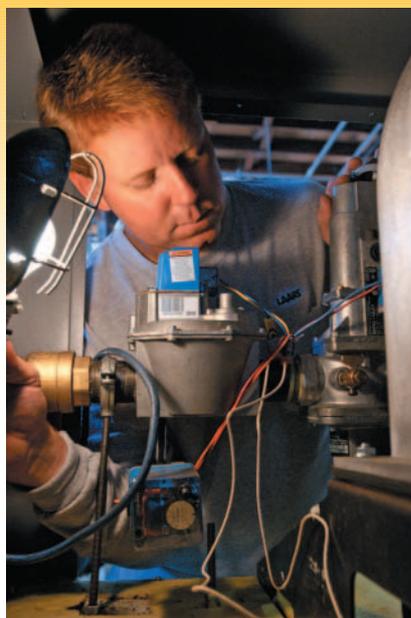
Because of the heavy use requirements of the facility – water temperature is maintained at between 81° F and 83° F, 24 hours a day – energy consumption is a constant concern. Total operating costs at the facility previously ran at about \$125,000 each year.

And, because the old heating system was limping along at less than 80 percent AFUE, the City chose to replace the existing water heaters. Their solution: installing two of the newest boiler/water heaters from Laars Heating Systems.

The first of these, assigned as the primary heat source for the pool, is a Rheos Plus 2400 (2,400,000 BTU/hour) boiler/water heater, a high-efficiency, fully-modulating condensing unit that offers up to 97 percent efficiency.

“The unit is perfectly suited for the job because its controls monitor the demand for hot water and automatically adjust to the boiler’s capacity to meet the required heating load from 1.2 million to 2.4 million BTUs,” said Dave Carlson, owner of DCM Mechanical, the plumbing and mechanical firm chosen to do the installations. “The Rheos provides an infinite variability of modulation between 100% and 25% of the input rate.”

“They’re an ‘environmental’ win too,” added Wagner. “These are among the ‘greenest’ heating systems on the marketplace with NOx levels of less than 10ppm and low CO greenhouse gas emissions, and offer up to 96% efficiency – a definite win here in California.” The high efficiency boiler reduced the amount of natural gas required to heat the pool water, lowering energy con-



Mike Elmore inspecting inside of Rheos+.

sumption and operating cost.

Piped in lead-lag fashion to the Rheos, and serving as the secondary heater, is a Pennant 2000 (2,000,000 BTU/hour) boiler which operates at 85 percent efficiency. The fan-assisted, sealed combustion boiler has a 2 million BTU capacity that offers four-stage control to meet demand as needed, adding considerably to the energy savings.

Its two ignition modules permit each burner stage to fire independently. This patented design offers balanced air flow to each stage, enabling operation as individual water heaters. This permits the unit to continue operation without having to shut down the entire heater.

“It’s like having a built-in stand-by water heater,” said Carlson. “If there would be failure of one of the ignition systems, the other takes over. That’s unlike any other water heater, and was important factor for us.”

Both of the hydronic units from Laars meet ANSI boiler and pool-heater codes, as well as Southern California requirements for low-NOx emissions.



Dave Carlson, owner, DCM Service Company, makes a pre-fire check of a boiler control panel.

“The previous heaters really worked hard,” says Mike Elmore, West and Southwest territory service manager for Laars. “But, the efficiency of the two new units, when averaged together, is 10 or more percentage points higher than the existing pool heaters. Programming for temperature control also is more accurate than ever before, within 1/10 of one degree.”

“We now average an installation of at least one Laars system every week,” said

Carlson. “When we install a Laars boiler, we don’t get the callbacks we routinely find with other equipment.”

For Mark Wagner of the City of Los Alamitos, the continuing improvements are a dream come true. “This facility is a showcase of what we’ve been able to accomplish,” he says. “Laars’ service is excellent, and we’ve been very pleased with product performance and reliability.” **HN**