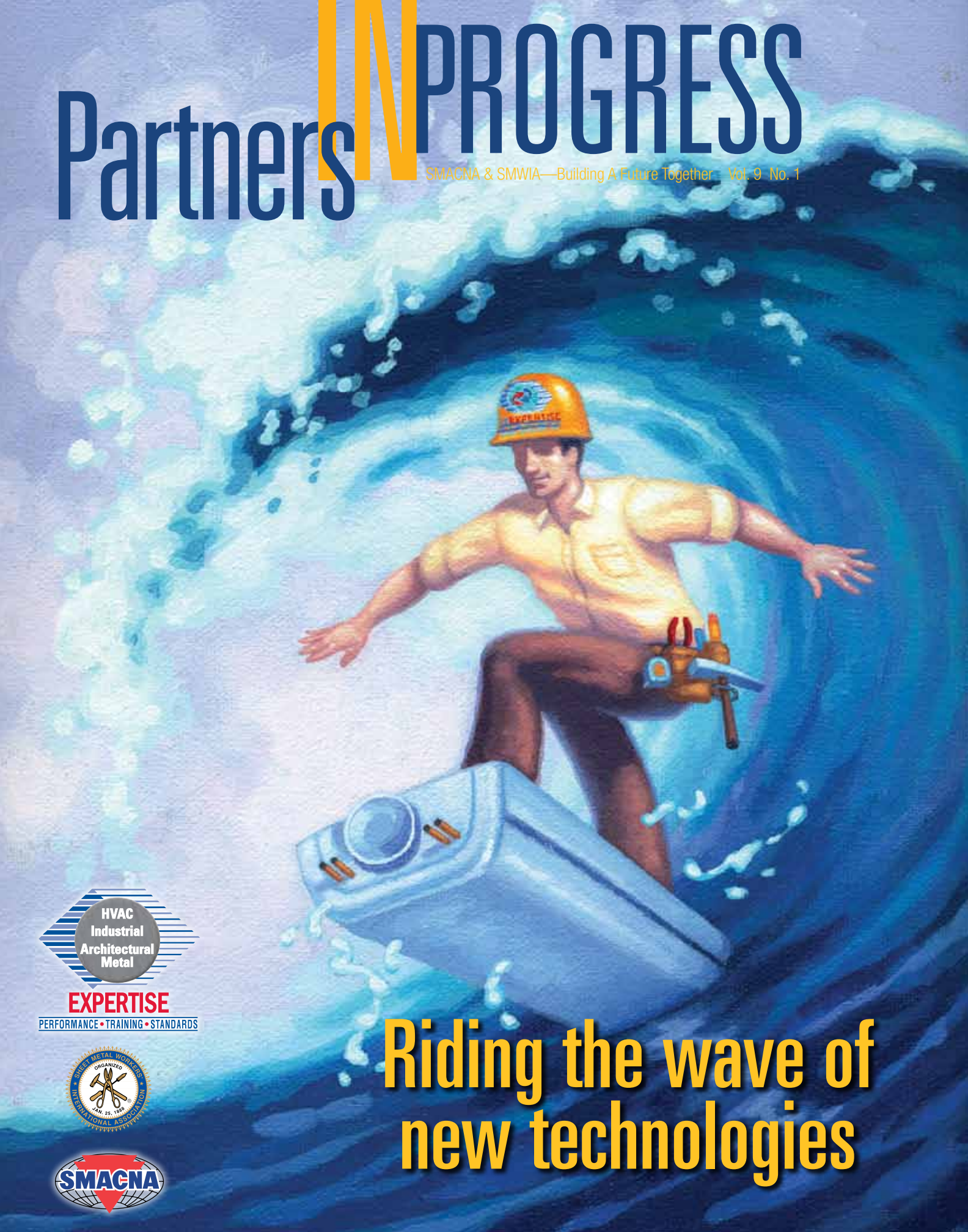
Partners IN PROGRESS

SMACNA & SMWIA—Building A Future Together Vol. 9 No. 1



HVAC
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EXPERTISE

PERFORMANCE • TRAINING • STANDARDS

SHEET METAL WORKERS INTERNATIONAL ASSOCIATION
ORGANIZED JAN. 25, 1889

SMACNA

Riding the wave of new technologies

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Partners In Progress
Vol. 9/No. 1

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Prove It!

By Steve Grieco

Whether it's a first date, job interview, or a bid presentation, first impressions matter.

That's where the joint Best Practices Market Expansion Task Force's Expertise branding program comes in—at least if you want to give potential customers the impression that SMACNA and SMWIA experience, quality of workmanship, productivity, training and skilled labor are worth hiring.

With the addition of new "Green Expertise" logos, there are now six logos that signatory contractors, locals, chapters, and training facilities can use to make their mark on advertisements, web sites, letterhead, business cards, trucks, shirts, and more.

"This branding program is a valuable tool that distinguishes us as leaders in the industry," says Matthew W. Smith, president of Smith Heating & Air Conditioning, Inc. in Stockton, Calif., which has been using the logos for several years.

"Expertise is something existing and potential clients can identify with and conveying that we have it enhances our relationships," he adds.

Smith believes that the traditional sheet metal industry is at an important crossroads. He thinks that in order to prevent market erosion by non-union competitors and to increase opportunities for market expansion, SMACNA and SMWIA partners need to strengthen their position as the leading authority in "green" work and every other sheet metal-related discipline.

"That's why we created the Expertise logos. The more individual contractors and locals promote and take advantage of the Expertise branding program, the more they benefit all members of SMACNA and SMWIA," says Smith, who is also a member of the Best Practices Market Expansion Task Force.

HVAC Expertise, Green HVAC Expertise, Architectural Sheet Metal, Industrial Sheet Metal, and the combined Expertise logos aren't just simple graphics with text—they have tremendous potential to make a difference—think about the influence of the Nike swoosh, Mercedes star, and McDonald's golden arches within their respective industries. What follows are 10 reasons why everyone in the SMACNA-SMWIA world should use the expertise logos.

1 Expertise logos clearly communicate what the unionized sheet metal industry does.

In SMACNA- and SMWIA-sponsored focus groups, few key construction decision makers—from architects, engineers, and building owners to general and mechanical contractors—had heard of SMACNA or SMWIA. Moreover, these potential customers could not identify the sheet metal industry as an entity.

"Sheet metal is really a diverse occupation. The expertise logos help to identify what SMACNA contractors are and what makes them unique, better," Smith says. "It gives us a new and better identity."

reasons to use the Expertise logos

HVAC EXPERTISE
PERFORMANCE • TRAINING • STANDARDS

INDUSTRIAL EXPERTISE
PERFORMANCE • TRAINING • STANDARDS

ARCHITECTURAL METAL EXPERTISE
PERFORMANCE • TRAINING • STANDARDS

HVAC EXPERTISE
PERFORMANCE • TRAINING • STANDARDS
ENERGY SOLUTIONS

2 A picture (or logo) is worth a thousand words.

In addition to the printed words "performance," "training," and "standards," the Expertise logos convey the positive attributes of experience, quality of workmanship, productivity, and skilled labor.

Logos are powerful marketing tools that are even more effective than verbal or written ads. According to Wes Towers from Omnific Design, a strategic graphic and web design firm, images are more unforgettable than text. "A logo sends out visual messages. A logo conveys your marketing message. It is not just a representation of your business name, but something that carries the entire identity of your company."

Kelly Hogan, executive vice president of the SMACNA chapter in St. Louis, Mo., agrees that the logos are valuable for distinguishing signatory contractors from nonunion contractors. "We know our union has top training facilities that nonunion can't compete with. As soon as the Expertise logos came out, our office jumped on them."

3 Marketing and the use of expertise logos can attract potential apprentices.

Young, prospective apprentices who are often very aware of brands and corporate logos will want to be associated with leaders in the industry. Thus, the SMACNA-SMWIA culture of expertise, communicated through the logos, has the potential to attract the right kind of people to the sheet metal trades.

"There are several reasons why local unions and JATCs should use the Expertise logos," says Marc Norberg, SMWIA assistant to the general president and co-chair of the market expansion task force.

"Acquiring expertise through the JATC training programs should attract more applicants. Expertise helps in the union's organizing efforts, both top-down and bottom-up. It's a great selling and recruiting point."

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Expertise web sites connect customers to SMACNA members.

SMACNA contractors and chapters, SMWIA locals, and training centers can link their web sites to any or all of the "expertise" web sites—*hvacexpertise.com*, *asm-expertise.com*, and *industrialexpertise.com*. Web traffic to these web sites has grown steadily since they went live.

The sites contain information about industry standards, factors to consider when choosing a contractor, plus links to signatory contractors. *Note that the contractor listings contain company data from the SMACNA annual survey.*

Incorporating logos into marketing activities is easy.

Possible uses of the expertise logos are endless. They can be embroidered on shirts; added to letterhead, estimates, invoices, and business cards; displayed on truck side panels; and incorporated in newspaper or web advertisements.

Furthermore, professional Expertise ads are available FREE for use in local marketing efforts. Ads are ready for print or use online; simply add contact information for a contractor, LMCT, local, chapter, or training center, and they are ready to go. To place an order, contact Kaarin Engelmann at *editor@pinpmagazine.org*.

Expertise logos can be a conversation starter.

Much of the quality work done by SMACNA contractors and their craftspersons is hidden. Similarly, the performance standards and apprentice training behind SMACNA and SMWIA work is invisible to most customers.

Expertise logos are a visible symbol that can help communicate how critical sheet metal work can be, especially how HVAC systems contribute to the feeling of comfort in both commercial and residential buildings.

"I am proud to be a SMACNA contractor and to employ SMWIA team members who are the experts of our industry," Smith says. "This is why I support use of all the logos."

