JAN/FEB 2023

SMAC NEWS

Opportunity is in the Air

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CEO UPDATE Aaron Hilger

Inside SMACNA's 2023 Strategic Plan

I am proud of the effort our strategic planning committee put into the development of SMACNA's 2023 strategic plan (thank you to all who participated). The plan was approved by SMACNA's Board of Directors in January, and we are beginning to lay out the actions necessary to achieve the four planks outlined in the plan.

SMACNA's strategic plan puts in motion a set of four important objectives for the organization to accomplish over the next several years. When achieved, these objectives will strengthen SMACNA's position with key stakeholders, including our labor partners, our members and our chapters.

Our first objective is to continue to develop our relationships with our union partners, making sure our members have a strong, progressive relationship with their local counterparts. Workforce demographics, mega projects and work changes due to technological change are placing new demands on contractors, and together SMACNA and SMART must respond to the changing environment on the national and the local levels. Contractors must also be more entrepreneurial and willing to enter new markets and/or engage in new ways with markets once lost. Confidence in our labor partner at the local level is one of the keys to our growth.

Our second objective is to expand and strengthen SMACNA's educational offerings while delivering them in ways both contractors and their staff can fully utilize. This may include virtual programs for those who don't have time to travel, combined with abbreviated in-person events. It also includes offering educational, in-person events in more locations. Lastly, SMACNA needs to make sure people can easily locate, register and attend a variety of education programs through SMACNA's website.

Our third objective is to increase engagement with

FROM THE PRESIDENT

Tony Kocurek

members at every level of the business by offering valuable services and information that helps members run their businesses more effectively. We will be looking at ways to increase engagement from simple interactions like reading content or browsing the website, to higher level engagement like attending conventions or volunteering to be on a committee or task force. Being able to quantify what is working and areas of improvement is imperative to developing highly valuable products and services for members.

And last but certainly not least, our fourth objective is to strengthen SMACNA chapters and chapter executives. Tip O'Neill famously recognized that all politics are local. While he was talking about congressional elections, he could have also been talking about SMACNA chapters. Virtually all of SMACNA's members come through local SMACNA chapters. The SMACNA member experience is driven by local chapter interactions. Stronger, more skilled chapter executives will help our contractors become more successful.

These four objectives are complex, long-term projects that will require a lot of cooperation, change, improvement and commitment across multiple stakeholders, but I am committed to making them happen and improving the value that SMACNA brings to members. ▼

Aaron Hilger is CEO of SMACNA, bringing more than two decades of executive association leadership to this role. Hilger is focused on building a stronger, more competitive environment for all SMACNA contractors.

"SMACNA'S STRATEGIC PLAN PUTS IN MOTION A SET OF FOUR IMPORTANT OBJECTIVES FOR THE ORGANIZATION TO ACCOMPLISH OVER THE NEXT SEVERAL YEARS. WHEN ACHIEVED, THESE OBJECTIVES WILL STRENGTHEN SMACNA'S POSITION WITH KEY STAKEHOLDERS, INCLUDING OUR LABOR PARTNERS, OUR MEMBERS AND OUR CHAPTERS."

How SMACNA Is Increasing Engagement Opportunities

As SMACNA's president, I find myself measuring and evaluating engagement frequently — when I travel to chapter meetings, lobby for passage of local legislation or even participate in an interview with a national trade magazine. We all wonder what our reach is, who is listening and what impact we are having on others.

Engagement is a hot topic at SMACNA as Aaron and his staff are implementing a new management system for the association. One of the benefits of this system is accurate data on membership, what members participate in, and how they spend their time engaging with the association.

All sorts of interactions with the association are possible — from light engagement transactions like clicking on an email link or visiting SMACNA's website to more substantial, personal engagements like volunteering for a committee or donating to the PAC. SMACNA has done well with engaging members in critical areas, such as labor relations, technical services and legislative advocacy, but our focus needs to broaden to other critical areas as well.

One area SMACNA is making significant strides in is education. I am really excited about all of the different programs SMACNA is developing, the amount of webinars with experts SMACNA is producing and the content SMACNA is creating on its website.

A big step forward for SMACNA will be offering training and education in different ways that meet the needs of members. If you are like me, its tough to send someone to a different city for training. It's a tough situation where you can't afford to lose those days, but you want increased skills as a result of the training. You will have to gauge the temporary impact versus the long-term return on investment.

It's a unique decision for each contractor, but for me having an option to provide fully remote learning or remote learning combined with an abbreviated, in-person training would be a great option. The other option I like is that SMACNA is starting to offer more frequent programming in different parts of the country. This enables me to reduce travel costs and time, while also giving me choices for when the training fits within our project planning.

A lot of these enhancements were articulated in SMACNA's strategic plan. I encourage you to review it on www.smacna.org to see the strategic direction that contractors helped develop. ▼

Tony Kocurek, SMACNA President

Crafting Metal Works of Art

Artists make unique clients for A. Zahner Co., which has extensive experience in this area.

