



An Ounce of Prevention...

by Cynthia Scanlon

illustration by Gregg Myers



hen a major piece of equipment breaks down, it can mean lost productivity, management headaches, and, in some cases, the loss of millions of dollars. Should equipment and building failure be catastrophic, the price a company pays for loss of life or loss to the environment can be incalculable.

With this kind of risk involved, companies around the state and around the world are placing preventive or industrial maintenance as a cornerstone of their manufacturing processes. And with the continued trend of downsizing and re-engineering, many companies are outsourcing these programs, rapidly spawning a whole new industry among builders and contractors.

"It's not really a new field, but it's been taken to a higher level because of the sophistication of clients," says Jerry Reed, president of Interstate Mechanical Corporation (IMCOR), a mechanical contractor specializing in plumbing, piping, heating, ventilating and air conditioning.

When the world was less complicated, less sophisticated and less technologically advanced, equipment and building upkeep and maintenance was performed at the time something broke usually sending a wave of panic and crisis throughout the organization. If preventive measures were taken, they usually involved keeping concrete floors swept and machinery properly lubricated, and periodically scanning equipment to make sure it was in good working order. This was usually accomplished by sweeping the eyes over the machinery. In some cases, these methods still apply and some companies still practice these measures. But smart businesses know that as technology has improved, their industrial maintenance programs must keep pace. That now means hiring qualified contractors who know what they're doing. ►



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According to Stephen Gubin, CEO of Wilson Electric Co. Inc., many industries in the past have used in-house personnel to maintain their equipment, buildings and electrical systems. But as these systems have grown more complicated, so has the need to have qualified people to maintain them. "These companies have found it is more cost efficient to now contract this out," says Gubin.

Reed believes that contractors who want to be of significant size and importance in the industry are going to have to incorporate an industrial maintenance division into their company. And the commitment to servicing new and existing clients will also have to be enhanced.

"I don't want to be the typical contractor who builds the building, pulls the trailers off the lot and is out of there," he says. "I want to build the building and service the building for the life of the building. And you're going to have to do that to compete in this industry."

Kate Rakoci, president of Russell A.C., Inc., agrees that as things become more specialized so will the contractors. "The goods that manufacturers produce are more technical," she says. "For instance, the degree of clean rooms has increased dramatically in the last couple of years. There are more of them, and the air needs to be cleaner and cleaner."

Reed adds that in addition to sophistication, facilities are also getting bigger. "In the old days, they'd have 2,000 square feet of clean room. Now it's 40,000 square feet," he says. "There's a lot of support and a lot of systems that go into one of these clean rooms, and that's what we're here for."

In addition to size, there is also the aspect of skill and technical know-how that special environments such as clean rooms demand from contractors who are used to working on less technologically-advanced building space. Contractors will have to have knowledge about industrial maintenance techniques during some phases of construction, long before an actual preventive maintenance program is put into place.

"Once a clean room has been cleaned and certified, there's not anything else that happens inside the room," says Tom Russell, CEO of Russell A.C., Inc. "When they are building the room they are cleaning it constantly. The maintenance then takes place outside of the room itself."

Contractors specializing in industrial maintenance know that technology will continue to change, putting an emphasis on even more sophisticated means of keeping buildings and systems in good repair and



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away from failure. Seemingly small changes from, say, standard electrical wiring to fiber optics can propel a company into high-tech industrial maintenance whether they want to go or not. "Even lighting has changed over the years," says Gubin. "We're using electronic ballasts now instead of the magnetic ballasts in the past." He also says fiber optics, automation systems, control systems and lighting fixtures have become much more efficient. "And photovoltaics have been improving in efficiency in the last five years rather dramatically," he adds.

Companies are also installing fully integrated, computerized maintenance systems while providing on-line tracking of a broad range of indicators. The systems monitor a variety of processes within a plant and automatically flag those that fall out of predetermined boundaries. Then either in-house or outside contractors are dispatched to correct any problems.

The nice thing about all this technological change is that high-tech and manufacturing companies know they need a good industrial maintenance program to keep them on-line. According to Rakoci, companies in need of superior industrial maintenance programs are willing to hire qualified contractors who know what they are doing, and they are willing to spend the money to see that the program is effective. Sometimes, she says, companies prefer to have their own in-house teams. Other times, they prefer to have someone outside.

