

Partners **IN** PROGRESS

SMACNA & SMWIA—Building A Future Together

OCT 2004



FOCUS ON

INDUSTRIAL



SMACNA



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NEWS AND SHORTS

NEW DISTRIBUTION APPROACH DRIVES INDUSTRIAL CONSTRUCTION

“Despite the poor market fundamentals in many markets, new industrial space continues to be [built],” according to a mid-year analysis from Torto Wheaton Research. This top real estate research firm is a part of CB Richard Ellis, the real estate giant.

In its July 30 piece, TWR notes that “the national availability rate” for industrial space has increased from 6.6% in 2000 to 11.4% in 2004’s second quarter. This leads to an obvious question about all of that industrial construction. *Why?*

Answer: “New business models and technological innovations” are behind the industrial construction boomlet, as well as “technological innovations designed to streamline production and distribution processes.”

According to the TWR report, “warehouses and distribution centers are constructed with more flexible space, integrated information technology, sustainable energy sources, 32-foot-high ceilings, 130-foot-deep truck courts, and powerful sprinkler systems.”

Further, 45% of the 718 million sq. ft. constructed since 2000 “is in buildings that are greater than 200,000 sq. ft.” In fact, the average building in this subset is 392,000 sq. ft., on a parcel of land 24.8 acres in size.

Find TWR at www.tortowheatonresearch.com.

MID-YEAR PROJECTIONS FOR INDUSTRIAL

Page 16 (the back cover) of this issue of Partners provides a table with selected details on McGraw-Hill Construction’s mid-year construction forecast update. Here are details on square footage.

Table A: Industrial Construction—
(millions of square feet)

	Manufacturing	Warehouses
2002 (actual)	67	194
2003 (actual)	69	180
2004 (estimated)	70	197
2005 (forecast)	80	220
2004-2005 increase	+14%	+12%

REVERSE AUCTIONS MISSING IN ACTION

Page 9 of this publication includes information from an FMI survey on industrial construction, sponsored by the SMWIA-SMACNA team. One question we asked—not necessarily germane to our industrial marketing efforts, but still interesting—concerned attitudes toward using Internet “reverse auctions” for construction project procurement.

Only 5% of owners responding to the survey we sponsored prefer reverse auctions. Additionally, while 40% of owners indicate that they would use reverse auctions in the future, only 10% indicate they will use it exclusively, 10% as a preferred method.

Further, 60% of those responding said they probably never will use reverse auctions in the future. ■

WHY TARGET THE INDUSTRIAL MARKET

If you believe what you read, America is “de-industrializing.” The Chinese and other Asian nations will make every single thing we consume here. We might as well throw up our arms, give up, and ship our corn, carrots, and more abroad...so others can send our food back to us in cans and bottles!

Perhaps that won't be necessary. Much U.S. industry remains—and will stay in place over time. That includes food processing, at the very least...and high-tech, demanding industries such as pharmaceutical and computer chip production. There are many reasons to be optimistic.

Here's an encouraging fact. The SMWIA-SMACNA Market Expansion Task Force held focus groups of industrial construction executives and managers in St. Louis and Houston in 2004. Of 18 participants, 10 said their plants had either undergone a significant expansion or upgrade since 2002—or that such activities were planned for 2004-05.

Expertise needed

Further, we learned that these industrial builders need “expertise”—the kind that SMACNA contractors and managers and SMWIA technicians and mechanics bring to the job every day. Our focus group participants stressed that project delivery timelines had greatly accelerated in recent years. The common cry in business these days is, “I need it now!”

Such unenviable pressures are heightened, they said, when corporate executives hesitate to pursue projects. The problem crystallizes when minds are finally made up and a project is chosen. Suddenly, one participant noted (to general agreement of his peers), “it's a big push.”

With tighter time frames in which to deliver projects, participants said there wasn't enough time to do the work of designing and building. Pressure to deliver sometimes resulted in an inability to do the checks and balances necessary to make sure all details were correct.