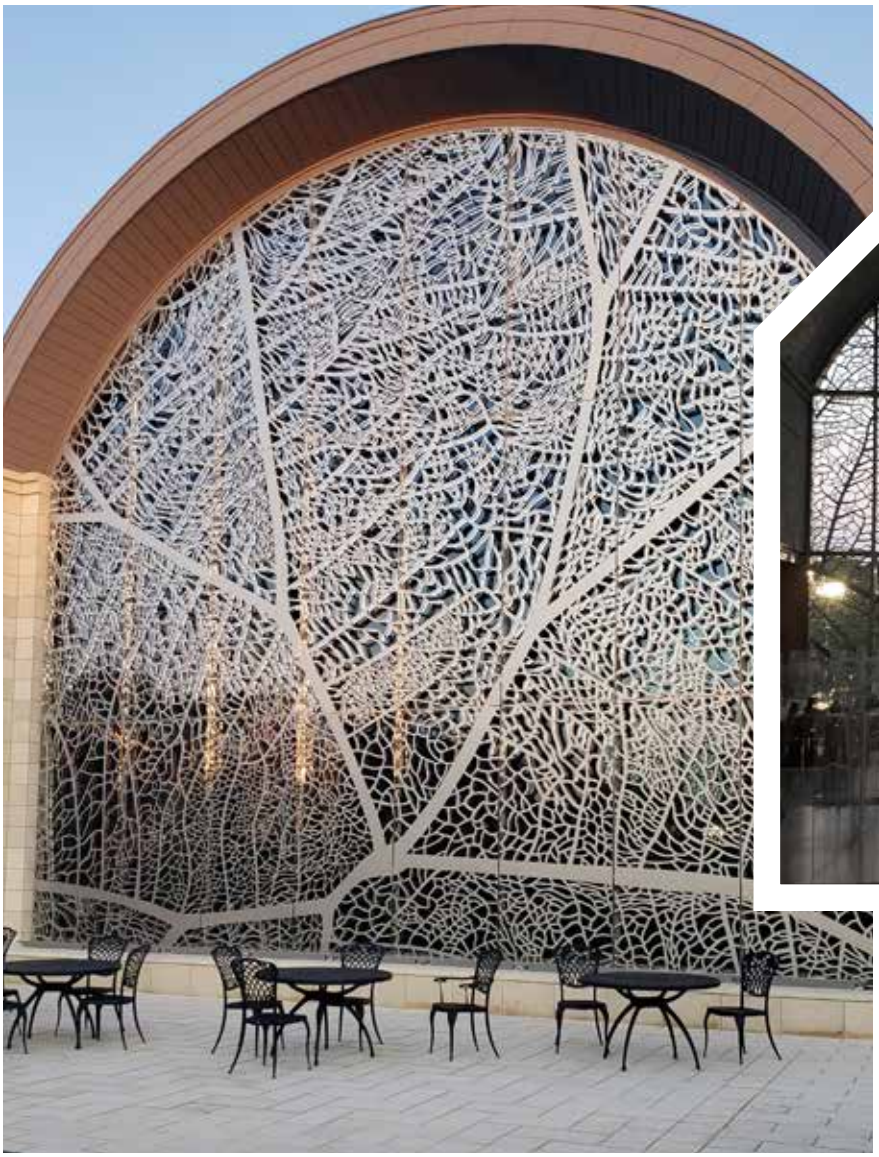
In 2007, L. William Zahner, CEO of A. Zahner Company of Kansas City, Missouri, collaborated with Jan Hendrix, a world-famous Dutch artist based in Mexico City, on the Art Wall of Doha in Qatar. "Jan and I became good friends," Zahner says. Sixteen years and over 20 projects later, Hendrix spends so much time in Zahner's shop that people might think he works there.

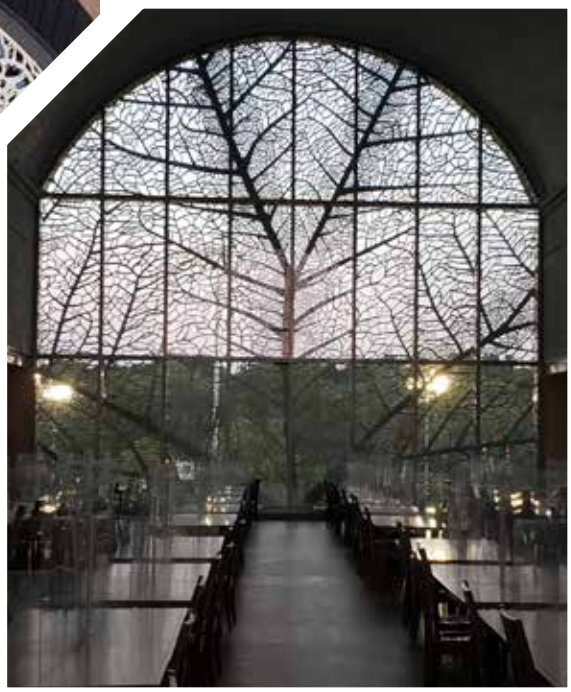
Hendrix is one of dozens of artists who collaborate with Zahner to create massive artwork. "We sit down with the artist and discuss how he created different things, which opens almost endless possibilities," Zahner says. "They challenge us, and we challenge them. Big ideas come from pushing the boundaries and trying things that haven't been done before. It's fun because everything is different; everything is new. You're always learning something you didn't know before."

Zahner loves the window shades Hendrix designed for the Pembroke Hill School cafeteria in Kansas City, Missouri. In fact, he installed a sample in his office. "One of the first iterations is on one of my windows. We had the clients over, and they wanted to see what it looks like," Zahner explains. "We help the artist develop the concept. He draws it all out, and we convert it to machine language. He may do 10 different iterations, and then we make a prototype so the client experiences it."

The two 40-foot by 40-foot shades are on opposite windows of the Pembroke Hill cafeteria. Each window has two layers for a total of 6,400 square feet of 14-gauge stainless steel. The project took a team of eight people about 18 months to complete. "We were able to put up a beautiful piece of art for little more than normal sunshades," Zahner says. "Hendrix wanted the students to feel like they are inside a leaf." The challenge was to keep the flowing, organic pattern within rectangular panels. "It has to be strong enough to resist loading and gravity, but we can't make the structure so pronounced that it hides the art."