The logos and their messages are based on research.

Focus groups were key to understanding the attributes most important to decision makers when hiring contractors for HVAC and other sheet metal projects:

- expertise,
- quality of workmanship,
- productivity and efficiency,
- training, and
- available pool of talented labor.

Expertise encompasses all the other attributes. "To potential customers, expertise is more than experience. It is skilled knowledge," says Mark Watson, president of Climate Engineers, Inc. in Cedar Rapids, Iowa. "Expertise is the reason they will hire us and the reason they will be willing to pay more."

Logos are an important element of a basic branding effort.

"With an exceptional marketing logo," Towers says, "you will be able to effectively position your brand in the minds of your customers and potential customers at all times.

"Every time they think of services or products that your business offers, they will recall your logo. As a result, they will end up looking for what you have to offer and then purchasing them."

Expertise logos can complement existing company logos and branding efforts.

Many giant corporations pair their iconic brands with value-added logos like the Good Housekeeping Seal of Approval, Energy Star, UL, or LEED certification marks.

When a SMACNA contractor displays an expertise logo near its company logo, customers gain a better understanding about the professional affiliation, performance standards, and comprehensive training that make unionized sheet metal businesses so valuable.

Using the expertise logos will help other SMACNA contractors and their craftspersons.

The Expertise logos represent the SMACNA and SMWIA brands. Working in partnership, SMACNA contractors and their craftspersons have made great strides over the years. The Expertise logos symbolize this partnership and the quality work that members deliver.

"Reaching potential customers is most effective if every contractor, JATC, local, and chapter uses the branding on anything related to business," says SMACNA President James Boone.

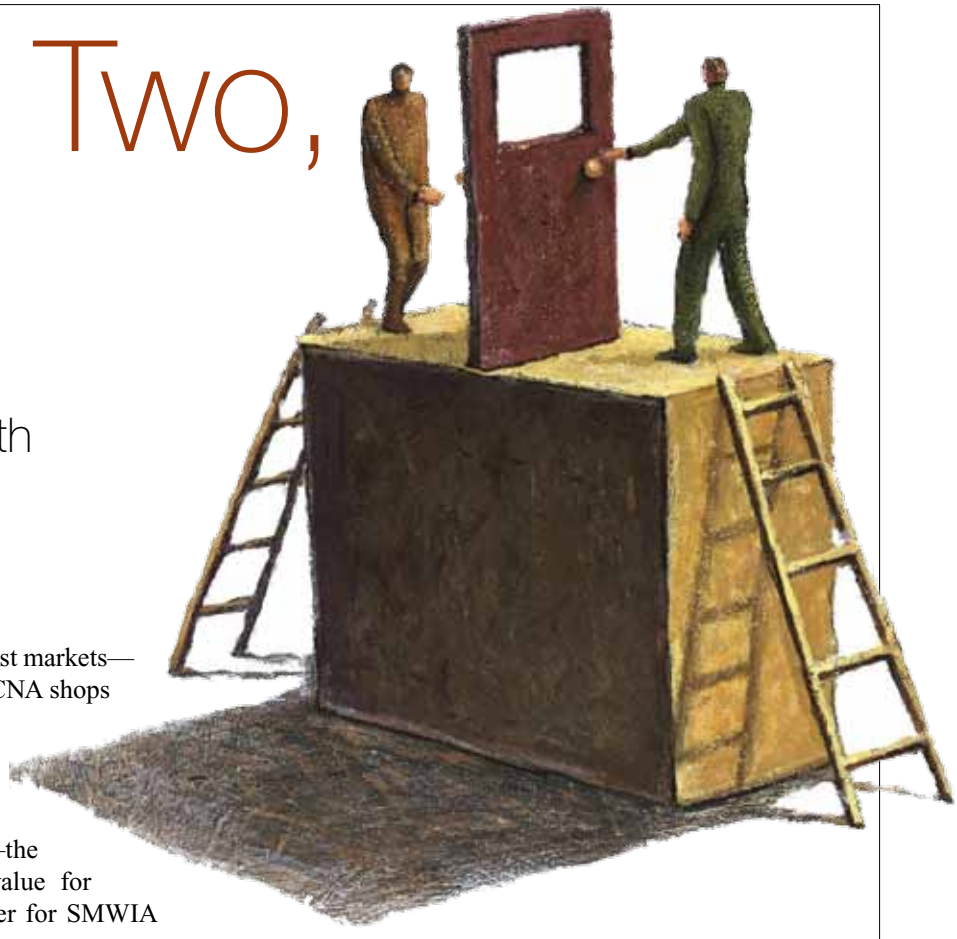
Broad use of the Expertise logos will demonstrate the collective strength of the SMACNA-SMWIA partnership. These powerful marketing tools not only symbolize the expertise that defines the signatory sheet metal industry now, but also they convey the image and attributes that will characterize the future of that industry. ■

Grieco is a freelance writer based in Blacksburg, Va. Expertise logos are available FREE for use by contractors, locals, chapters, and training centers that complete the updated expertise licensing agreement available on the Partners in Progress web site at pinp.org.

It Takes Two, Baby!

Kansas City finds strength in partnership.

By Cari Bilyeu Clark



Kansas City, Mo., is no different than most markets—there are fewer bids available for SMACNA shops and fewer Union members working. There, however, the SMACNA-SWMIA partnership is getting involved to turn things around.

"Union workers have to be the finest—the best-trained, most professional, and best value for money," says Jim Huffman, business manager for SMWIA Local 2.

To help regain market share in the light commercial, decking, and siding markets, Huffman suggested radical changes in Local 2's most recent contract. Changes included lowering wages to compete with non-union shops for small light commercial projects, requirements to employ those on the bench, lowering ratios, and freezing wages for three years.

Gene Darby, field operations manager for Environmental Mechanical Contractors in Kansas City and a member of Local 2, believes the new contract could help during the recession. The revised contract passed overwhelmingly.

"Our membership understands that a reduced wage is better than unemployment, and it's a way of maintaining their benefits," says Greg Chastain, business rep for Local 2.

SMACNA members are on board, too, and looking for jobs that will keep the rank-and-file working. "Toward that effort, four or five years ago, we began an OSHA partnership," says Jean Basore, SMACNA Kansas City president and president of W.C. Widenmann & Son Sheet Metal, an industrial and architectural firm in Kansas City.

"We have a full-time safety director who does things like teach classes for apprentices, help shops earn top OSHA ratings and CPR/first aid certifications, and put rigging and signaling in place. "This gives us an edge over non-union shops," Basore says.

Furthermore, Huffman and his colleagues have instituted a continuing education program for journeypersons to continue working. "We want our people to work more safely, be better trained, and be better educated. We have to be on the cutting edge, to provide the best value," he says.

Creating awareness of union services—and improving residential market share—has been high on the agenda for Local 2 and SMACNA-Kansas City. "We rolled out a great marketing website that we promote at our minor-league hockey team," Chastain says.

FixMyHomeKC.com is a multi-craft, one-stop shop site for homeowners seeking repair services. It currently includes HVAC, plumbing, electrical, masonry, and roofing contractors.

Another of the partnership's endeavors is the brand Demand Metal Excellence, which they use for radio advertising during Kansas City Royals games, and a web site (*demandmetalexcellence.com*). The site directs potential customers to appropriate contractors and provides links for those who are interested in apprenticeship.

Darby knows there's a lot of public misconception about the Union that needs to be turned around. "One thing we can do is sell the idea of Union labor to the non-union contractors," he says.

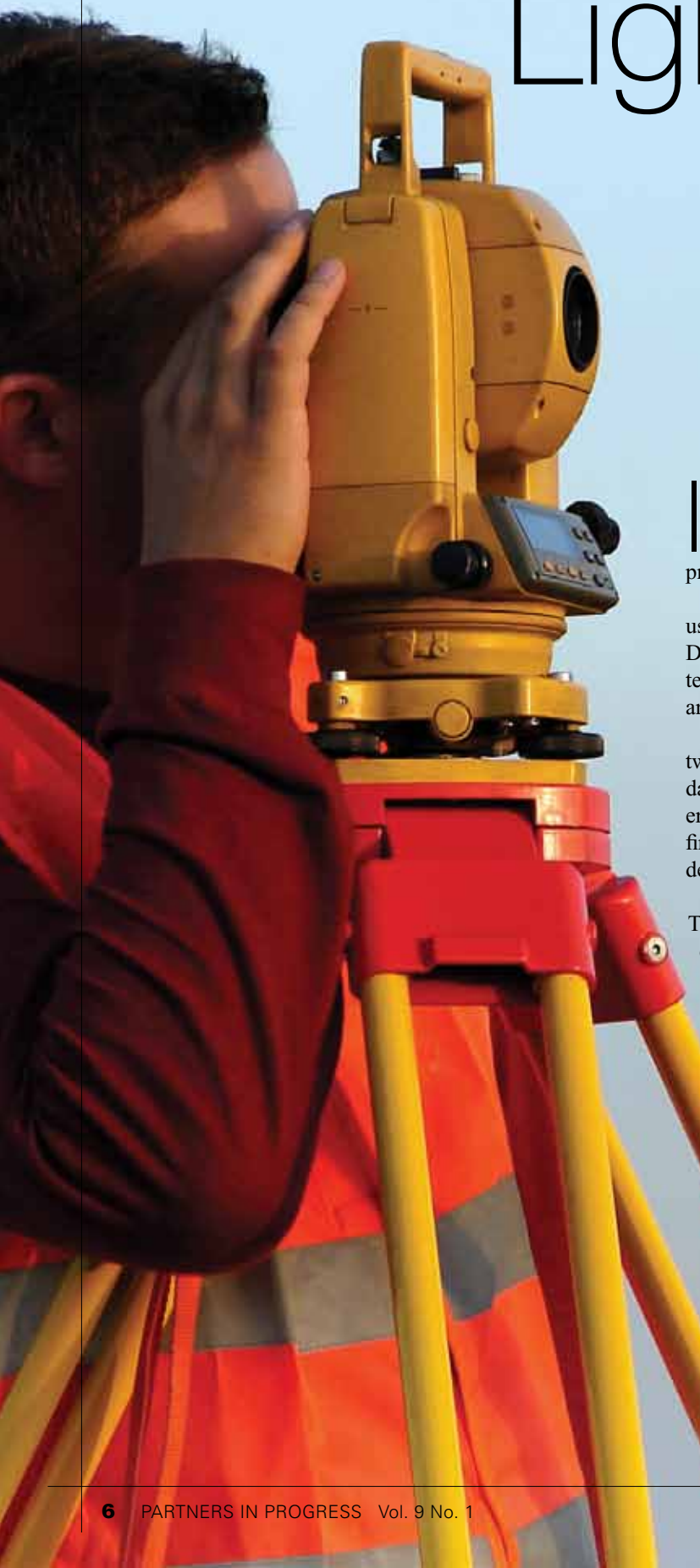
We're not going to just give up," concludes Huffman, "we'll work harder and better." ■

Clark is a freelance writer based in Springfield, Va.