Failures on that end, they said, typically show up as problems during construction and result in the spending of still more money to rectify problems.

Reasons for optimism

As the saying goes—“if they didn't have problems, they wouldn't need us!” SMACNA contractors and SMWIA members possess unique tools that make them even more valuable in such conditions

Can we “prove it?” *Certainly.*

Five success stories appear in the pages that follow. While these tales grace our pages but once, they are recreated every day by these the many companies and workers that are members of the SMWIA-SMACNA team! ■

Attention, Owners!

Issues of PARTNERS IN PROGRESS are normally mailed each quarter to 140,000 members of the SMACNA-SMWIA team across North America. You've been added to the list for this special Industrial issue.

Visit www.industrialexpertise.com to find contractors who will meet and exceed your needs and expectations.



Let's say you wanted to demonstrate the wide range of knowledge, skills, and abilities—the expertise—of SMWIA members and SMACNA contractors, working together. How would you do it?

Here's one surefire way: Showcase Ernest D. Menold, Inc., of Lester, Pa. In just one company—which typically fields 65 to 70 workers—you'd see:

- prime-time industrial contracting work;
- excellence in pharmaceutical work;
- job site construction, shop fabrication, on-going facility maintenance, and what seems to be a myriad of unique services;
- “regular” HVAC work, including hanging duct and troubleshooting technical problems; and
- stainless steel specialty work, a growing sector for the company.

We're talking here about everything from attention-getting sheet metal work for specialty retail stores to in-plant maintenance for a pharmaceutical giant. At www.menold.com, the company describes itself as a “general sheet metal contractor”—with “general” meaning “you-name-it, we-do-it.”

“We make use of the skills of our workers, from SMWIA Local 19,” says Ernest R. Menold, company chairman. “The key for our workers is that it doesn't get boring. Recently, we constructed and erected a sign at a new retail store in a New Jersey town. A few days later, the town's mayor called the store to say the sign was the nicest thing to happen there in 20 years!

“The fellows who made the sign in our shop were, a few days later, working on stainless steel parts for one of our pharmaceutical customers. And the men who installed that sign were installing duct work.”

Industrial & pharmaceutical

Industrial and pharmaceutical work have been two of the company's mainstays. Company founder (Ernest R.'s father) Ernest D. Menold began working for one pharma customer in 1948—a relationship the company has maintained into this century. A Menold crew of a half-dozen workers perform work at the customer's plant on a daily basis.

“As things come up, we handle it for them,” says Ernest R. “It can be anything. If some VAV boxes aren't functioning properly, we'll look at the controls. If they need to relocate a hood in a laboratory, we might need to install a few feet of duct work. Maybe they need stainless steel column guards installed in a production area.

Whatever it is, we're on it.”

How can one differentiate between “industrial” and pharmaceutical work? Isn't pharma part of the industrial complex? Not really, the Menold chairman explains.

“In pharmaceutical plants, our workers sometimes work in clean rooms—in gowns. Sometimes with white gloves! You don't wear white gloves for the industrial work we do. We might install rigging to lift heavy pieces of equipment; there's

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Ernest R. Menold (left) and son, Ernest J. Menold

HOW TO TURN SKILLS *into* HAPPY CUSTOMERS

by Joe Salimando

A PHILADELPHIA STORY

Told in brief, the recent history of sheet metal industry labor-management relations in Philadelphia goes like this: Acrimony. Hard cheese. High-volume arguments.

After a series of such sessions, however, Tom Kelly—then Local 19’s business manager—offered a savvy comment on the nature of the local SMACNA-SMWIA relationship.

Ernest R. Menold, one of several contractor negotiators, listened.

Further talking and listening ensued. Lower volume, less acrimony.

They decided to work together.

By talking, listening, and working together, each “side” got to learn things about the other “side” that were startlingly encouraging (or encouragingly startling).

A local Industry Advancement Committee was formed. It was funded. Joint activities ensued.

