

WATER WORK

MCU SYSTEM, CONTRACTOR TACKLE CHALLENGING FILTRATION PLANT PROJECT

Ira Gabin remembers the first time he and Gary Williams invited painting contractors in for the pre-bid tour of the Hammond Water Works in Hammond, Ind.

"From the looks on some of those guys' faces, they couldn't get out of there fast enough after they toured the place," recalls Gabin, an engineer with Dixon Engineering Inc., which had been contracted by plant supervisor Williams to specify coatings for a maintenance repaint at the 70-year old plant. "Normally I don't like a mandatory pre-bid, but we needed everybody to know how much they were really going to have to step up for this project."

Fortunately for Gabin, one Chicago contractor, Era Valdivia, wasn't among those that were scared off. But the challenges were many, starting with the ductile iron piping that had an unknown coating history, presumed lead presence in all existing coatings, an inordinate amount of condensation, tricky connection points and angles and, most importantly, a plant that would not and could not be taken out of service.

Huge project

When Williams first contacted Gabin late in 2004 to discuss coating needs for the 70 million-gallon-per-day plant that serves the needs of about 300,000 residents from the shore of Lake Michigan, his request seemed innocent enough.

"He called and said 'I have some rusty pipes,'" says Gabin. "I told him next time I'm in town I'll take a look. So he takes me through this plant that was built in the '30s and some of these pipes have never been coated. I tell him this is going to be a huge project. Fortunately, he understood."

Over its lifetime, the plant had undergone two major expansions, but to Gabin's surprise no expansion was in the plans for this repaint.

"This project was unique because it was purely a maintenance project. Maintenance painting usually gets done when they're expanding the plant, when

they're bonding for millions of dollars and you throw the maintenance painting on the bond. But Gary wasn't expanding or changing anything."

In fact, that circumstance may have made the project even more challenging, because it essentially mandated that the plant keep operating at current capacity.

"Once these plants get set up, nobody ever changes a thing," says Gabin. "They are run to very tight standards. So you plan for a project like this and go around and say, 'What happens if we take this basin out of service?' And they say, 'We have no idea. It's never been done.'"

"So Gary and I eventually decided that nothing could come out of service. That narrowed our choices down to a moisture-cure system."

Low bidder

When Jose Valdivia and Greg Bairaktaris of Era Valdivia submitted the low bid — by a significant margin — it was not a matter of an inexperienced

contractor underestimating the scope of the project in front of him. Rather, Bairaktaris, whose own company had recently formed a partnership with Valdivia, had decades of water plant work on his resume and knew going in that there would be challenges.

But he, along with Dixon personnel, had had mostly small-scale experience working with the specified Sherwin-Williams moisture-cure system that would be required almost throughout the entire plant. Williams, meanwhile, had made it clear that the valves and hardware fitted amongst the piping would be costly and difficult to replace if damaged during the painting. Add the fact that access at the