"When their budgets are up, they may have their own maintenance forces, and when their budgets are down they'll go outside. It changes back and forth," she says. "It's cyclical, and right now companies would prefer not to have their own people doing this."

Rakoci says that the flexibility of choosing outside contractors is drawing many companies to investigate having regular industrial maintenance contractors on hand. "If a manufacturer has a bad quarter, they can postpone something rather than laying someone off," she says. "They pick what they want done. If they want to stop doing something for a while, rather than lay people off, they just don't issue that work order. It gives them much more flexibility in their budget."

Manufacturing and high-tech companies are also realizing the savings that are involved by spending money up front to keep operations going. According to *Pulp and Paper Magazine*, for instance, many paper plants and mills reduced their maintenance costs by 10 percent to 40 percent as a result of the implementation of enhanced or new preventive maintenance programs. The publication says proper

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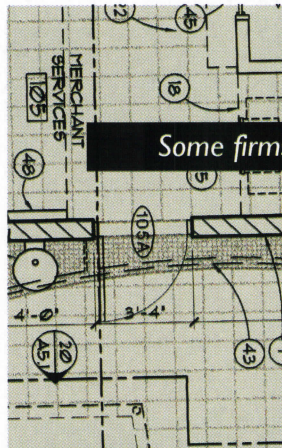
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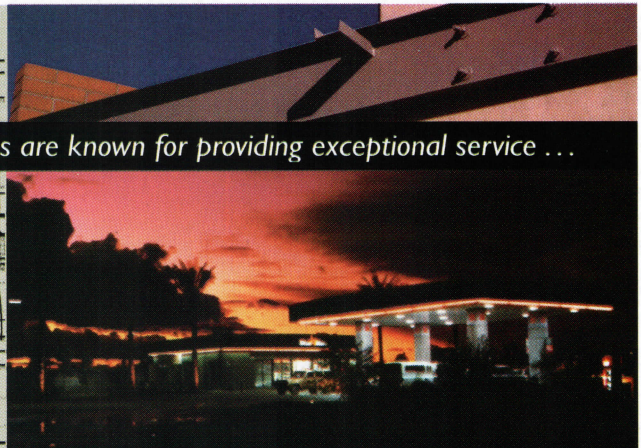
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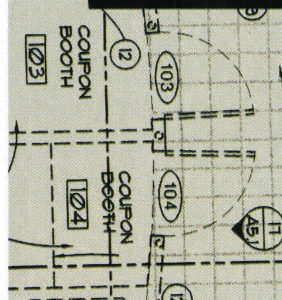
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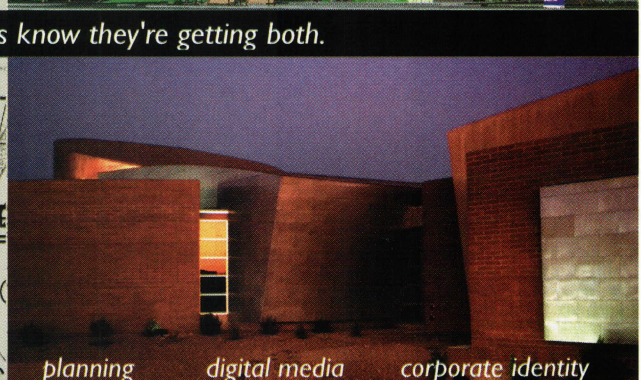
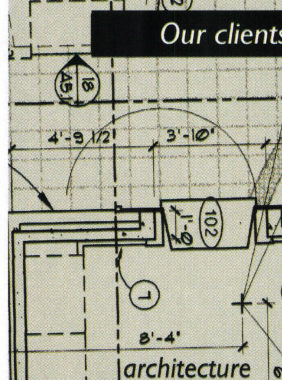
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preventive maintenance programs can virtually eliminate overtime and emergencies, and reduce maintenance employees (if a company elects not to have them on staff). A good program can also decrease the need for spare parts and excess inventory.