Summary: Things changed.

Results so far: Market share grew. Union membership grew.

“It was maybe 10 or 12 years ago,” Ernie Menold remembers, “Tom Kelly said that we needed to stop throwing hand grenades at one another. This was in the bad old days—and believe me, Tom and I had our days back then.

“But he said that we needed to change our relationship. We contractors listened. We put together a plan for a program, and Local 19 went along with it. It was funded with two cents an hour.

“Our first step was logical: If our goal is to improve the relationship, let’s first see what kind of relationship we currently have. We hired a consultant who put together surveys for union members and sheet metal contractors.

“What we found out, relatively quickly,” Menold recalls, “is that the thinking of members of Local 19 on key issues was *exactly the same* as the thinking of our contractors. This was a great starting point!”

Menold and Kelly were co-chairs of the Philadelphia-area Sheet Metal Industry Advancement Committee for nine years. Working together took more than just time and effort—it took receptivity to change.

“Yes, it took a long time,” Menold remembers, “but—eventually—we got to trust each other. I say that without any embarrassment. Tom Kelly worked very hard for the good of the union and the industry.”

Positive results

What are the concrete results? Here are several:

Improvement ideas from workers—According to Joe Sellers, Local 19’s business manager, the “cooperation at work” program—in which Menold’s company served as an initial tester—has worked for many contracting companies.

“The program focuses the SMWIA member on giving the company feedback on how to streamline operations and make the employer more efficient,” says Sellers.

“What was important is that this is not a ‘work faster’ program. Every company and every person can do things a little better. This program is about how the person in the field can have an impact in making the company more productive and more efficient.”

Ernest D. Menold, Inc., has kept the program in place—with a one-hour meeting held once a month. The company has implemented more than 20 suggestions.

Grievances reduced—“We have a Joint Adjustment Board locally. The contract has provisions for grievances. I served on that committee. In the old days, I was going to a JAB meeting at least once a month—sometimes twice.

“At this point,” Ernest R. Menold notes, “we’ve had only one grievance of any kind filed in the past five years.”

Why? “What we have found is that, when a situation does arise, if we’re all convinced that we are working together toward the same goal—you can resolve things over the telephone. That’s what happens when you come to trust each other.”

Residential growth—Local 19 and signatory contractors are working together to increase penetration in the residential market. “We never even talked about the residential market years ago,” Menold remembers.

Targeting schools—According to Menold, contractors and Local 19 are together making “concerted efforts” to obtain more work in schools.

New generation

With Ernest R. moving up to chairman, and Kelly serving in Washington as secretary-treasurer of SMWIA, there’s a new generation at work in Philadelphia.

“The relationship between Ernie and Tom Kelly continues, at the national level,” notes Sellers. Kelly is co-chair of the Market Expansion Task Force, a joint SMWIA-SMACNA committee that (among other things) publishes this magazine; Ernest R. is a member of that group.

“Here, we are building a new relationship, between the younger Ernie and myself. He’s been of great help in talking to non-union contractors about working with the SMWIA,” says Sellers.

“Of course, I talk to those contractors. But I can tell the contractor this and that, about what we will do, until I’m blue in the face—I’m still going to be a union guy. He might not believe me.

“So we ask Ernie Menold [Ernest J., the company president] to talk with the contractor. Ernie can talk to that non-union fellow on a contractor-to-contractor basis. He’ll give him exactly what we will or won’t do.”—*J.S.*



**SMWIA workers provide skills,
abilities, and a willingness to learn.
Managers at Philadelphia's
Ernest D. Menold, Inc.
use that to provide unique
services that customers love.**

continued from page 5

work in confined spaces; and there's a need for special skills, such as welding, in industrial."

Building on talent

In recent years, the Menold company has shifted its work balance to include more stainless steel work. As stainless has grown from less than 20% of company sales volume to near 40%, President Ernest J. Menold (the chairman's son, grandson of the company founder) has invested in machinery that adds speed.