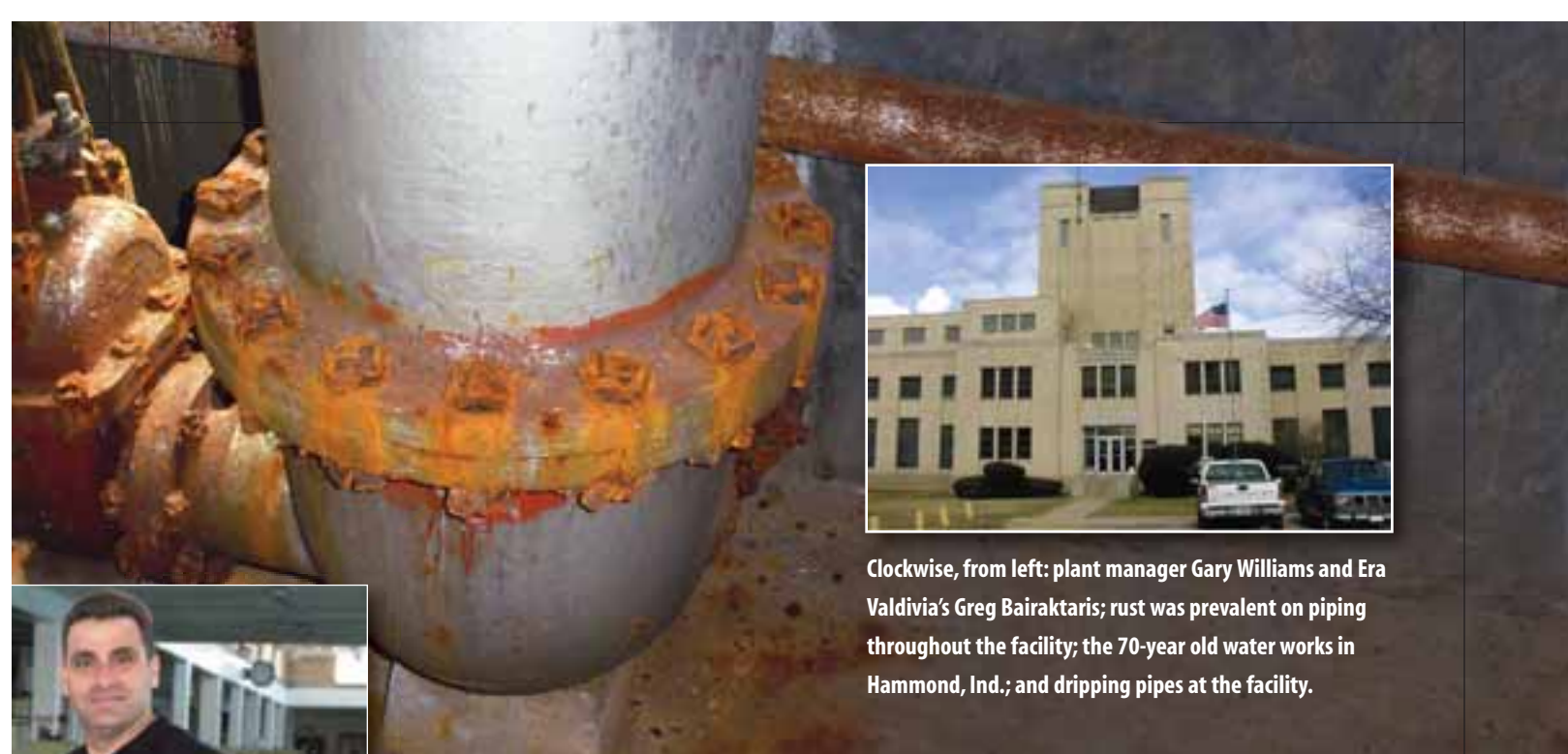
At A Glance

A 70-year-old water plant tested the skills of Era Valdivia painters in Hammond, Ind.

The project marked the first major use of moisture-cure urethanes for both Dixon Engineering and the contractor



Clockwise, from left: plant manager Gary Williams and Era Valdivia's Greg Bairaktaris; rust was prevalent on piping throughout the facility; the 70-year old water works in Hammond, Ind.; and dripping pipes at the facility.





Dixon Engineering's Ira Gabin, above. At left, equipment was color-coded at the plant.

plant was only available through a remote doorway and dock hundreds of feet from where the bulk of the painting would occur, and Bairaktaris faced plenty of logistical considerations as well.

"We walked this plant twice just to make sure we were comfortable with the logistical challenges," says Bairaktaris. "The bottom line in this business is

Sherwin-Williams Corothane I Aliphatic, the low-VOC content of which was a plus since plant personnel could continue working during the repaint.

Due to the significant moisture found on the pipes, painters had to limit their work to a single room at a time and follow blasting as quickly as a day later with priming.

"It was hard to get that surface clean enough," says Bairaktaris. "You couldn't get the cast iron to near-white, but we got it as close as we could and painted quickly. If we didn't have the dehumidification we were going to have flash rusting, but once the pipes had a coat of paint on them, we could shut the dehumidification off."

Completion of the prime coat took the pressure off to a degree, but painters still completed one room before moving on to the next in order to minimize their effect on plant operations. Piping was sprayed whenever feasible but due to its color-coding and tight

connection points, the topcoats was usually brushed and rolled.

"It was a difficult application — corners, angles piping, access, no windows, temperature issues, condensation, dewpoints," says Bairaktaris. "It was unbelievable. And the way the plant is, we had live water right on top of us. The guy doing the inspections was all over the place.

"It just wasn't a straight-forward job."

Williams would agree, and he is happy with the results. And Gabin, of course, is happy that Williams is happy.

"There's just no substitute for a good contractor on a job like this," says Gabin. "If the contractor doesn't understand the magnitude of the staging and setup necessary, there are going to be problems. Anybody can handle a spray nozzle, but do they know how to get it there?"

For Bairaktaris, the job is a feather in the Era Valdivia cap, as well as a lesson in the value of a moisture-cure system.

"On a project like this, there are so many parameters, and you solve things as you go along partly because of the versatility of the Corothane system. It allows you to work within the specification despite a challenging environment."

"The versatility of the Corothane MCU system lets you solve problems as you go along..."

execution, and we had to be sure we could do it.

"If the owner's approach had been, 'here's the plant, paint it,' there may have been some problems. But the way this turned out, it was an excellent example of contractor, engineer, owner and supplier working together."

Two phases

It was determined that the plant would be finished in two phases during March and April of 2005 and January, 2006. The decision to limit painting to winter months was made to minimize pipe sweating due to the cool-water intake of the piping from Lake Michigan. A Munters 5000 dehumidification system was also brought in for the job, but the moisture-cure system would still have plenty of its primary curing agent — moisture — to work with.

Sherwin-Williams personnel helped Gabin in developing specifications. Ductile iron was to be blasted to NAPF 500-03-04 and primed with Sherwin-Williams Corothane I GalvaPac, while the cast iron was prepped to SP6 and primed with Sherwin-Williams Corothane I Mio Zinc. All the surfaces received an intermediate coat of Sherwin-Williams Corothane I Ironox B, and a topcoat of