Lighten Up!

Contractors use Total Station's lasers to increase productivity and become more competitive.

By Cairine Caughill



Imagine laying out holes, or points, on a deck without string, drawings, or tape measures—using instead a robotic laser and, in the process, increasing accuracy and speeding project completion.

University Marelich Mechanical, Inc. (UMMI) has been using Total Station for three years. Detailing manager Greg Davis admits that, though it was a "no-brainer" to invest in the technology, it was still a big decision. "It costs a lot, but you are always worried about return on investment."

Straus Systems has been using Total Station for less than two years, mostly for hanger and sleeve layouts and to collect data for existing points. Paul Alexander, vice president of operations management, was excited about the possibilities the first time he saw a demonstration of the technology. A second demonstration convinced him to purchase.

He admits it required a significant outlay, but he says Total Station has already made a dramatic increase in productivity. "In our CAD drawings, we are able to locate our sleeves and our supports for both piping and ductwork in the model—inside our 3D drawing. We download it to the Total Station and are able to spot all of the locations with the laser in the field."

Alexander estimates that this new technology has increased productivity fourfold. "Before we could tackle about 100 points a day with a two-man crew, and now we can handle 400 points a day with the same size crew!"

UMMI's efficiency has also skyrocketed since the company introduced Total Station for layout of underground piping and plumbing, plumbing and piping sleeve layouts, ductwork openings and duct hangers. The crew went from laying out 100 to 200 points on a typical day to as many as 800.

Total Station's value doesn't only come from measurements flowing

www.istockphoto.com

out to the field from the office. It also adds up when the technology is used to shoot points in existing buildings when performing tenant improvements. "It helps us go from the field back to the computer," Davis says.

Mike Coleman, foreman at Bonland Industries, Inc. in New Jersey, and a member of Local 27, admits he was skeptical of the machine at first, but he is now a believer. "The accuracy of it is amazing."

Another convert, UMMI superintendent Sam Shipka, was hesitant, thinking that the claims were too good to be true. "I wasn't really sold on Total Station's ability to enhance productivity. We'd been doing it old school for a long time, and all of a sudden there's this new thing… But once we got it out onto the first job site and put it to work, I was convinced."

Total Station isn't just a stand-alone technology. It relates to other newer "tools" that are being used more and more often for successful construction projects, including building information modeling (BIM) and integrated project delivery (IPD).

Davis thinks of Total Station as a sort of "Rosetta Stone." "We extract the locations from the BIM model and load them directly into the Total Station. There's no need to produce drawings with dimensions. Total Station translates between the virtual world and the real world." Davis estimates that he saves four days when completing a four-story building by doing just two hours of downloads.

That doesn't mean Total Station is right for every job. Shipka calls it a "big job tool." He chose not to use Total Station for a control tower job at Palm Springs airport because there were only 300 hangers in the whole building and the spans were very short.

"It's easy for us to do that sort of project by hand. Using Total Station means somebody has to spend time at the office, and you have to send a specialized crew to the job site," Shipka says. "But we've done other jobs with 50,000 hangers. At that point, you definitely want to use it."

Courtesy Bonland Industries, Inc.

UMMI used Total Station for the first time during construction of the Veterans Home of California. The building was shaped like a big crescent. The contractor used Total Station for all of the arcs. Crews could lay out their points without bisecting or pulling radiuses, improving accuracy and efficiency, and eliminating costly rework.

Proof of Total Station's accuracy was that through the entire project, the UMMI team didn't chip any holes or lose a single hanger, unlike other trades.

Bonland's Coleman also appreciates Total Station's utility when working on jobs that require many bends and sharp angles. "To lay those out on the floor is very difficult. With Total Station, it's much faster."

Another advantage of Total Station is that it saves materials, which adds quickly to the bottom line. "We can make up hangers in the shop and send them out into the field instead of doing everything in the field," says Darlene McCann, drafting project leader at Bonland and a member of Local 27. "And even if we cut in the field, we can order more accurately."

One of the challenges for all these contractors when implementing Total Station was training. UMMI ended up writing their own step-by-step manual for field personnel.

According to Straus Systems' Alexander, technicians had only about a day's worth of formal training with an instructor from the vendor, experimented with the equipment for a day, then Total Station went live. "You want tech savvy people to operate the laser, but they're not hard to find," he says.

UMMI also encountered some surprising field issues in the beginning. One was that orange vests with reflectors on them sometimes interfered with the unit's Wi-Fi reception. They found an easy solution—use different vests.

The biggest obstacle for most contractors and sheet metal workers is taking the leap of faith to trust a machine, says UMMI's Davis. "At first it seems like we're just putting a bunch of random points on the deck. It's not until later—when we hang the duct and piping—that we get reinforcement, and it all makes sense."

Once contractors catch the vision of what Total Station could do for their business, there is rarely any going back. "The more that we use it, the better off we know we'll be, particularly in combination with BIM," Davis says. ■

Caughill is a freelance writer based in Ontario, Canada.

Courtesy Straus Systems

Top apprentices—tomorrow's leaders contribute to today's success.

By Mark Breslin

Last year I spoke to around 25,000 union apprentices of every trade. My job is to educate and inspire them as they prepare for the serious challenges that lie ahead.

So not long ago, I was shocked to get a disturbing phone call from a client. The day before I had addressed an audience of 1,100 craftspeople, including 600 apprentices.

He told me, "Hey Mark, after your speech yesterday, two apprentices came down this morning and quit our program." I thought my client would be angry with me for running off his apprentices. But instead he said, "I just called to thank you for saving me from 20 years of dealing with a couple of guys who didn't know what they were getting into." I was relieved, but the real question for me was, how did those two guys get to be apprentices in the first place?

The union construction industry has perhaps the most old-school, ineffective and ill-advised method of selecting entry-level talent of any industry on the planet. In many cases, the process of screening new prospects has changed little in the last 40 years. This lack of professionalism, commitment and adherence to best practices costs contractors, owners and the industry tens of millions of dollars a year.

In the next 10 years the North American union construction industry will need anywhere from 100,000 to 250,000 new apprentices to replace aging Baby Boomers. During this economic downturn, unions, contractors, and those who run the joint apprentice training programs need to develop highly sophisticated screening processes if they hope to remain competitive in the future.

The Problem—And the Opportunity

Apprentice selection is one of the most important competitive tools available to labor and management. It determines the talent pool that will serve as the foundation of the entire industry.

But today's apprenticeship evaluation and selection procedures are deficient. Most programs have some base-level criteria or testing that generates a list, which then becomes the reference source for entry-level talent.

This often results in selection of sub-par talent, including many who will wind up quitting halfway through training. Or worse, it allows those without the necessary commitment, character, or values to enter an industry and spend decades bouncing around from employer to employer.

By using best practices in their screening and selection process, labor and management can avoid a lot of these problems altogether. A revamped evaluation system for new talent can accomplish a lot, including the following:

- creating uniform standards and procedures to serve organizational growth objectives;
- consistently recruiting the best available talent from a crowded field;
- improving attitudes, work ethic, and team orientation on job sites;
- reducing the percentage of apprentices who either drop out or are removed from training programs, and cutting down on those "lost" training costs; and
- creating greater peer-to-peer respect by implementing uniform performance expectations.

Use of Police and Fire Protocols

A detailed face-to-face interview is vital to finding the right talent. For candidates, it's their chance to make the case for

hiring them. For employers, it allows the opportunity to carefully assess character, personality, and desire, as well as general qualifications.

Unfortunately, in many apprentice programs, the interview process has been reduced to a brief series of basic questions presented in a very informal setting. Often contractors aren't even peripherally involved in the evaluation of their future employees.

How does this make any sense? My suggestion is that the construction industry should adopt the same process for interviewing and screening potential job candidates that fire and police departments use on a daily basis.

There are many reasons for using these techniques, but perhaps the best one is that they have been tried and proven successful over a long period of time. These particular selection methods seek out candidates with many of the same traits and qualities that the construction industry requires, including things such as:

- independent judgment,
- effective communication skills,
- teamwork,
- problem solving abilities,
- focus and goal orientation,
- personal responsibility,
- accountability,
- integrity and ethics, and
- resourceful under pressure.

Questions asked of candidates during the evaluation process are situational and open-ended, giving interviewees the opportunity to show what they know and explain how they would solve problems and get along with other members of a team.

Firefighters and police officers, like construction workers, sometimes find themselves in situations where life-or-death decisions must be made. Teamwork is paramount, not optional. And for firefighters especially, the requirement to live together cooperatively makes a candidate's personality just as important as his or her skill set.