In the past four years, the company has purchased a computerized numerical control (CNC) press brake, at \$150,000; and a Laser Cut laser cutter (installed cost: \$360,000). AutoCAD output tells these machines what to do; the company's workers get AutoCAD training (as apprentices or in journeymen skill upgrade classes) through the local SMWIA-SMACNA training program.

While \$510,000 is a significant investment for a company Menold's size, the machines *are not* what drove the deci-

sion to focus on stainless. "The skill level of our work force positioned our company for this," says Ernest J. "We have a lot of talented people here.

"We've been doing stainless steel work for more than 45 years. Over time, the knowledge we've had in the company has been passed down from employee to employee. It was the talent that dictated which way to go." The machines were an addition to the talent, the way the company president describes it.

Using key resources

"What's been important to us in the past, and probably will remain so, is the variety of work that our sheet metal workers do," says Ernest R., the chairman. "The training and skills these people have are so important to us, not just in maintaining our current position in the market but—as you can see in stainless steel—in allowing us to venture into new markets with confidence."

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A concrete example he cites is welding certification. “As a contractor, when I run into a job where a particular type of welding certification is needed, I don’t have to disqualify myself.” Thanks to the International Training Institute’s work with the American Welding Society, the Philadelphia-area training program is able to certify welders.

“In one instance, a paper mill where we did some business needed waterproof stainless steel ventilation duct work done,” he recalls. “They specified that the welding on the job had to be done according to an ASME code of some sort—which we knew nothing about.

“I called the ITI. They wrote a procedure in a few days, and in a few days later there was a testing protocol. The result: We were able to train and certify one of our employees as a welder—and we won a project that we otherwise would have had to turn away.”

Adding to worker talent and the training resources, the senior Menold notes, is the availability of skilled manpower. “Industrial customers want you to come in and do plant turn-

arounds. Usually, you have little time—perhaps a week. That’s when our workforce increases, perhaps up to 100 people. We might have 20 people on such a job for a week.

“We couldn’t get that work done without a skilled workforce. Local 19 provides that and more.”

A unique approach

With the breadth of company services and specialties, and the depth (in skill level) of the work, it’s no surprise to find the Menolds describing their company as “very horizontal”—which matches that “general sheet metal contractor” label.

“If you look at our organization chart, you’d find that we have very competent people—members of Local 19—in key supervisory positions. We put specific people in charge of certain customers, so the customer always has a familiar face to go to,” says Ernest R.

“These people are at the ‘general foreman’ level. Internally, we call them superintendents. They do an excellent job of representing our company to the customers.

“Back here, our principal job is to give these superintendents the support that they need. If you look at the way we’re organized, we have a Local 19 member here at the shop whose principal job is to coordinate manpower throughout the company. It’s not an easy job, because we have a very, very large number of small jobs.

“With that kind of set-up, it’s very important to coordinate the manpower between all of the jobs.”

What enables such a set-up to work are the skills and adaptability of the Menold workforce.

“What has worked very well for us,” President Ernest J. notes, “is how eager the people who work here are to learn more—to push the envelope. It’s very rewarding for me and for our project managers and general foremen.”

His father proudly cites how a small job for a relatively new customer—a pharmaceutical concern—blossomed into additional work on a plant shutdown. “We received an e-mail from the company’s project manager which was just beautiful,” Ernest R. relates. “He talks about how terrific our guys were, and how, in contrast, another contractor had to be kicked off the job.

“For me, the key words in the e-mail were—‘You’re professional.’ We talk with our people about how their skills drive our success, but we discuss how they comport themselves when they are at a customer’s site—which should be like guests in our customer’s house.

“This is one instance where a customer actually noticed it, and thanked us!” ■

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The Industrial Market:

The Survey Says...

Previous research efforts by the SMACNA-SMWIA Market Expansion Task Force have gleaned key information from participants in two focus groups. Were the “gleanings” on-target? To find out, the Task Force usually creates a follow-up survey to validate its conclusions.