The facade of the Mexican Museum in San Francisco is also approximately 40 feet tall. However, it's also 100





"IT'S FUN BECAUSE EVERYTHING IS DIFFERENT; EVERYTHING IS NEW. YOU'RE ALWAYS LEARNING SOMETHING YOU DIDN'T KNOW BEFORE."

— L. WILLIAM ZAHNER

feet long and wraps around the sides of the building. The façade is inspired by a topography map of the landscape from Mexico to San Francisco. It has two distinct layers for a total of 24,000 square feet of stainless steel and took 15 craftspeople 36 months to complete. Each of the 330 rectangular panels is made of four triangles folded together. "This kind of folded plate pattern leans toward Mexican or Aztec design," says Zahner. The interior layer is different from the exterior, so the wall appears to change as pedestrians walk by. "It adds a level of complexity to the surface and makes it more interesting than a flat wall."

Every single opening of a Hendrix creation is unique. "We help the laser manufacturers in Germany create part of the code the machine uses to cut these because they're so complex," Zahner says. "The other thing we do is analyze each cutout shape from a budget standpoint." Zahner's team saves money with slight design modifications that allow for faster work. "The Pembroke windows cut very slowly while the long openings in the Mexican Museum façade cut quickly."

Waste metal often tips as it drops away from the sheet, which triggers the laser sensors. "When the lasers have an interference, they go all the way back to the beginning of the program," Zahner says. "You can imagine the frustration of restarting, but we conquered that." It's also a problem when laser cuts begin on an edge. "We want the initial cut in a place that's going to be recycled and removed, not an edge."

Due to strength characteristics, these projects usually use stainless steel, but Zahner has also worked in zinc. "For one, we're doing with Jan right now," he says, "we're going to carve black anodized aluminum so that you get the offset of the reflective surface below."

"Working with artists is different than working with an owner or a client because the artist becomes very engaged with your people," Zahner says. "There's no change order aspect, and the relationship is much cleaner." Some artists are so passionate that they short themselves financially. "We always want the artists to succeed, and it's a must that the artist makes money. We want to make them famous." He couldn't succeed without his staff. "Our craftspeople make it possible to compete anywhere in the world. We don't want our name on it unless it's perfect." ▼

Between the Lava and the Rain

Hawaii Sheet Metal & Mechanical works amid the challenges of an active volcano.

The Big Island of Hawaii is home to six active volcanoes, according to the U.S. Geological Survey (USGS), with Kilauea being one of the most active volcanoes in the world. Some vents have continuously flowed for almost 35 years — from 1983 to 2018. In late 2022, neighboring Mauna Loa, the world's largest shield volcano, also erupted.

SMACNA member Brian Ninomoto, president of Hawaii Sheet Metal & Mechanical in Hilo, Hawaii, had a spectacular view just steps from his back door. "On the first day, I think the lava from the eruption was 200 feet high," he says. "And, at night, you could see it even more."

Ninomoto is no stranger to seismic activity. He lives with earthquakes, which shake the Hawaiian Islands thousands of times each year. Also, he works about 5 miles from the beach, just outside the tsunami evacuation zone. "I can see the evacuation sign from my office," Ninomoto says. Local building codes require seismic restraints. "Everything's tied down."

But day in and day out, his biggest challenge is the torrential rain. "I was in California for New Year's Day," Ninomoto says. "It rained half an inch while I was there, and it was flooding everywhere. Here we get half an inch in 10 minutes." Hilo is in a tropical rain forest climate where the average annual rainfall is 130 inches or over 10 feet annually. It rains about 211 days a year on this part of the Big Island. "Roofing projects are tricky. We don't rely on weather news. We go straight to NOAA to look at the satellite images ourselves and try to determine what the weather will be."

Good information is critical to keeping his business profitable in this extreme environment. Besides weather

When Mauna Loa erupted, Brian Ninomoto, president of Hawaii Sheet Metal & Mechanical in Hilo, Hawaii, had a front row seat. The company is used to dealing with the volcano's impacts on business operations and indoor air quality.

BECAUSE THE CLIMATE IS WARM, LOCAL BUILDERS DON'T BOTHER WITH INSULATION OR TIGHT CONSTRUCTION, WHICH CAN LEAD TO TOO MUCH HUMIDITY AND MOLDY CONDITIONS. AS A RESULT, ISLANDERS CAN BE EXPOSED TO "VOG," OR SMOG FROM A VOLCANO.

satellites, Ninomoto tracks Civil Defense announcements. During a recent lava flow from Mauna Loa that threatened a highway his business relies on, Ninomoto used this information to stay abreast of travel conditions and ensure that the roads remained passable. "They've got helicopters flying over the lava flows watching, and they're really good about keeping everybody informed," he says. "When the lava was coming down the slope, it looked like rivers running through a waterfall. But when it hit the flat land and spread out, it hardened and slowed down." Luckily, lava never reached the highway.

Housing on a tropical volcano is unique. Snow falls at high altitudes on the volcano, but people living in warmer climates close to sea level see a different type of "snow" from the ash of the volcano. Heating systems are rare. "We're diversified to stay busy," Ninomoto says. "We're a mechanical contractor, meaning air conditioning and refrigeration. We don't do plumbing, but we do everything else — HVAC through architectural."

Because the climate is warm, local builders don't bother with insulation or tight construction, which can lead to too much humidity and moldy conditions. As a result, islanders can be exposed to "vog," or smog from a volcano. "Volcanoes emit sulfur dioxide and CO2. It smells like eggs," Ninomoto explains. "We get a lot of calls to check air filters when there's volcanic activity. People request carbon filters because active carbon helps with odor control inside the house."

Volcanic fumes and ash can cause health issues for people who are sensitive or have allergies. "If you're extremely close and downwind, you've got to be careful because it will burn the throat," Ninomoto says. Schools in Hilo never have snow days but close when the vog is heavy. "They shut government offices down and tell everybody to stay inside until sea breezes pull the vog away."