A modified version of these proven selection processes should be implemented in every apprenticeship program in the United States and Canada. Old-school methods get old-school results.

We should stop celebrating the "great traditions" of our industry if they don't help us move ahead. Let's get very serious about selection and screening. A high-performance, high-value culture like union construction demands nothing less. The raw material we start with will determine how we finish. ■

Breslin is a speaker, strategist, and author specializing in labor-management challenges. One of his newest programs discusses navigating change in challenging times. To see his schedule or learn more about the books and programs he offers, visit www.breslin.biz.

Sample Questions for Better Interviews

These questions are provided as a foundation for the oral interview and screening/scoring process associated with the intake of apprentices into trades programs in North America. They are meant to provide insight into the values, thought process and character of applicants.

These are not meant to be all inclusive or to automatically meet the legal or regulatory standards of all areas. If you have questions in the modification for your organization, consult your legal or human resources professionals.

All references to firefighters or police would be re-referenced as the trade performing apprentice intake.

- What have you done to prepare for this interview?
- What have you done to prepare for a career in the fire service? What have you done to prepare for a career with the _____ fire department?
- Where do you see yourself in 5 years? 10 years?
- Why do you want to be a firefighter?
- What is the most appealing aspect of being a firefighter?
- What is the least appealing aspect of being a firefighter?
- Describe what you consider to be an average day for a firefighter.
- What do you consider to be your strongest asset? Your weakest?
- What is the advantage of working in teams?
- Please prioritize the following in order of importance to you: Career, Family, Friends.
- Describe a difficult decision that you've had to make in your life. What were the circumstances and what was your decision? Would you make the same decision again?
- Tell us about a conflict you've had with a coworker or supervisor. What actions did you take to resolve this conflict? What did you learn from it? What would you do differently if the same situation arose again?
- Tell us about a mistake you've made in your past and what you learned from that mistake.
- What makes you think you would be able to deal with the stresses of being a firefighter?

To download free sample questions from fire personnel and law enforcement interviews, go to *www.breslin.biz*.

Go on the Offense

Improve your game with lean practices and a Kaizen Blitz

By Cairine Caughill

When it comes to improving performance within the sheet metal industry, an offensive blitz—also known as a Kaizen Blitz—is no trick play. According to a New Horizons Foundation report, one such blitz to implement lean principles can "significantly improve performance in a week or less."

It seems a bold claim, but those who have tried it have seen positive results. Ted Angelo, executive vice president of Grunau Company, Inc., a SMACNA contractor in Wisconsin, is one of those converts.

Lean—maximizing value for customers while eliminating waste—was an idea that Angelo knew he wanted to adopt, but resources for applying the principles to construction were hard to come by.

He ended up attending Milwaukee School of Engineering, spending a year studying lean manufacturing, and adapting what he learned to his business.

"It's not difficult to translate lean into the sheet metal construction industry," Angelo says. "After all, just like manufacturing, we have customers and we need to waste fewer materials and less time."

Angelo and the steering committee at Grunau developed a vision of where they wanted to go and a seven-year timetable that would touch every department and the field operations. Then they rolled it out to the employees with a four-hour training program.

"You have to do these sorts of things *with* your people, not to your people," agrees Dennis Sowards, consultant on lean production and president of Quality Support Services, Inc. "Otherwise, it won't work...It's about changing a culture, listening to each other, and collaborating with each other."

Running a Kaizen Blitz was one of the first things on the agenda. Kaizen is a Japanese word meaning "continuous improvement." It's a way to make going lean quicker, easier, and less expensive.

Grunau's poorly organized and dimly lit tool room—where the tools are repaired, maintained, and racked—was the target of that first blitz. Two months of planning and a five-day-event involving 15 people from various departments made a drastic change. Angelo says it was well worth the effort. "We were looking for a 'wow factor,' and we got it."

After the blitz, the tool room had new lights, along with reflective metal on the walls and ceiling, and it was laid out like a supermarket. Tools that were ready to go out were located in the front half, and more frequently used items positioned closer to the center of the room. Furthermore, when tools

came back from the job site, they would go into the stockroom for inspection and repair before being returned to the front.

"We reduced the number of steps required to fill a toolbox from 525 to 260," says Bob Stich, a member of local 18 and superintendent at Grunau. "When a job comes up, the service group calls in an order to the tool room, the staff there fills it, and the tech picks up the toolbox on his way out. It's a smooth process."

Sowards stresses that making it quicker and more intuitive to fill a toolbox is no gimmick. "During apprenticeship, we don't teach our craftspersons how to do 'treasure hunts' or wait. We teach them how to weld and fabricate—the value-added skills that a customer pays for.

"But then when they get on the job site, they only spend a small percentage of time using those skills because they are busy finding tools, sorting materials, and the like. When you take care of all that other stuff, they can go back to doing the things they are trained to do—and remembering why they got into the trade in the first place," he adds.

Angelo says that the room still looks as good as it did the day it was finished, seven years ago. He attributes this accomplishment to a solid process that includes monthly audits, good management, and employee pride.

It's not only in the tool room where Angelo has noticed a difference. Grunau has blitzed all of the shops, 50 vehicles, job sites, and offices around the country. The contractor also applied the principles for a sister company in Scotland last year.

In one instance, staff examined how materials were delivered to job sites. Rather than sorting an entire truckload of material on site, Grunau's team decided to tag everything in the shop based on area, floor, and system, and deliver it in smaller packages that were easier to identify and distribute to the appropriate work area.

"The goal is to only move the materials once and to install them within a day or two of delivery—a just-in-time system," Stich says. "Without lean principles, it wouldn't be possible to build as quickly as the current economy requires. You either have to get on board or you can't stay in business."

Changing a mindset is one of the challenges of implementing lean processes, particularly the Kaizen Blitz.

"Sometimes people are unwilling to try something new simply because it's new and they've always done it another way," says Larry Swanson, president of manufacturing for World Competition Consultants, experts on training and implementation of lean concepts. "They have to admit there is something wrong with the current process."

Angelo has been pleased to see the transformation among his employees as the company has taken steps to become more lean. "We—management—don't have all the answers to age-old problems. We want employees to help come up with the answers. When they see that we mean it, they blossom."

Stich has noticed a positive change in his team since a Kaizen Blitz in the sheet metal shop. "Now the guys are always coming up with better ideas and looking for ways to improve," he says.

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Photos courtesy Grunau Company

continued from page 11

He thinks the process has encouraged his apprentices and journeypersons to listen to each other—whether they have been around for 30 years or are brand new to the shop. "Some of the new people bring in some really good ideas, and it's great to see how everyone has a chance to be heard, and a lot of times their ideas are implemented."

Stich considers the blitz to be a team-building exercise that has helped the shop be more productive.

"When I first started, some guys didn't want to tell you anything because they were afraid you'd end up knowing more than them and put their jobs in danger. Now everyone throws in ideas, and we try to build upon them."

"Going lean" is really another way to say investing in people. "It's worth the price to train people in these processes," Angelo says. "I would unequivocally say it's not a cost. It's an investment that allows your company—and our industry—to be the best it can be...and save thousands of dollars, and that's good for the bottom line." ■

Caughill is a freelance writer based in Ontario, Canada. For additional information on the New Horizons Foundation publication, Kaizen Blitz: Significantly Improving Performance in a Week or Less, *visit newhorizonsfoundation.org and select Store. New Horizons is an HVAC and Sheet Metal Industry Initiative funded by SMACNA National, SMACNA chapters, and SMACNA-member contractors.*

Can Lean Apply to Service Work?

The Blitz may not seem like it would work in the service portion of the industry, but it's all about the mindset. "Every service call that you make is a one-off manufacturing process," says Larry Swanson, president of manufacturing for World Competition Consultants, experts on training and implementation of Lean concepts. Like any process, it requires proper manpower, tools, and materials.

Whereas in manufacturing you have blueprints or operator instructions, in service, there's a service ticket. The first opportunity for improvement is when the service ticket is opened. Is the address correct? Is the extent and type of work clearly defined?

The second comes when the service mechanic goes to the service call. Does the tech have the right material and tools?

When the job is finished, there's another opportunity for improvement. Does the customer know the work is done? Is the customer happy?

Contractors that learn how to use Lean effectively will have a definite competitive advantage in their productivity and in meeting customer needs and expectations, and that's good for the bottom line.

Start With the Basics

Let's face it. To someone who doesn't know what the X's and O's mean, a playbook is pretty useless. What does "lean" mean in the context of the sheet metal industry?

Lean principles involve two basic concepts: eliminating waste and adding value for the customer.

- "Waste" can come in many forms, from extra motion, inventory, or production to defects, wait time, transportation, and over-processing.
- Finding ways to "add value" means looking at a job from the client's perspective, starting with the moment a contractor receives some sheet metal until it is installed.

Steps such as receiving materials are necessary, but they don't add value for the customer because the sheet metal is no different after it is received than it was before.

Basic tools of lean are the 5 S's, also known as sorting, simplifying, sweeping, standardizing, and sustaining.

- "Sorting" involves going through an area and separating the necessary from the unnecessary.
- "Simplifying" means designating a spot for everything, thereby cutting down on the amount of time required to find an item.
- "Sweeping" means keeping an area clean and putting items back in their place when they are no longer being used.
- "Standardizing" means doing everything the same way. That could mean putting tools in the same location in each of the company's trucks or using color coding to reduce the need to learn new systems.
- "Sustaining" means continuing to do all of these things.

For additional ideas on Lean production, order New Horizons Foundation's report Thinking Lean—Tools for Decreasing Costs and Increasing Profits*. It is available on* newhorizonsfoundation.org*. Select Store.*

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Don't Be Fooled!