That’s precisely the method followed in developing goals, strategies, and tactics for building market share in the industrial market. FMI Corp. was engaged to mail a survey to facilities owners, general contractors, and architects/engineers. Here are the main conclusions:

The contractor should be the primary and the owner the secondary target for marketing and selling messages. This target should be the general contractor, construction manager, or the mechanical contractor, depending on situation and geography.

Past performance and quality/workmanship can be used to create a competitive advantage vs. the non-union element.

The marketing and selling message must focus on explaining how experience and expertise (and quality) will affect the owner’s cost and the GC’s schedule performance.

SMACNA’s credibility as a standards-writing organization can be used as part of the expertise message. But it should be used as a supporting element, not the core of the message.

Owners are the most likely of the three decision-makers to use e-mail and the Internet to assist in their buying decision.

While there is significant uncertainty about the issue, “offshoring” in the industrial market is expected to continue in the next 5-10 years.

What follows are further specifics (based on the data), with FMI’s recommendations in italics.

Findings & recommendations

The contractor plays the most important role in *selecting* subcontractors; the owner is the second most important decision-maker. Designers (A/E firms) are least important—by a wide margin.

What do construction owners, general contractors, and architects/engineers have to say about the industrial market? SMMIA and SMACNA funded a survey to find out.

Marketing and selling activities and messages should be primarily targeted at the contractor and secondarily targeted at the owner.

Each of the respondent groups ranked past performance (experience with the industrial sheet metal contractor) first in their subcontractor hiring criteria. Cost/schedule performance was ranked second; quality/workmanship was ranked third by all three groups.

Experience, track record, cost performance, and schedule performance should be emphasized in marketing communications and selling propositions.

Most contractors and owners prefer to *bid* contracts, but a significant percent prefer to *negotiate*. More than 40% of all contractor and owner respondents indicated that they prefer negotiated contracts.

Target marketing and selling activities on identifying contractors and owners who will negotiate. Learn their unique needs. Deliver a concise message that emphasizes how your expertise will meet those needs.

Union contractors and workers are perceived to have better quality/workmanship and better past performance (track record) than their non-union competitors. However, unions are perceived to be more costly than nonunion. Perhaps cost misperceptions lead some owners to have a bias toward non-union contractors.

Marketing and sales messages must emphasize the value of better quality and workmanship and better past performance.

All three decision-maker groups indicated that *references* (talking with other contractors) were their most important means of gaining information on subcontractors and trends.

Trade associations were the second most popular source of that information. Only owners listed the Internet as a significant source of this information.

Strong past performance will drive a positive image and put your name in front of the decision-makers. Target owners using e-mail, the Internet, and their trade associations. ■

Say “industrial” and U.S. automakers perhaps come to mind first. Matherly Mechanical Contractors (Oklahoma City) has for 26 years served General Motors at an Oklahoma plant that makes Envoys, Trailblazers, and the Isuzu Ascender.

“GM’s schedules are tight, and you must deliver,” says Mike Clark, manager of Matherly’s sheet metal operations. “We’ve worked on turnarounds there with tough-to-meet schedules.

“If you don’t make the schedule, they will replace you!”

What it takes

Clearly, Matherly keeps this customer on merit. Skills embedded in the company’s workforce (from SMWIA Local 124), Clark says, are indispensable.

“Our workers have to be tops in many skills. Of course, we hang duct. But welding skills are a must. And they are more than competent at equipment rigging,” he notes.

Safety is mandatory: “Yes, you have to deliver on schedule—and have competitive pricing, too,” Clark says. “But GM’s job focus is on safety, every minute of every day. Before we start any part of a job, we supply a safety task analysis. You can’t start unless the foreman has provided this written analysis and obtained GM’s approval.

“It doesn’t end there: They constantly monitor your compliance.”