Vog is why Hawaii Sheet Metal & Mechanical taped up the windows of the community center in Pahala, Hawaii, a few years ago. "We got a call from the Parks Department because the town was getting heavy ash, falling like snow." Officials designated the community center as a shelter for residents with respiratory difficulties, but ashes and gas still came into the building. "I told them we should close the outside air dampers and seal them off just to keep that facility sealed off from outside." The tape around windows kept vog from seeping in through cracks.

Vog complicates COVID mitigation because bringing outside air into a building can be hazardous. Ninomoto worked with the State Department of Education to equip all public school classrooms in Hawaii with portable air filtration units that remove COVID particles even during eruptions.

"We live on active volcanoes, so we're always ready for whatever comes," he says. "Natural disasters happen, so stay out of the way. Everybody here takes precautions. It's part of life."

HVAC for U.S. Air Force Hangars

United Mechanical tackles its fifth hangar project — the KC-46A Three Bay Maintenance Hangar at Tinker Air Force Base in Midwest City, Oklahoma.

The opportunity to work with the United States Air Force has been equally exciting and challenging for United Mechanical, headquartered in Oklahoma City, Oklahoma. The company is just beginning work on the KC-46A Three Bay Maintenance Hangar at Tinker Air Force Base in Midwest City. This will be the fifth hangar on which the company has performed HVAC and plumbing work. These have been high-profile projects, and United Mechanical is proud to be involved.

This latest Three Bay Hangar is just under 150,000 square feet, and the total construction contract is $148,925,456 — with the mechanical portion being around $25,000,000. At a glimpse, sheet metal labor for this project will include 3,800 shop hours and 21,900 field hours, plus 200,000 pounds of galvanized sheet metal. Piping and plumbing labor onsite hours are budgeted at 33,000 hours. All the labor is furnished through Sheet Metal Workers Local 124 and Plumbers & Pipefitters Local 344.

Kyle Bellmon, company president, says that United Mechanical was able to secure this job after success on the previous hangar projects, which included working with the current general contractor, Harper Construction. Harper named United Mechanical their exclusive mechanical contractor from the start of this job.

"The project is being performed on a design-assist basis, so we are working closely with Harper's mechanical engineer to develop the plans and specifications," says Bellmon. "Since we have been working on the base for the last six or seven years, we have knowledge of the owner's intent."

"THE PROJECT IS BEING PERFORMED ON A DESIGN-ASSIST BASIS, SO WE ARE WORKING CLOSELY WITH HARPER'S MECHANICAL ENGINEER TO DEVELOP THE PLANS AND SPECIFICATIONS."

— KYLE BELLMON

Patrick Gray, the project manager on this and the three previous hangar projects, says that given the high-profile nature of this job, there is some intensity around scheduling, inspections, paperwork and rigorous safety checks.

"We are interacting with the Air Force, which is an honor but also very involved," Gray says. "We are also working under a time crunch."

The project kicked off on January 18 and is scheduled for completion in July 2025.

A unique aspect of this job is the height at which the work needs to be done.

"Most of the ductwork and other mechanical systems hang high in the space, so our workers have to get used to working in lifts as high as 80 to 90 feet in the air," says Bellmon. "Safety is of the utmost importance, and we have a safety plan in place."

Bellmon adds that the team became accustomed to working with the lifts on previous hangar work.

"On one of those jobs, we also dealt with a lot of mud, so even just backing the boom and lift up was a challenge," he recalls. "In the two bay hangars, we must use an articulating boom which is even bigger and can swivel around to reach all of the necessary angles. It's definitely a different experience than required on some of our other work."

On this project, the Army Corps of Engineers is the middleman between the end user and United Mechanical.

Bellmon says that they have their own safety team, along with United Mechanical's safety coordinator, that comes out regularly to inspect everything. The harnesses and the lift are consistently checked, and the team has been thoroughly trained.

While the Tinker hangar projects have been some of the company's largest, others include the Hobby Lobby warehouses and office buildings, Integris Heart Hospital, Will Rogers World Airport and Winstar Casino GEC and Central Plant. United Mechanical was first formed in 1975 and incorporated in 1976 by Steve Bruno as a small plumbing/piping shop. By 1980, the company had grown enough to go into the sheet metal business. The construction group handles projects ranging from medical and institutional to office work. United Mechanical employs a minimum of 150 plumbers, pipefitters and sheet metal workers. They also have 35 service technicians serving the Oklahoma City area and western Oklahoma.

Regarding this specific project, Bellmon says, "it is always a privilege to build projects that help our nation and our national defense."

Gray agrees. "It's really neat to look back at a project like this when it's finished and tell your kids you were a part of it," he says. "It's something you feel special about when you drive by."

Effective High-end Residential Strategies

T.H. Martin shares eight tips for working on condos, apartments and hybrid spaces.

Like any market, success in the high-end residential sector comes down to some critical know-how of the ins and outs. We recently caught up with Thomas E. Martin, president of T.H. Martin Inc., in Cleveland, Ohio, to give us some strategies when his company does work on high-end residential condos, apartments and hybrid spaces. Here are some of Martin's best tips.

COST SAVING MEASURES

Margins tend to be thinner on residential jobs due to the repetitive nature of the jobs and who competes for residential work. "Sometimes the pay scale can be dramatically different between contractors, and you need to explain the value that comes with higher skilled workers," Martin says. "You do have to quote these projects aggressively and make sure you have the right ratios of apprentices to journeypersons on the job."