Today's economic woes could placate you into failing to prepare your future leaders.

By Karri Neves

Out in the desert, a big pool of water on the horizon might, rightfully, make you complacent about searching for water to fill your canteen. What happens when the pool is really a mirage?

High unemployment and low job growth figures make it easy to miss how swiftly the industry's supply of potential craftsworkers is shrinking as experienced sheet metal workers and leaders retire and promising apprentices and journeyworkers look elsewhere for fulfilling careers.

Most top-level executives are older than 50 and three-quarters of owners 50 or older plan to retire in the next 10 years, according to *Mentoring and Coaching Practices: Developing the Next Generation*, published by the SMACNA-sponsored New Horizons Foundation and prepared by FMI Corporation.

"We are coming up on a perfect storm for leadership talent," says Jake Appelman, director of FMI's Executive Coaching Practice. "Young people are the ones getting laid off during the recession. Before long, when we start looking for someone to fill leadership positions, we'll find our source has dried up," he says.

However, it's not too late to set a new course. "The key is looking beyond training new employees to developing the next generation of leaders," Appelman says.

"Competent, capable craftsworkers are critical to the success of this industry," says Joseph Sellers, SMWIA General Secretary Treasurer. "If we attract, retain, and develop these individuals, we'll have a clear advantage in the future." Mentoring and coaching programs are the place to start.

Mentoring

Mentoring is a relationship between a more experienced person and a less experienced person for the purpose of giving advice and support. It usually lasts for a set period of time, such as a year.

"It's more than encouraging people to be just like you," says FMI consultant Kim Morton, who specializes on coaching and mentoring issues. "Mentoring is what can turn a well-trained employee into a leader with a sense of ownership and responsibility."

Many organizations already practice informal mentoring—an unstructured approach that relies on self-monitoring and evaluation. Pushing things up a notch can make results more dramatic.

According to Appelman, formal mentoring programs are proven to provide greater results. Specific goals, a coordinated system to evaluate progress toward those goals, and committed support of upper-level management are among the critical differences.

Regardless of the type of mentoring program, not everyone is a good candidate (mentee). Morton advises identifying individuals with high potential, new workers, new hires from other industries, first-time supervisors, women, and minorities. "Potential and a desire to advance their careers are key," he says.

Choosing who should be a mentor is equally important. Potential mentors should be senior, experienced and knowledgeable, with a good understanding of industry culture.

"It's not the mentor's job to teach the basic skills required for the job—that's where apprenticeship training comes in," says SMWIA General President Joe Nigro.

Mentors should strive to

• increase the mentee's understanding of the organization and industry;

• challenge mentees to think and analyze multiple options before making a decision;

• encourage mentees to look beyond problems to find root causes and solutions;

• share insight about how to operate more effectively within the organization;

• give feedback on performance and behavior; and

• challenge mentees to take initiative in their careers.

On the other hand, they shouldn't tell mentees what to do; make promises of career advancement; criticize thoughts, feelings, behavior, or actions; or "rescue" mentees by making excuses or bailing them out.

All of those factors make matching a mentee and a mentor—achieving the right chemistry—difficult. When making the choice, consider similarities in personal values, work ethic, skills and experience, career goals, and personality.

"Both individuals should feel comfortable speaking openly to each other," says Mark Watson, president of Climate Engineers in Cedar Rapids, Iowa. "Allowing mentees to have some freedom in choosing their mentor produces better results."

When a mentoring relationship works really well, it's a two-way street—the mentor provides useful knowledge gained from experience and the person being mentored offers valuable insight into current technologies and ideas.

Executive Coaching

Mentoring partnerships are designed with an end date, but development of future leaders is an ongoing process. When mentoring has served its purpose, the next step is executive coaching.

An executive coach's purpose is to help clients learn to analyze their views and attitudes and shift their thinking to maximum benefit. "The coach's greatest tool is a neutral, outside perspective," Watson says.

"It's especially useful when leaders take on a new position, and the strengths that had helped them succeed in one position become weaknesses in the new one," says FMI's Appelman. "Executive coaching helps analyze your behaviors and make adjustments."

As with mentoring, identifying good candidates for coaching is crucial. "Beyond having high potential, " Morton says, "candidates must be prepared to invest time and effort, be open to honest feedback, and be willing to change."

Furthermore, they must have good chemistry with their coach. "If a candidate is not comfortable with the coach, he or she may be reluctant to openly share or resistant to feedback," Appelman says.

Chemistry is not enough to guarantee success. Clear goals, a method of monitoring progression, and confidentially play important roles in coaching, says Tony Adolf, executive director for SMACNA Chicago.

Full Commitment

Neither mentoring nor executive coaching are as effective without the full commitment and support of upper-management. "You will be able to retain your best people a lot more effectively if you let them know that you are investing in them and that you believe in them, and see a bright future for them," Morton says.

Successfully accomplishing that task will allow the industry to face both today's and tomorrow's challenges and see positive bottom-line results. ■

Neves is a freelance writer based in Idaho. For additional information about New Horizons Foundation's report on Mentoring and Coaching Practices: Developing the Next Generation*, visit the Store section of newhorizonsfoundation.org. It is available in hardcopy and PDF formats.*

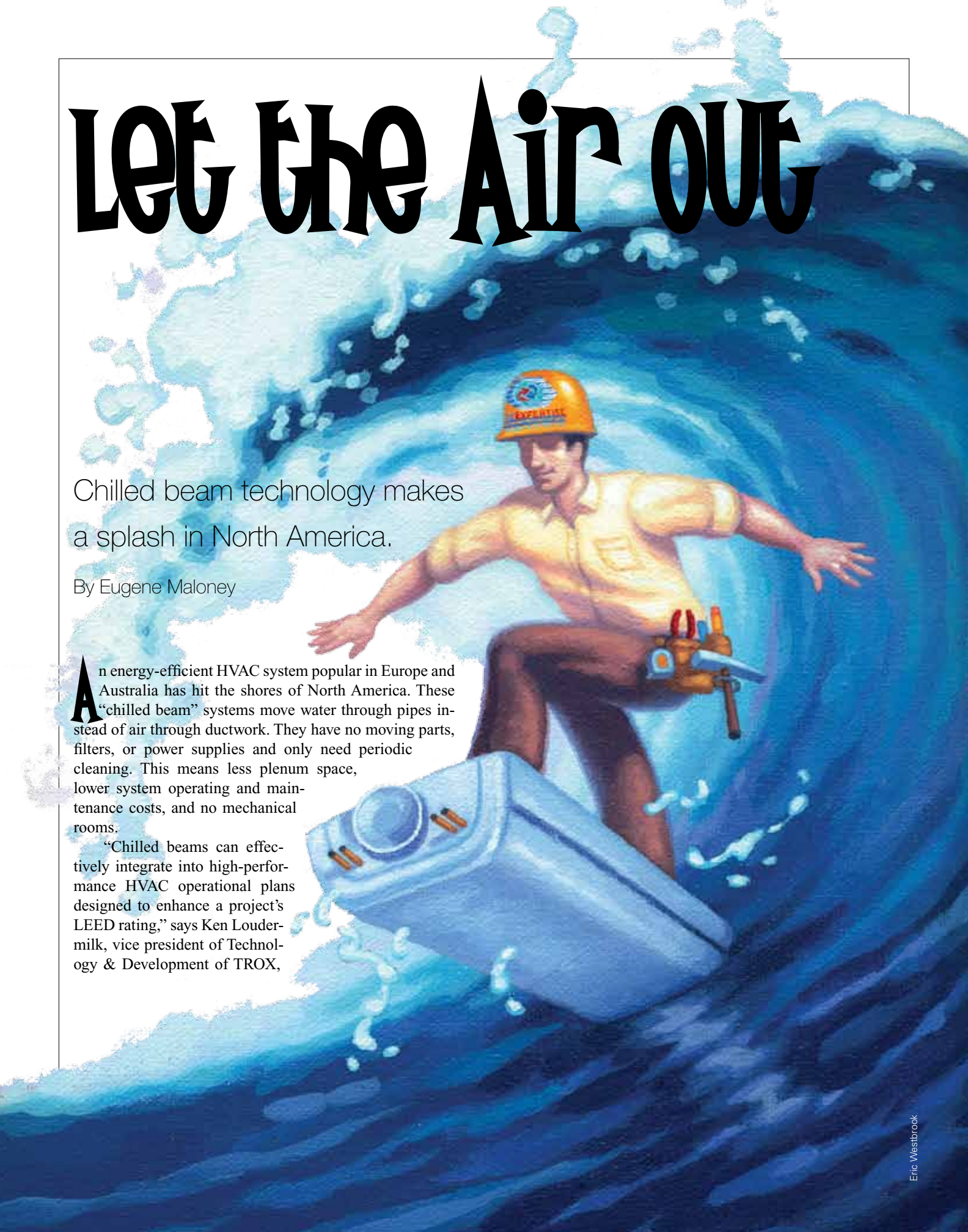
Let the Air Out

Chilled beam technology makes a splash in North America.

By Eugene Maloney

An energy-efficient HVAC system popular in Europe and Australia has hit the shores of North America. These "chilled beam" systems move water through pipes instead of air through ductwork. They have no moving parts, filters, or power supplies and only need periodic cleaning. This means less plenum space, lower system operating and maintenance costs, and no mechanical rooms.