Winning team

Other contractors can access Local 124’s workforce—why has Matherly been a GM staple? Key managers (project managers, estimators, general foremen, and superintendents) are sheet metal industry veterans, Clark says.

“These people all came out of the field. That helps us deliver what GM wants,” he adds. “With safety primary, and schedules tight—and there always are schedule changes—you have to know what you are doing.

“There is an unwritten requirement in working with GM—we all must think fast!”

Matherly, with roughly 200 employees, performs piping, plumbing, and sheet metal work (www.matherlymech.com). ■



GM Sets





The Bar High



Du-Mont Company Keeps Illinois Powered

Whether power plants need help during maintenance shut-downs or after a storm, they turn with confidence to this Peoria, Illinois-based sheet metal contractor.

How can a sheet metal contractor be successful with power plant work?
“Knowledge is the key to this work,” says Merl Swearingen, vice president of Industrial and Power Plants for Du-Mont Co. “This is a very dangerous business to be in if you don’t understand the work.”

Du-Mont, based in Peoria, Ill., has found a niche in the power plant market by providing fabrication, lagging work and specialty products on a timely basis. Power plants all over Illinois have taken advantage of Du-Mont’s expertise.

“We have to work with exotic materials that are both temperature- and acid-resistant; otherwise, they wouldn’t last under conditions in the plant,” Swearingen says.

The bottom line is that
you can never fail.
When they have an
emergency, we have
an emergency.



Being able to respond 24/7 is also vital to success when working with power plants. “We have received calls from power plants at every hour of the day and night. When they have an emergency, we have an emergency,” Swearingen explains.

Du-Mont not only responds in emergencies, but it also handles ongoing plant maintenance work and major projects during scheduled plant shutdowns.

For one shutdown at Dynegy, Inc. in Havana, Ill., Du-Mont fabricated 500 tons of selective catalytic reduction (SCR) breeching as well as fabricating and installing aluminum lagging over the insulated breeching. (Breeching in a power plant is ductwork that carries combustion gases.)

Du-Mont had to fabricate and ship the breeching in sections for assembly and erection at the site—more than 50 miles from Du-Mont’s facilities.

Sometimes the shutdown work turns into a quick-turnaround fabrication job. “When they take a boiler down, there are tons of parts to replace,” says Bob Williams, Du-Mont’s secretary-treasurer.

“Plants call us in the afternoon with an urgent need to fabricate something like an angle iron by the next morning. We work overtime to get it down there and

installed on-schedule,” Williams adds.

“The bottom line,” Swearingen insists, “is that you can never fail. It isn’t allowed. When you walk in the door people need to have a sense of security that you can deliver what you promise.”

This attitude helps Du-Mont compete in a tight market. “Our people know the work and what is expected of us,” Williams observes. “They allow us to be competitive with non-union companies and bring in more work to our company and SMWIA Local 1.” ■

Don't Panic!

TAL-MAR Custom Metal Fabricators in Illinois steps in any time of the day or night to resolve its customers' emergencies.

When Vulcan Materials in McCook, Ill., received a strong warning from the Environmental Protection Agency (EPA), the crew at TAL-MAR Custom Metal Fabricators, Inc., had to work quickly.

They fabricated and installed the dampers and quench tanks for the air scrubbers in just two days. "Installation of the dampers on the 100-foot stack required both a 40-ton and a 200-ton crane," recalls Jim Cesak, TAL-MAR's president.

"In two days, our crew installed two 1/4-inch plate dampers that measured 78 inches in diameter and mounted the rectangular duct to the stack. We welded the rectangular tee onsite to the 6-1/2-foot stack."

TAL-MAR finished the job on-time, and the customer was happy.

It's business-as-usual at this Crestwood, Ill.-based sheet metal contractor with both fabrication and machine shops.

"About 95% of our work is industrial, and most of that is emergency services and maintenance," Cesak says. "Our customers have 24-hour access to us. We always have people on call. We'll open our shop any time of the day or night."