An additional cost-saving measure can be found with union partners. "If you know your bid needs to be super competitive, reach out to the union to discuss ways they can help," he says. "They want to win the business as much as you do and they have some creative, effective ideas that can help with the business, especially if the project expands marketshare."

COLLABORATION WITH EQUIPMENT VENDORS AND REPS

"You should also plan to collaborate with your equipment vendors and reps," Martin says. "On many of these high-end residential projects, you are using the same size equipment again and again. Your equipment vendors and reps will likely have volume-oriented solutions not only related to efficiency with the equipment but with the labor. They can help make things easier for you in the field."

A look at some of T.H. Martin's high-end condo, apartment and multi-family work in Cleveland, Ohio.

STREAMLINE THE DESIGN

A lot of these high-end residential projects are comprised of suites that are essentially identical from floor to floor. Therefore, "you can streamline the design to make it easier for your shop during fabrication — and easier for field installation," Martin says. "If you think like a manufacturer, you can standardize the design, and then the fabrication work, as well as simplify installation." Every incremental saving reduces costs of the overall project.

OFFER EXPERTISE AND DESIGN OPTIONS

Being a Union/SMACNA contractor, "we have the best talent, and a lot of our contractors have great skillsets and expertise," Martin says. Don't be afraid to offer that to the customer or the design team. And don't hesitate to collaborate throughout the design phase with the design engineer of record. It will only help the project. T.H. Martin is very experienced when it comes to larger, commercial projects, so on smaller, mixed-use projects, "we can tap into the know-how and make recommendations that benefit the customer, saving them money and scheduling hassles," he adds.

THINK LOW PRESSURE AND PRE-FAB IN THE SHOP

From a fabrication standpoint, think low pressure and pre-fab. With these typical suites and systems, "you want to consider how you can use pre-fab to control your labor," Martin says. "You have more control of your labor in the shop than in the field, so if you can put together two or three pieces of duct in the shop and have it mostly pre-fabbed, you're setting yourself up for success." Think about lean principles on these projects.

IDENTIFY THE CORRECT CREWS AND SUBS

Identifying the right crews for this type of work is important, especially if it's not something you typically do. T.H. Martin Inc. does mostly commercial and some industrial work. On retail or multi-family/mixed-use projects, there are some tenant-facing elements of the HVAC system that require a little more attention to detail than large commercial projects, so the right people need to do the finishing work. Also, it is critical to have a great project manager who is also an excellent communicator in the field. Each floor is like a project unto itself, and crews can be working on multiple floors at one time on these projects. "You must have someone who can coordinate and communicate with the crews in the field, as well as the office and the shop on materials needed," Martin says.

WILLINGNESS TO WORK WITH ALL TRADES ON SITE

High-end residential is not always union work and, oftentimes, "you have to be willing to work with non-union trades on these jobs," Martin says. "With high-end residential, you might be working with a non-union electrician or carpenter, for instance. The mentality on this has to be 'take care of the customer' first and foremost."

LOGISTICS AND MATERIAL HANDLING AND STAGING

A lot of these high-end residential projects have one or more buck hoists to get materials to higher floors. "It's critical that you plan ahead and think about logistics, including material handling and staging," Martin says. "Again, think of pre-fab solutions. Plan for trips up a buck hoist and maximize every trip possible to reduce the number of lifts needed. If you can find a way to consolidate 10 trips to six, you reduce wait times substantially."

Consider every possible way to increase efficiency when bidding on high-end residential and mixed-use projects — from design to supply orders to labor costs to pre-fabrication to installation. Examine all closely to create the most competitive bid possible. As Martin says, "At the end of the day, doing the above and helping the customer understand the skill involved and quality and professionalism of the work delivered will give you the best chance possible at winning this type of work." ▼

COVER STORY

Opportunity is in the Air

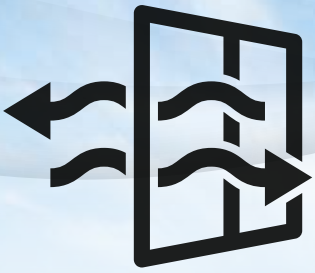
Assuring clean air in buildings is becoming an essential service, and members can easily gain the tools to perform in-demand ventilation verification work.

Jennifer Lohr worked 24-hour shifts to convert about 250 hospital rooms into negative airflow isolation spaces in Philadelphia hospitals during the onset of the pandemic. Almost overnight, the conversation about indoor air quality shifted into the mainstream.

Now as vice president of Fisher Balancing Co. in Williamstown, New Jersey, ventilation is always her focus. Lohr's work as a TABB- and NEBB-certified technician and project manager is centered on testing, adjusting and balancing (TAB) systems — measuring and adjusting air and water flows to meet design requirements.

As an air expert, she was an "essential worker," as the *Wall Street Journal* highlighted when they shared her story. And across the board now there's more of a spotlight on the fact that ventilation is, in fact, essential.

"Before, you would go into a building and you knew it had HVAC working because it was cool or warm," Lohr relates. "You didn't think about how the air was keeping you safe and whether it was properly filtered."



What Is Ventilation Verification?

At the core, ventilation verification gives SMACNA contractors an assessment strategy that addresses these nine points.

1. **Filtration**
2. **Ventilation and exhaust**
3. **Economizer**
4. **Demand control ventilation**
5. **Air distribution and building pressurization**
6. **General maintenance**
7. **Operational controls**
8. **CO2 monitoring**
9. **HVAC assessment report**

This information is provided to a design professional to analyze. Then repairs, adjustments and upgrades can be made based on recommendations.

Today the world is remarkably different, and SMACNA is encouraging member contractors to do more than have an indoor air quality (IAQ) discussion with clients. Taking the minor step of adding ventilation verification awareness and certification to their service capabilities, contractors can tap into an opportunity market that's well-funded and relatively easy to win new customers. Ventilation verification services also establish a direct connection between the building owner and contractor, deepening relationships with clients, and establishing long-term relationships that consistently generate revenue by providing services, enhancements and HVAC system replacements.