"Chilled beams can effectively integrate into high-performance HVAC operational plans designed to enhance a project's LEED rating," says Ken Loudermilk, vice president of Technology & Development of TROX,



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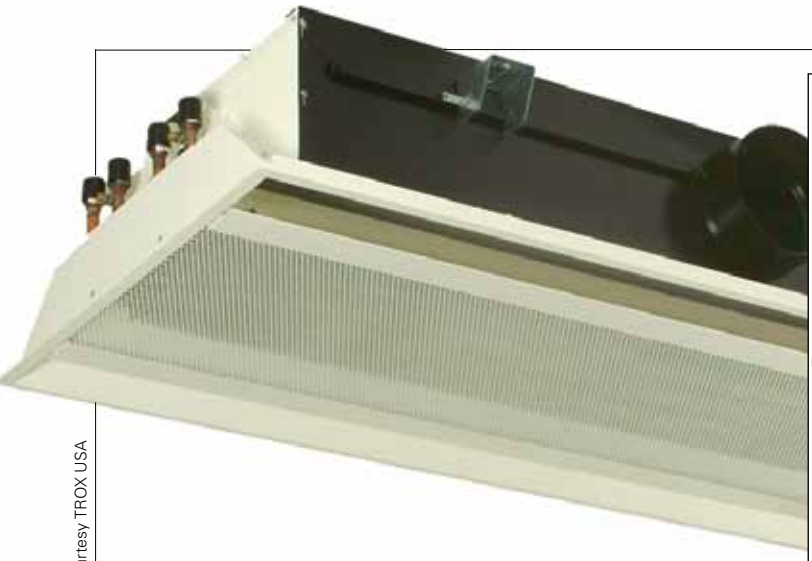

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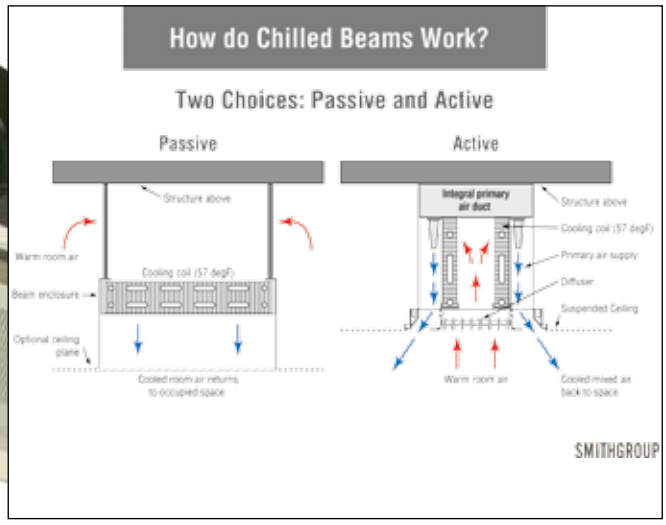

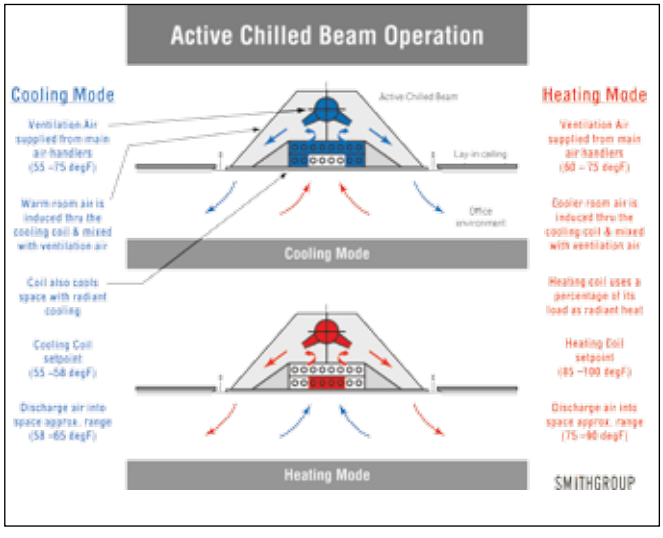

Courtesy SmithGroup

USA, Inc., one of the first companies to introduce the technology into Canada.

"We're seeing increased demand for these systems by architects, designers, and building owners, particularly on Federal contracts," says SMWIA Director of Jurisdiction Charles Mulcahy.

Chilled beams are ceiling-mounted units that look something like fluorescent lights. They take advantage of the natural tendency of warm air to rise, and use water moving through the pipes to cool or heat that air and circulate it. With passive chilled beam systems, water is piped to a ceiling-mounted coil that cools the rising air in a room. Active systems use the same principle but add extra air via small ductwork.

"Chilled beams are the next big HVAC trend because of their ability to minimize both fan and reheat energy," says Carl C. Schultz, director of Advanced Building Technologies with URS Corp., in Columbus, Ohio. "What VAV [variable air volume] systems were to the past three decades, chilled beams or similar concepts will be to the next three."

Jerry Yudelson, a consultant specializing in the design, development, marketing, construction, and operation of green building projects and programs, agrees. He advises sheet metal contractors and craftspersons to get up-to-speed on chilled beam technology. "If you want to score," he says, "skate to where the puck is headed, not to where it is now."

SMWIA's Mulcahy also believes the signatory sheet metal industry needs to understand and embrace new technologies. "Air delivery systems are always evolving," he says. "When I started, a dual duct system—one for hot air, one for cool air—sent air into a mixing box. It wasn't very efficient, so we moved onto VAV systems. Chilled beam systems are just another step in an evolutionary process."

Charles Klee, architect with the Boston, Mass.-based Payette Associates, has been following the technology since about 2000. Payette is working on one of the first sizeable installations of chilled beams in the United States, a renovation project inside the familiar dome at the Massachusetts Institute of Technology (MIT) in Cambridge, Mass.

"We chose chilled beams because the historic structure didn't have enough space for traditional ductwork," said Klee. "We had to add a new air handling system on top of the existing system, and one of the advantages of using chilled beams was that we could reduce the size of the ductwork."

Klee is quick to point out that chilled beams will not be the death-knell for ductwork. "There is still a tremendous amount involved. What's more, it gives us additional opportunities to expose duct work, so it becomes a question of how do we get it to look better. We bring more value with the craftsmanship and, to owners and occupants, a higher level of awareness of the engineering required."

Some of the biggest downsides of chilled beams are condensation and mold issues in humid environments. "Humidity control issues have implications for the claims that chilled beam systems will require less maintenance," says Roger Ramsey, owner of Stromberg Metal Works in Raleigh, N.C.

Stromberg has a large contract installing chilled beams in patient rooms for a hospital in Winston-Salem, N.C. Ramsey believes that resolving humidity issues is key to establishing chilled beams as an important, emerging market. ■

Maloney is a freelance writer based in North Carolina.

Just add Water

Chilled beam technology is considered one of the most innovative and energy efficient HVAC technologies to be introduced in years.

Principles of Operation

Active chilled beams are ceiling mounted heat exchangers that use a low-pressure primary air supply to induce warm room air across its chilled water coil to remove heat from the space. The now cooled room air is then mixed with the primary air supply and delivered back into the space via the beam's discharge slots.

As the chilled water is above the room dew point, no condensate is required as only sensible cooling is provided. Should there be a heating demand, hot water can be pumped through the coil to warm the induced room air.

Chilled beam systems use less energy than all-air systems.

As water has a higher heat capacity than air, the volume of water needed to achieve the cooling demand is significantly smaller than the volume of air needed on the traditional all-air system. Less energy is used at the primary plant to produce and distribute this chilled water as compared to cooled air.

Advantages

- Chilled beam systems use less energy than all-air systems.
- Chilled beams afford the designer an opportunity to replace large supply and return air ductwork with small chilled water pipes — resulting in significant space savings.
- Chilled beams can be mounted in ceiling spaces as small as 8 to 10 vertical inches. This vertical space savings can be used to either increase the space ceiling height or reduce the slab spacing and, thus, the overall building height requirements. This low plenum depth requirement makes chilled beams an ideal choice for both retrofits and new construction.
- The significantly lower supply airflow rates for chilled beam systems result in smaller ductwork and risers. The capacity of the air handling units providing conditioned air to the chilled beam system is also reduced, resulting in much smaller equipment room foot prints.
- With no moving parts, maintenance costs are considerably lower than all-air systems.

Applications

In addition to office buildings, chilled beam systems have been used effectively for many North American applications, including:

- heat driven laboratories,
- educational facilities,
- call centers and trading areas,
- healthcare facilities, and
- perimeter treatment with UFAD systems.

Design Tips

The primary goal should always be good occupant comfort. The room sees active chilled beams as simply linear slot diffusers; therefore, the beams discharge velocities should be kept in the same range as those used with linear slot diffusers if the same occupant comfort is to be expected. Room occupants should never be subjected to local velocities of 70 fpm or more.

- When heating, minimize the beam discharge air temperature.
- Limit water side flow rates pressure drops.
- Chilled water supply temperatures should be at or above the design dew point temperature of the room.

This article was written by TROX USA Inc., a developer and manufacturer of air conditioning and ventilating products. It was reprinted by permission from SMACNA British Columbia's Sheet Metal Journal.

At a Snail's Pace

New MasterFormat is starting to give sheet metal a higher profile and 'a seat at the table.'

By Joe Salimando

When the Construction Specification Institute undertook major revisions to its MasterFormat in the late 1990s, the professionals involved wanted to make changes to catch up with the way construction work is really done.

MasterFormat, an outline for construction manuals that is not a legal requirement for bidding, is used to prepare bids and specifications for projects. Where's the beef? Consider a simple question: Do you put motor control centers in the mechanical contractor's part of the bids and specs or in the electrical contractor's bailiwick?

Now multiply those questions by some very big number (maybe a google). Add to that the advent of computer technology. CSI ultimately felt that MasterFormat had to be redrawn—and expanded—to make the document more useful and relevant.