Cesak remembers a recent shut-down at a food processing plant when his crew worked three days straight to complete the work on-time.

Despite high stress conditions and significant amounts of overtime, TAL-MAR's workforce has very low turnover. "We have almost the same crew we did six years ago when we established our company," Cesak says. The contractor has 55 employees; 45 of them are members of SMWIA Local 73 in Chicago.

This kind of deep experience and skill offers great benefits to both TAL-MAR and its customers.

When TAL-MAR's crew had to fabricate industrial wash and rinse tanks to the stringent specs demanded by Industrial Wash and Rinse Tanks in Chicago, they were able to bring the project in under the customer's firm \$100,000 budget.

With the job of removing impurities from steel coil, the 30-foot long and 20-foot long tanks were each fabricated from Type 304 stainless steel. Expertly welded construction techniques guaranteed each tank was watertight. TAL-MAR created the exterior frame using hot-rolled mild steel.

"We completed the project in four weeks," explains Bill Babcock, project manager. "During fabrication we modified the client's design, which not only made this project a success, but also created future opportunities for both us and our customer." ■



Coming Clean

When Pfizer Pharmaceuticals needed state-of-the-art technical labs and offices for more than 400 scientists and staff, they turned to the Limbach Company in Pontiac, Mich.

“It was a tough project, with highly specialized work and very rigid quality control,” says Hal Ruffner, executive vice president – manager for Limbach, a contractor established in 1901.

This project—involving \$50 million worth of piping, plumbing, and industrial sheet metal fabrication and installation—was one of the largest of its kind in the United States.

It brought all functional components of Pfizer’s Pharmaceutical Sciences Group under one roof in a 425,000-square-foot, mixed-use facility in Ann Arbor, Mich.

Limbach crews fabricated and installed almost two-million pounds of ductwork from 10- to 24-gauge. “Some of the ductwork was big enough to drive cars though,” Ruffner says. “Other ducts were just 6-inches round.”

Dealing with various sizes of ductwork wasn’t the hard part. The challenge turned out to be developing a quality control process that would meet strict U.S. Food and Drug Administration (FDA) guidelines.

Various methods of fastening end covers to protect the clean ducts were tried and proved unsuccessful.

Finally, the Limbach superintendent, Jack Knapp, suggested using liner clips typically used for swimming pools. It solved the problem of fastening the plastic end covers to the duct. The liner was inexpensive, easy to remove and reusable.

After fabricating duct using galvanized steel, aluminum and Type 316 stainless steel, Limbach cleaned and sealed it with the end covers at a special “duct clean room,” and then transported it to the jobsite.

“Both the FDA and customer representatives performed cleanliness verifications at the Limbach facility and a second time at the construction site,” explains Steve Beaudry, a project manager for Limbach.

“Our sheet metal crew—from Local 80—grew to about 70 workers for this project,” Ruffner says. Limbach acted as prime contractor on the project, with subcontractors doing mechanical and specialty piping work. ■



A sheet metal contractor develops a stringent quality control process to keep ductwork spotless during installation at a pharmaceutical plant.



Take A Deep Breath

Randolf Construction Services' emergency duct repairs kept air flowing into a beef processing plant in Washington State... and prevented a complete shut down.

After a violent wind storm damaged an existing plant duct line, the crew at Randolph Construction Services came in to replace the duct line and install a make-up air unit at Iowa Beef Processing, now part of Tyson Foods, Inc.

"This was an emergency project for our client," explains Lonnie Cook, project manager at Randolph Construction Services.

"Without this unit and duct, the plant, located in Wallula, Wash., could not receive any fresh air from the outside and would have been at a complete shut down."

RCS is a woman-owned contractor based in Pasco, Wash. In 2003, the company was the Small Business Administration's Spokane District Subcontractor of the Year.

"Working around the existing roof penetrations was a unique challenge," Cook continues. "Our crew also paid special attention not to interfere with existing equipment." RCS works with SMWIA Local 66.