"At baseline, we are what we breathe," says Aaron Hilger, SMACNA CEO. "We learned from COVID that indoor air quality is important, especially over a sustained period of time, and there are steps building owners can take related to ventilation and CO2 levels to help people in their buildings be more productive and create better learning environments. COVID forced us to look at this as an industry and ask, 'How can we do better for people who live, breathe and work in buildings all day?'"

The public might call this clean air. The industry now refers to it as improved ventilation.

"It's verification that an HVAC system is doing what it was designed to do," says Tony Kocurek, president of Energy Balance & Integration and SMACNA. "Do outside air dampers open and close on command? Do economizer dampers open and close? Are fans performing as they were intended and designed? If they are belt-driven, are the belts tight enough to provide the drive to make fans work correctly?"

SMACNA contractors are already performing 90 percent of this physical assessment of systems, Kocurek says. "To help improve indoor air quality, our members should be comfortable having conversations about the broader aspects of indoor air quality directly with building owners," he says.

This is why SMACNA, the National Energy Management Institute (NEMI) and iTi created an IAQ-Ventilation Verification certification training so journeypersons and technicians can develop a foundational understanding of IAQ system mechanics.

"This is right in our wheelhouse," says Chris Ruch, director of education for the National Energy Management Institute (NEMI). "What this does for SMACNA contractors is offer 'design to demo.' Not only do contractors build the system, when they do a ventilation verification assessment, contractors build relationships with the building engineer, and they are in the right spot to get maintenance contracts and become much more involved with building operations."

ATTENTION ON INDOOR AIR QUALITY

Ventilation verification opens up a well-funded and promising market for SMACNA contractors. There is $885 billion in recent federal funding and tax credits available to improve indoor air quality in buildings. As more information about IAQ, workplace productivity and learning environments is dispersed, the demand for ventilation verification will continue to increase.

Yet the barrier to entry to get involved and offer this service remains so low, every contract can offer this service regardless of how many employees they have. Ventilation verification training is pretty straight forward and contractors only need to train a few people to do the work to start.

Interest in IAQ isn't new and contractors already have all the knowledge they need to hit the ground running. Kocurek dials back to the 1970s energy crunch with a push toward improving system efficiency. "All of a sudden, building owners and schools and all kinds of institutions started looking at energy cost and how to reel it in," he says. "Engineers started looking at designing systems with much closer tolerances, and that started the testing and balancing field."

The shift was mostly cost-driven.

Then with the waves of forest fires throughout California and the West, people became more aware of the harmful smoke

NOT ONLY DO CONTRACTORS BUILD THE SYSTEM WHEN THEY DO A VENTILATION VERIFICATION ASSESSMENT, CONTRACTORS BUILD RELATIONSHIPS WITH THE BUILDING ENGINEER, AND THEY ARE IN THE RIGHT SPOT TO GET MAINTENANCE CONTRACTS AND BECOME MUCH MORE INVOLVED WITH BUILDING OPERATIONS."

— CHRIS RUCH, NATIONAL ENERGY MANAGEMENT INSTITUTE

and the need for cleaner air in buildings. "So that started another aspect of ventilation verification to go in and look at systems and make sure they are operating properly to filter out smoke and contaminants," Kocurek relates. [See "Between the Lava and the Rain" on page 4 for related content.]

By doing this, contractors recognized that turning "off" the smoke-filled outside air does not benefit places like some hospital spaces that need positive pressure. "So, engineers started to design emergency-type systems to pull air from different areas and make pressurization work while keeping a good, clean environment," he continues.

Then COVID hit. "That opened up everyone's eyes to the fact that indoor air quality is highly dependent on the mechanical systems that are supplying it," Kocurek says. "That is the ventilation verification we are talking about today."

Prior to the pandemic, SMACNA and the International Association of Sheet Metal, Air, Rail and Transportation Workers (SMART) were already looking at ways to forward the issue, Ruch says. NEMI collaborated with the University of California-Davis to write a white paper, "Proposed Ventilation and Energy Efficiency Verification Program," targeted toward schools. An updated version, which will include buildings, will be released May 1.

"There is a key misconception among customers that if they purchase an efficient unit, it will work correctly," Ruch says. "But the report's outcomes show that within three years of units being installed in classrooms, only 15 percent were meeting minimum requirements for outside air."

Ruch adds, "For kids, if you

Austin Clark, air balance superintendent with ACCO Engineered Systems in Pasadena, California, shared the photos in this story as ventilation verification work his company has done under the California CalSHAPE program.

Introducing IAQ Through Improved Ventilation Verification

A dedicated indoor air quality (IAQ) website targeting building owners and operators is under construction by SMACNA. It will provide a broad platform of compelling stats, research, funding resources and standards. A directory of SMACNA members will allow visitors to easily search a database of HVAC contractors, highlighting those offering ventilation verification services.

Educating building owners and operators and school adminstration is an integral aspect of the IAQ site. It will cover topics across the indoor environment. The purpose is to emphasize that indoor air quality is a matter of public health. We are what we breathe.

The resource is another tool from SMACNA, directly connecting members with customers and prospects to start a discussion about healthy buildings. Stay tuned for the launch of www.wearewhatwebreathe.com.

have adequate ventilation rates, you can see up to a 15-percent increase in productivity and test scores. For adults, you get a lower amount because kids breathe in more air and weigh less, but adults at work see a 4- to 7-percent increase."

So, there's a marked economic impact when air quality meets or exceeds standards.