And according to *Plant Engineering Magazine*, maintenance costs can range from 2 percent to 20 percent of sales and between 20 percent and 40 percent of plant controllable costs. The magazine also

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points out that the uptime improvement can reach 20 times the maintenance productivity and material savings.

Contractors who are serious about the future of their companies know the trend in industrial maintenance will continue and have now created in-house apprenticeship programs to train new and existing employees in the rapid changes. "We really dedicate a lot of time, effort and dollars into training," says Reed. "As the customers get more sophisticated, we have to get more sophisticated as a contractor. So there are lots of things we have to train our people on."

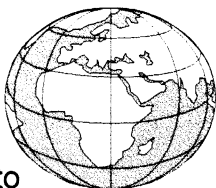
Reed also cites this growing sophistication of customer wants and needs as the driving force behind contractors implementing employee training to keep pace. "The owners are getting more sophisticated in who they want and what they want," he says. "You've got to bring employees along in clean room protocols so that they don't botch up facilities."

Reed adds, "It's big money. If you're working above a clean room while one of the processes is going on, and someone steps through the roof or does something stupid, it's millions of dollars in a heartbeat. You've got to be careful, and you've got to know what you are doing. It's sophisticated and can be dangerous."

Russell agrees with Reed about the importance in training people in the field. He cites the difficulty of the newness of the

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industry as one obstacle to obtaining and keeping qualified people. "We have a number of new manufacturing facilities, so it's almost like transplanting a new industry into an area," he says. "On the east and west coasts you have a presence, so you have people who are doing process and facility work. But when you get to Arizona, we don't have any chemical industry to

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speak of. So the only people you get are either trained by you or those who have moved here from other parts of the country."

Fortunately, there are a number of avenues available to train people in the industry. These include apprenticeship programs through the Arizona Builders' Alliance, courses taught at the Del E. Webb School of Construction at Arizona State University and special classes sponsored by the industry at large.

"Certainly the companies in Arizona that are of any significant size all have training programs," says Russell, and Rakoci agrees.

"Your workforce and your markets will determine what you need to know," she says. She believes that up and coming people will have to acquire degrees of some kind. "Those colleges that specialize and do more technical training will be where you find your people," she says.

To understand the difficulty of finding qualified candidates, not only in the construction industry but many other

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industries as well, consider that the Phoenix Police Department has been trying to fill 300 new openings for officers with little success. The transportation industry is experiencing the same problems. Recently, CNN reported that more than a half a million trucking jobs have gone unfilled because of lack of qualified people.

"There's a shortage in the construction industry that makes the trucking industry pale by comparison," says Russell. He attributes the lack of qualified people to the unfavorable perception construction has garnered as a whole. "Image is a big factor," he says. "People think it's dirty, dangerous and it's a young man's sport with no career opportunity. That's wrong, but that is the perception."

Russell stresses that most contracting firms are very safe, citing the drop in workmen's compensation claims. He also cites the lack of knowledge among people as to what construction really is, and what it can provide in terms of job security and money. "You can come in and get into the apprenticeship program, go on to Rio Salado for an associate degree, and then attend the Del E. Webb School of Construction," Russell says. "So there is a career path; most people just don't know there is a career path."

Arizona's growing high-tech industry needs to keep facilities up and running, sometimes around the clock. Fortunately, these manufacturers understand what is at stake if their processes are hampered. They are willing to spend the money to see that that doesn't happen. "They need to turn out a good product and a lot of it," says Reed. "They can't afford to have that facility down."

Despite the demands that are placed on contractors to keep pace with the rapid growth in industrial maintenance, Reed sees the industry as a dynamic one, an industry on the contracting fast track. "We think it's going to be here a while and it's going to be a fairly lucrative business," he says.

Other contractors agree. Successful companies will continue to keep their plants running through a combination of scheduled maintenance programs, the latest in monitoring devices and clear-cut planning. All will help ensure that plants are kept running smoothly, while lesser-prepared competitors operate in crisis. For Valley contractors, this spells opportunity.

AB

Cynthia Scanlon is a free-lance writer in Tempe and a regular contributor to Arizona Business Magazine.