Design of the project began with a visit to the site to measure the roof penetrations. Using 3-D CAD software, the design department created the duct system. They gave the drawing to the shop staff for fabrication.

RCS's fabrication services apply the latest state-of-the-art equipment, including a computer-driven shear, plasma table, and press breaks.

Using 16-gauge Type 304 stainless steel, ducts ranging from 24 inches to 60 inches in diameter and supports were created. Final installation at the site required the use of a 190-foot crane.

Starting with commercial heating, ventilation, and air conditioning and fabrication in 1982, RCS has expanded its services over the years.

It has been installing high-end metal roofing systems and other architectural related metal work for almost 20 years and has developed and implemented a full nuclear quality assurance program based on the requirements of SME NQA-1.

RCS takes advantage of a comprehensive Certified Welding Program designed to meet the requirements of the nuclear industry and the U.S. Department of Energy.

For the past two years, the company has marketed design build, engineering and construction, construction management, and fast-track contracting services. ■

Markets & Trends

BLS SEES 24% GROWTH IN SHEET METAL WORKERS BY 2012

Recent projections by the Bureau of Labor Statistics—an arm of the U.S. Department of Labor—show that the HVAC, architectural metal, and other industries using sheet metal workers will need to do a lot more recruiting in the next few years. If BLS is correct, by 2012 the U.S. will add 24% more sheet metal workers.

As seen in Table One—which compares our industry’s data with that for all occupations, industry-wide, and selected other trade—sheet metal worker employment is projected to grow faster than that in related fields.

Table 1: BLS Occupation Growth Projections—2002 to 2012

Occupation or category	2002 Total	Projected 2012	Change, 10 Years	% Growth
All occupations	144,014,000	165,319,000	+21,305,000	14.8%
All construction	6,732,000	7,746,000	+1,014,000	15.1%
Sheet metal workers	205,000	246,000	+41,000	19.8%
Structural metal fabricators & fitters	89,000	94,000	+6,000	6.2%
Roofers	166,000	197,000	+31,000	18.6%
Plumbers, pipefitters & steamfitters	492,000	584,000	+92,000	18.7%

Source: Bureau of Labor Statistics. Some totals left to right may not add precisely due to BLS rounding.

Table 2: Contracts For New Construction—With 2005 Forecast & Supplemental Data

	2002A	2003A	2004E	2005F	'05 change from '04
Single-Family Housing	\$214.2	\$242.3	\$254.4	\$242.2	- 5%
Income Properties*	\$93.9	\$98.5	\$104.0	\$113.4	+ 9%
Institutional Buildings	\$89.9	\$89.4	\$88.9	\$93.4	+ 5%
Manufacturing Buildings	\$5.4	\$6.3	\$6.5	\$7.5	+ 16%
Public Works	\$87.8	\$82.7	\$80.4	\$83.0	+ 3%
Electric Utilities	\$12.0	\$8.9	\$7.5	\$6.7	- 11%
**Total Construction Contracts	503.3	\$528.0	\$541.6	\$546.2	+ 1%

Source: Mc-Graw-Hill Construction, Mid-Year Forecast.

Notes: A=actual, E=estimated, F=forecast. *Income properties=office buildings, retail stores, warehouses, hotel/motels, and other commercial buildings. **Totals at foot of each column may not add precisely due to McGraw-Hill rounding.

CONSTRUCTION '05 FORECAST: NONRESIDENTIAL TO GAIN

Increased nonresidential construction is the net of a mid-year forecast update from McGraw-Hill Construction’s Dodge economists. They see a 9% gain next year in contracts for new construction of “income properties”—office buildings, retail stores, warehouses, hotels/motels, and other commercial structures. See Table Two. Note especially that the \$254 billion estimated value of new single-family housing construction contracts puts housing at 47% of this year’s construction dollars; as recently as 2001, that figure was at 42.5%. ■

Partners PROGRESS

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