Putting aside all the arguments that ensued, in 2004 a new MasterFormat emerged. Where the old system had a Division 15 (mechanical) and Division 16 (electrical), the new document offered these divisions into which specifications could be divided, in what's now called the "Facility Services" subgroup:

- Division 21: Fire Suppression
- Division 22: Plumbing
- Division 23: HVAC
- Division 25: Integrated Automation
- Division 26: Electrical
- Division 27: Communications
- Division 28: Electronic Safety & Security

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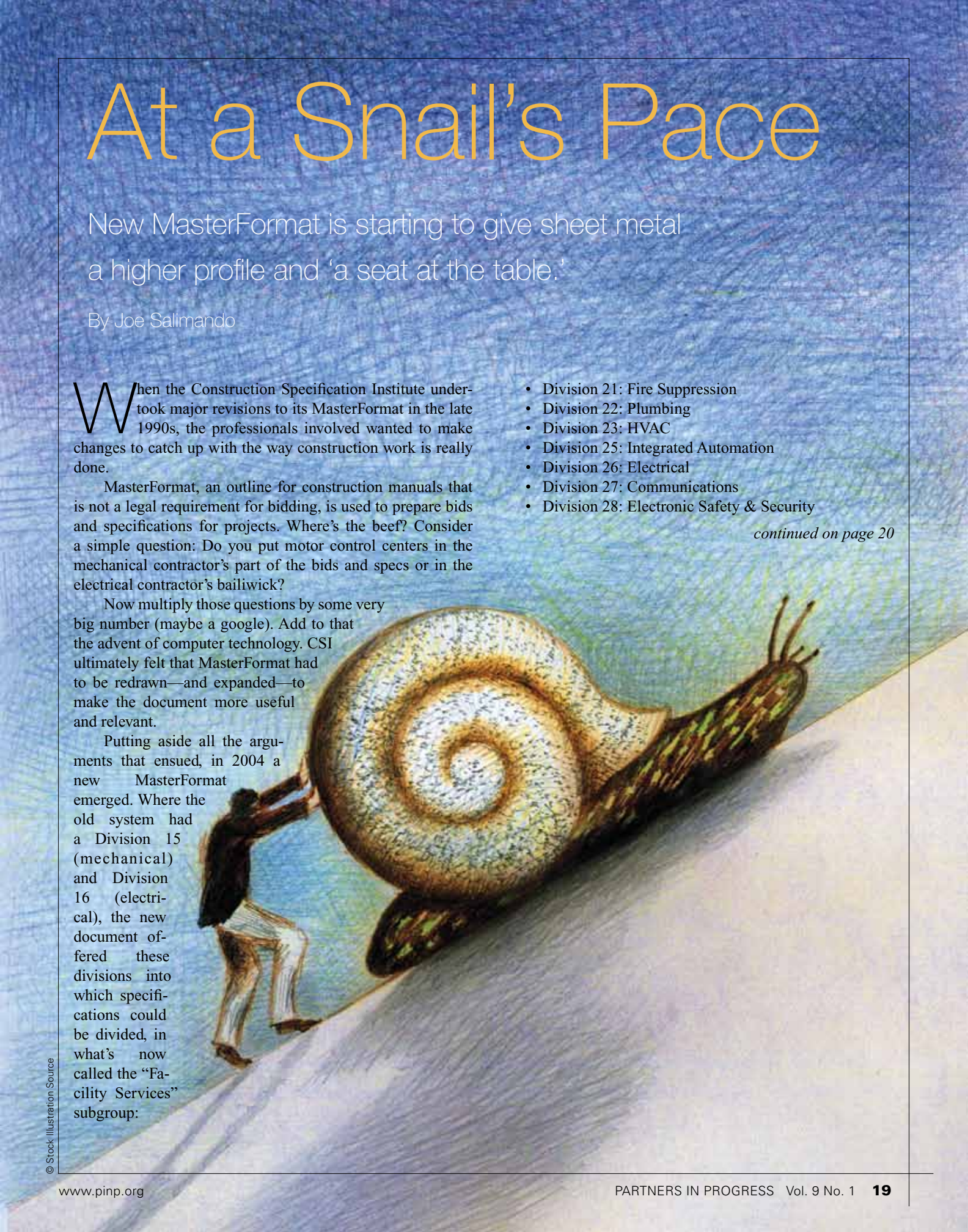

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Hopes & Dreams

SMACNA had advocated exploding the old Division 15 into several new divisions, with the idea of separating the "dry side" from "the wet side" in the old set-up. In the opinion of most, Division 23 accomplished most of what was desired.

"If the contracts on a project use these divisions, a sheet metal contractor should have new bidding options and opportunities, which opens up opportunities for union members," explains Thomas F. Glavinich, P.E., of the University of Kansas, where he is director of Architectural Engineering and Construction Management programs.

Glavinich worked with SMACNA during the lead-up to the release of MasterFormat 2004 and, more recently, he helped with the organization's *Bid Specification Reference Manual.*

According to Glavinich, it should be relatively easy to identify positive results for sheet metal contractors with the advent of MasterFormat 2004. "It could make a significant difference to a sheet metal contractor, lifting the company up to being a second-tier contractor, instead of being a sub-subcontractor to the mechanical contractor. The big advantage is to bid directly to the general contractor and to have a direct relationship with that company, rather than going through, and being represented in meetings by, another subcontractor.

"But there's more. A sheet metal contractor could elect to bid the HVAC work in Division 23, but—depending on the project—he could also decide to go after what's in Division 21 or Division 22," Glavinich says.

It's seven years later. There were significant expectations for Division 23. What's happened?

Geography as Destiny

"It probably depends on the part of the country in which you operate," says Richard Freeman, executive vice-president of Stromberg Metals in Beltsville, Md. The company operates from Maryland to Florida where the use of MasterFormat 2004 is often political.

"It's a learning curve and, basically, in the area in which we operate, the sheet metal contractors have to continue to do the job of educating the general contractors on what they and customers stand to gain from making the change," explains Freeman.

"By contrast, I understand that sheet metal contractors out in the West have been bidding direct to the prime contractor for quite some time."

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Show "Green" Cred with New Expertise Logos

Energy efficient, environmentally friendly, healthy, economical—the new "green" Expertise logos symbolize a lot of what today's customers look for when purchasing products or services. Using the logos is also an effective way to communicate the "green" credentials of SMACNA members and their craftspersons.

"As the nation makes sustainable, green energy alternatives a priority, we want our existing and potential customers to look to SMWIA and SMACNA for energy solutions," says SMWIA General Secretary Treasurer Joe Sellers.

Green Expertise logos make that statement. These logos, recently introduced by SMACNA and SMWIA's joint Best Practices Market Expansion Task Force, are available FREE for use by contractors, locals, chapters, and training centers that complete the updated expertise licensing agreement available on the Partners in Progress website at *pinp.org*.

"High efficiency HVAC is one of the most important pieces in the design and development of green buildings," says Nathan Dills, task force co-chairman and vice president of Midwest Fabricators, based in Oklahoma City.

"This new branding tool makes it easier for decision makers to identify contractors who employ the skilled workforce with up-to-date certifications and expertise to recommend and install cost effective, eco-friendly, and energy efficient HVAC systems."

According to SMWIA General President Joe Nigro, who has served as co-chairman of the Best Practices Market Expansion Task Force, the logo "makes official what we've done for years—create efficient systems at the cutting edge of 'green' technology."

Separating Wet-Side & Dry-Side: What's In It For The Owner?

In capitalist-oriented cultures, the "Golden Rule" remains. If "he who has the gold makes the rules" still applies, it is the project owner (and the general contractor or construction manager the owner hires) who will make the determination on whether the MasterFormat 2004 approach will be used on a given job.

As the word "change" is involved, the move to the new approach will continue to evolve, says Matt Cramer of Dee Cramer Inc. "There are still engineers out there who are creating project documents using the same specifications they used 15 years ago," he adds. "It's still a case of cut-and-paste for some."

So what the sheet metal industry—and others—need to show the owning entity and its representative(s) are the potential gains for using the MasterFormat 2004 dry-side/wet-side split approach. Owners and GCs do not care about the profitability of any given trade contractor and whether or not one set of construction workers (or another) will thrive. In fact, they aren't supposed to—at least, not under the capitalist system.

How can sheet metal contractors get owners and GCs to recognize the benefits they can obtain by segmenting contract documents using MasterFormat 2004? One corollary to the Golden Rule, apparently, is providing the answer to the age-old question…what's in it for me?

How the Owner Prospers

Richard Freeman of Stromberg Metals pointed out that the sheet metal contractor drives the project schedule; drawings from companies like his will drive the job. He believes that if the sheet metal firm is deeply involved in key project meetings and information flow, the project as a whole will go better.

"When we're that involved, the information stream is much more efficient for everyone," Freeman says. "That contrasts with when we are a third-tier subcontractor; we can see the information but the information turn-around takes as much as two weeks. It's terrible."

Freeman is talking about the information that's vital in any job—the shop drawing process, the submittal process, and all of that. "When we're in the room, it's much quicker. Details of the job flow more smoothly."

Owners are looking at more control. They learn of issues first-hand and information flow is better to everyone on the team.

But there's more, Freeman says, "Most people do not understand the sheet metal business. We're making a mistake if we think they do. You just can't go to The Home Depot and buy the items we install. Stainless steel, special metals, anti-microbials…no one stocks that stuff."

Owners and GCs don't necessarily think about that. "They don't understand the fact that we're fabricators. We provide a major component of the building. We need to be involved from the beginning. That's what we have to help them understand."

Helping the GC Over Hurdles

According to Matt Cramer, he still works with many general contractors who worry about "scope bust" plaguing them when using the split approach. "When the project is done with one Division 15, the GC has no worries. Everything is in the one contract. Today, given a choice of splitting the responsibility, a lot of GCs think, 'if I use Division 23, I'm going to have a hole.'"