Ventilation verification is a necessity because mechanical components in an HVAC system naturally wear down over time, and building use changes and maintenance can get put on the back burner. "We would find offices in a building where a storage room is now a workspace, and the airflow was not meant for that, or a classroom designed for 25 students now has 30," Ruch explains. "It doesn't mean you need to replace the unit; you just have to adjust it."

THE TOOLS — AWARENESS & CERTIFICATION

Determining how the unit is currently operating and which adjustments are necessary is part of a ventilation verification assessment. SMACNA contractors can participate in a 45-minute online course called Ventilation Verification Awareness Training to get a general understanding of what it includes and associated resources. After completing the course, contractors can list their companies on SMACNA's site, which is launching in April — www.wearewhatwebreathe.com — and NEMI's site, www.betterairinbuildings.org. Both groups are raising awareness in the market for ventilation verification services, so it makes sense to list your company and your trained people on both sites. To add this service to SMACNA's website, you just have to update your company profile and the profiles of the people who receive ventilation verification awareness training. "That way, customers can find you for work you already do," Ruch says.

The awareness course is a primer for how to educate customers about indoor air quality and their HVAC systems and what resources are available to provide an extra level of service.

Lohr compares this knowledge overview to buying a car at a dealership. "The salesman has never owned the car, but he's taken it for a drive once or twice and can give you a basic understanding of what he knows about it," she relates. "He didn't build the car, but he can guide you in the right direction. So with that Ventilation Verification Awareness Training, the contractor can help the client understand our work better, and at least they know how to guide the next steps."

Beyond that, SMACNA contractors can pursue IAQ-Ventilation Verification Certification at a technician or supervisor level. Essentially, the curriculum is based on the experience TAB contractors receive to test, adjust and balance systems, but it's not nearly as detailed, Kocurek says. The program addresses the air quality aspects of TAB. It includes concepts such as filtration, ventilation rates, system components, air distribution and internal building pressure.

"SMACNA contractors are involved in the design of the system, the construction and installation, but typically that is where a lot of them stop," he says. "So, there is a market we have been neglecting with clients, and that is ensuring that the system you did install stays in proper operating condition."

A step up from the awareness training, IAQ-Ventilation Verification Certification involves about 24 hours of online training for technicians. The supervisor course is more business-focused, Ruch says.

"On the technician side, certification is a stepping stone to get into more advanced service and control work," Ruch says, noting that this knowledge is a foundation for TAB work.

For supervisors, "It shows customers that ventilation verification is an integral part of the company and not de-

The California Schools Healthy Air, Plumbing and Efficiency Program (CalSHAPE) will provide funding to upgrade heating, air conditioning and ventilation (HVAC) systems in public schools.

pendent on a single, qualified technician," he says.

DESIGN TO DEMO

Do you have to be certified to perform ventilation verification work? Not in most places.

"You only need to be certified if it's required," Ruch says.

That said, states like California, New York, New Jersey and Connecticut have adopted various regulations related to how often systems are checked (every five years) and requiring certification to work on grant-related projects.

Matt Sano, president, Fisher Balancing Co., explains that in his state of New Jersey, assistance dollars for air quality improvements in buildings are provided only when a certified contractor reviews the system, so there is a strong market driver in place.

"We are going in, taking a series of readings to establish what they have presently, then they decide whether they need to implement changes," he says. "Once changes are made and approved, they need readings from the final results. They do not get the grant money unless there is a document that proves proper ventilation. They want someone with a certification to take the readings, so they know there is third-party guidance."

Meanwhile, Local 19 in New Jersey is pushing a House bill that will require annual ventilation verification, Sano says. In New Mexico, where Kocurek operates, House Bill 30, known as the Public School Ventilation Improvement Act, would require schools to get ventilation verification every five years. This is already in place in Connecticut.

There federal dollars, legislation and demand for ventilation verification, and there's no sign of the movement slowing down.

"If you ask a building owner or a school, 'Do you take care of the ventilation system?' they will all tell you, 'Absolutely!'" Ruch relates. "But like taking your car in for a 25-point inspection, you find out there are things wrong you didn't know about."

Those potential adjustments, repairs or replacements are real business opportunities for SMACNA contractors. As Sano says: "For those who get certification, it expands their business models and gives them opportunities to say, 'We are qualified, and we can perform that,'" ▼

"THERE IS A KEY MISCONCEPTION AMONG CUSTOMERS THAT IF THEY PURCHASE AN EFFICIENT UNIT, IT WILL WORK CORRECTLY, BUT THE REPORT'S OUTCOMES SHOW THAT WITHIN THREE YEARS OF UNITS BEING INSTALLED IN CLASSROOMS, ONLY 15 PERCENT WERE MEETING MINIMUM REQUIREMENTS FOR OUTSIDE AIR."
— CHRIS RUCH, NATIONAL ENERGY MANAGEMENT INSTITUTE

A side view of the offset framing that GES installed on a building at the historic Culver Studios, which has produced films since the silent era. The framing helped complete the look and design of the structure.

FEATURE STORY

THE WEAKEST LINK?

With an uncertain supply chain that still seems broken, many SMACNA contractors are turning to stockpiles and substitutions to keep projects and profits on track.

When supply chain problems threatened to delay one of GES Sheet Metal Inc.'s projects, the company didn't sweat it.

Instead, clients asked if the Fontana, California, company could help keep the project going by suggesting alternate materials or making the suppliers' parts on backorder.

"Whether it's aluminum extrusions or stainless-steel pipe clips with ready access to metals and a 16,000-square-foot sheet metal shop, there's a lot GES can offer," says David Lee, the firm's president.

General contractors are often eager to hear the company's ideas, he adds. And they're even happier when the solutions GES proposes keep the project moving without impacting the budget.