Cramer has noticed that the same GC will use Division 15 on one project and Division 23 on another. "We've had GCs call us and say things like, 'We'd like to have a separate HVAC contractor on this job, but will you review my scopes, and make sure we don't have any holes?'"

Cramer knows on which side its bread is buttered; the answer to that GC question is almost always affirmative. "We know that construction is not a fast-changing industry," he explains. "It always has been late to embrace any kind of change.

"We do get there. But it usually takes a long time." It looks as if that same thinking—and requirement for patience—will apply to Division 23.

– Joe Salimando

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As Stromberg Metals doesn't operate in the West, the company only obtained its first job of any size ($7 million) direct to a GC in 2011.

What is the hold-up? Change can be "a dirty word to many of us," he says. "General contractors are worried about changing what they do. They've done business the old way forever. Under MasterFormat 2004, they would have to start splitting up the work that they have always had under one division, Mechanical (Division 15).

"If they start splitting it up, they worry that will end up with a 'scope bust' because something, probably something large, will fall through the cracks."

According to Freeman, it was this very concern that was on the minds of SMACNA contractors who worked on MasterFormat in a committee in the early 2000s.

"It's a learning curve for the general contractors," he said. "And, you know, as far as it goes, we're all probably somewhat guilty—change can be a dirty word to sheet metal contractors, too."

GCs Splitting Contracts

At Dee Cramer, Inc. in Holly, Mich., President Matt Cramer and his people have watched the MasterFormat aftermath closely. "Using the new approach is not as prevalent as we would like. We're hoping it continues to gather momentum over time," he says.

Tighter times are forcing the hand of everyone in the construction community, he notes. "The general contractors, and of course the building owner or developer, are trying to eliminate as much cost as they can. So they are trying to drive mark-ups out of the system.

"To do that, some GCs split the mechanical package into a dry side and a wet side," he notes. "We're seeing that a lot more often than we did not long ago. In fact, sometimes we see contracts that do not even use the new MasterFormat but still split the sheet metal work off on its own."

How do sheet metal contractors and their employees benefit from the MasterFormat 2004 approach—the splitting of wet side from dry side?

"From a contractor's standpoint, any time you can get one step closer to the money—which means to the owner—it's better for you, and for your company, and your employees," Cramer says.

"If the sheet metal contractor now works directly for the GC, my foreman is now working closer to the owner and the GC, and not under a foreman from another trade.

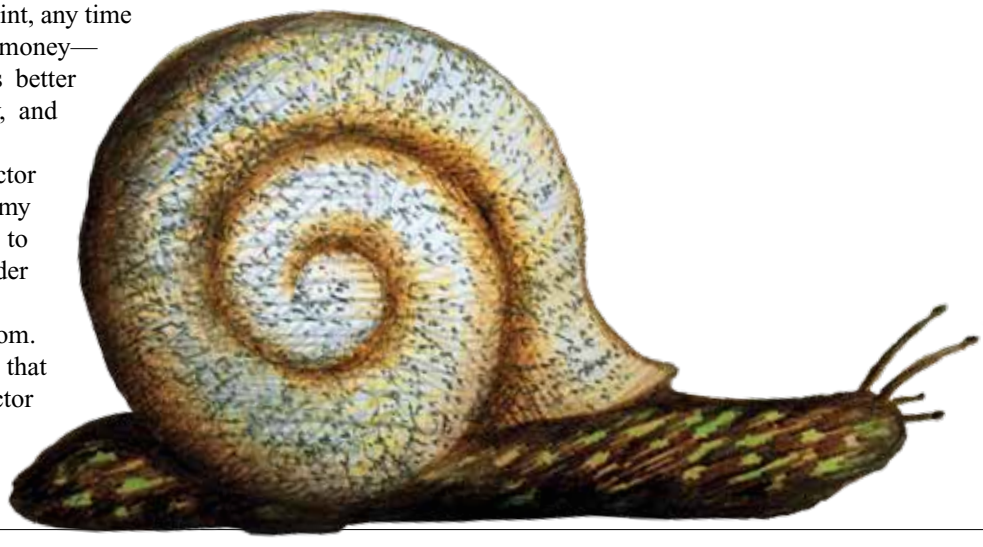
"And we get a voice in the room. As a sub-subcontractor, when that happens, the sheet metal contractor often can be left out of the pre-planning meetings. In jobs done under the new MasterFormat, the sheet metal company and that company's foremen—and really, the sheet metal worker—have a stronger voice." ■

Resources

Partners In Progress checked in with the Construction Specifications Institute on the current status of MasterFormat. Here are a few details:

- MasterFormat 2010 Update, out last year, had only minor changes in Division 23. One was the addition of a new title (*23-35-13, Dust Collection Systems*) in the section.
- *What percentage of projects use this arrangement for project documents?* CSI offered no official numbers, but a guess in a wide range: Based on discussions with construction industry sources, 50% to 67% of projects use MasterFormat (2004 or later) on a national basis.
- See *http://snipurl.com/26ogbs* for the official press release on the MasterFormat 2010 update.
- See *http://snipurl.com/26ogmq* for SMACNA's six model specification on HVAC-related work (Section 23).
- See *http://snipurl.com/26oh2t* for an article from *Engineered Systems* magazine: "Division 23: An opportunity to Specify Excellence."
- See *http://www.4specs.com/s/23.html* for the 4specs.com Division 23 "home page" (includes a lot of advertising).

Salimando is a Virginia-based writer, who previously served as editor for Partners in Progress.



Canada Heats Up

Ingenious ideas keep sheet metal workers busy.

By Steve Grieco

Courtesy Keith Panel Systems Co., Ltd

Keith Panel Systems (KPS) in Vancouver needed an edge to be selected over the nonunion competition for a renovation project at BC Place Stadium. The goal was installation of hundreds of architectural panels around the rim of this British Columbia landmark—high profile and high altitude work that would be seen from miles away.

The solution? The Man Basket.

Doug Dalzell, KPS general manager, and Grant Detta, a KPS supervisor and SMWIA Local 280 member, worked together to design a lightweight aluminum contraption to get the job done safely and efficiently.

It holds two workers at a time and rolls around the ring beam, 75 to 125 feet in the air. Netting surrounds most of the basket to prevent things such as screws and tools from falling to the ground. Local 280 members clip into harnesses and safety lines and then climb down ladders located on either end of the basket onto the platforms.

"We were able to get in on the ring project only because we were ingenious with the way we approached the installation," says Dalzell, whose company specializes in the manufacture and installation of architectural wall systems. "To get there any other way is just about impossible. Ingenuity is what gets you work."

Dalzell and Detta don't only demonstrate technical ingenuity, but also ingenuity when it comes to labor-management relations.

Over the past 10 years, SMACNA-British Columbia contactors and SMWIA Local 280 have developed a close partnership that has helped labor and management land job after job during the boom years leading up to the 2010 Vancouver Olympic Games.

"That put us in an economic bubble for about two to three years. We did an incredible amount of work here," recalls Dalzell, whose company built the exteriors of multiple structures in the Olympic Village. "Everyone really stepped up."

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Such achievements, especially in the face of absolute deadlines, can be partly attributed to how SMACNA-BC and SMWIA Local 280 nurture their partnership through frequent communications.

"They have a labor management committee, called the Joint Conference Board, which consists of six labor representatives and six management reps," explains Regional SMACNA Manager Bruce Sychuk. "They meet on the last Tuesday of every month with the exception of July, August, and December."

"We have an open and honest relationship with Local 280," adds Bernie Antchak, SMACNA-BC director and principal for Northwest Sheet Metal based in Surrey, B.C. "They are a good group to deal with and always try to help."

"We initiated this partnership endeavor in 2000," recalls Local 280 Business Manager Jim Paquette. "We try to be proactive and address issues before they become problems. Consequently, we have very few problems."

Paquette says the only special concessions necessary for the BC Place Stadium work involved making sure there were no strikes or lock outs during the project.

While the Man Basket solved one problem, Local 280 members working for Northwest Sheet Metal still had to find solutions for access challenges inside the stadium. "This project has a lot of fall hazards, so we had extra fall training for all staff involved," says Antchak.

Other innovative programs included a pre-job safety inspection (PSI) program to allow every worker to identify hazards prior to working. "Some say this takes too much time, however it makes people aware of their surroundings and helps them create a plan for the particular installation," Antchak says.

As part of this program, Ryan Griese, Northwest's field foreman, noticed asbestos in all eight air shafts and asbestos-containing duct sealer on ducting that was either to be demolished or re-worked.

With safety training complete and the asbestos removed, Griese and the rest of the Northwest Sheet Metal crew set to work on retrofitting the stadium with new general exhaust systems, new heat pump systems, venting, and exhaust vacuum pumps.

Courtesy Keith Panel Systems Co., Ltd

Exhaust system work included tying 80 fans into existing duct. "It wasn't an easy install," recalls Griese. It was difficult getting access to the work areas and finding room to actually cut into the ducts and tie in with new transition fittings, where fans were not originally designed to go.

Only scissor lifts and engineered scaffolding were allowed to reduce fall risk. Furthermore, the sheet metal workers had to share the tight work space with other contractors working in the same area.

"Everything had to be well coordinated between Fred Welsh (mechanical), PCL (general) and Western Pacific (electrical)," Griese says.

Other Northwest Sheet Metal work included hanging 53 radiant gas-fired heaters and venting them with 2,000 feet of 4-inch, 16-gauge stainless steel pipe. To help provide natural ventilation in the renovated stadium, Northwest crews also installed 248 exterior louvers with 424 motorized dampers around the perimeter of the stadium, 130 feet in the air.

"It's been a one-of-a-kind job that wouldn't have been possible without great labor-management relations," says Griese. ■

Grieco is a freelance writer based in Blacksburg, Va.

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