As an architectural design-build firm, Lee says "the company specializes in finding creative solutions."

"And it's amazing how (instead of) .090 aluminum, you can use .125 aluminum," he says. "It takes more energy and effort on our end — and more engineering — to make a project go forward sometimes," But the clients are pleased the projects proceed on schedule.

Many SMACNA members are now finding it necessary to be equally resourceful. At a time where periodic shortages can happen with almost any product from glue to specialty fasteners, the construction supply chain is still recovering from the COVID-19 pandemic. If the pandemic taught contractors anything, its how to be resourceful as they grapple with shortages, delays and price hikes. Contractors have responded by increasing inventory; adding or substituting new suppliers; inserting contract escalation clauses when possible; or like GES, suggesting alternate materials they can make themselves.

A recent survey of 1,032 construction contractors confirm just how common such moves are. According to the survey, only 9% of responding firms say they didn't have any supply chain problems in 2022. More than 60% of contractors surveyed say they're buying materials sooner after winning contracts than they did previously. A quarter say they're stockpiling materials without contracts.

GES went beyond those mitigation steps to create a solution that helps their bottomline by creating and selling a product that also keeps the process moving.

GOOD SUPPLIER RELATIONSHIPS HELP KEEP PROJECTS GOING

At GES, Lee says the company he co-owns with his wife, Michelle, has been fortunate to have good relationships with reliable metal suppliers.

"Traditionally, we've got a pretty good handle on aluminum, steel, copper and stainless with our suppliers," he says. "Pretty much every other day we're getting a recap on the material that's available to us."

And since GES can fabricate architectural panels, it can guarantee delivery — a big plus when many projects suffer delays.

"For us, it's an in," he says. "Now we're not waiting on a plumber to complete his work so that we can close up the exterior of the building. Those were the sort of things that allowed us to kind of control our destiny on some projects when we were being told that another sub that preceded us couldn't complete its work because of a supplier issue."

The company has even been hired to work on projects originally awarded to competing companies to help keep them on track and on budget. "We were brought in for different solutions because of our fabrication capabilities," Lee says. "They (the competitor) let the contractor know, 'We can't get this (but) GES can make it. GES has the laser, GES has the tooling. They have the capabilities."

CUSTOM PAINT COLORS CAN BE HARD TO GET

For some contractors, getting the metal for projects isn't the problem — it's securing the custom colors owners want to paint on them. In such cases, contractors have to persuade owners to approve alternatives.

Darren Cooper, the architectural division manager at Oregon's General Sheet Metal (GSM), says the raw ingredient shortage in paint sometimes makes it tough to get the exact color building owners want.

"That's nationwide. It doesn't just affect us. It affects multiple industries, which affects a lot of people," he says. "The sheet metal industry is like the others. When it comes to getting paint, custom paint is very hard to get. Standard colors are fine. But because of the shortage of the raw ingredients in paint, it has forced material costs or the paint costs to go up."

Cooper says he's been told that a key ingredient in paint is also used by the automotive industry to make electric vehicle batteries, which is driving up costs and limiting supply.

"So it comes down to supply and demand, and who wants to pay what," he says. "So what we did is we kind of steered away from custom colors or found suppliers that had bigger ranges of standard colors."

INSULATION SHORTAGES MEAN SUBSTITUTIONS, LONGER WAITS

Insulation is another material where shortages mean GSM officials occasionally need to sell architects or owners on possible alternatives.

"A lot of our products were coming out of Texas, and with COVID and some of the storms that went through, there were certainly some pretty large delays getting insulation," Cooper says. "And some plants were

A GES worker installs a decorative panel at the Martin Luther King Jr. Community Hospital in Los Angeles. The company specializes in architectural sheet metal work.

The sloping beams in the courtyard at 11601 Wilshire Blvd. in West Los Angeles were made and installed by GES Sheet Metal.

shut. So we had to find alternative sources for that — which we can. The architects were willing to work with that and go to a different product with the same (R) values."

With some materials, such as insulated metal panels, the problem isn't availability; it's lead times. Products that used to take eight weeks to get are now taking 16 or 24 weeks, he says.

"So when you've got a project that starts in three months, and your submittals take three weeks, and you have to order it, it's going to be touch-and-go if you get the material in time," he says. "So there's a lot of juggling early on in our contract award time, bringing the long lead time items straight to the front line to buy out. So we don't delay the project."

Cooper said GSM hasn't had any difficulty getting the metals needed for its different architectural projects.

"We've been very, very lucky," he says. "We've tried to stay with vendors who are close to us. One for availability; two to save money for the customer on freight costs and (to) get a speedier delivery time frame."

HISTORIC RESTORATION COMPLICATES THE SUPPLY CHAIN

Unfortunately, not all SMACNA contractors have been as lucky in securing metal or getting clients to accept a substitute.

When you're involved in historic restoration work, the opportunities for material substitutions are limited. Glenn Parvin could tell you. Parvin is the owner and president of Custom Architectural Sheet Metal Specialists of Detroit — better known as CASS Sheet Metal. The company's high-profile restoration projects include the state capitol in Lansing, Michigan, and a 111-year-old Detroit train depot that narrowly avoided multiple dates with a demolition crew.

Owners want what they want, he says. And that makes his company's projects exposed to the whims of the supply chain.

For example, the roof of the Detroit train station required over 35,000 square feet of 16-ounce copper, plus 20-ounce copper for the deck and gutters at the roof's perimeter. Over the course of the project, the malleable metal went from $3.30 to $7 a pound with a one-year lead time.

AT A TIME WHERE PERIODIC SHORTAGES CAN HAPPEN WITH ALMOST ANY PRODUCT FROM GLUE TO SPECIALTY FASTENERS, THE CONSTRUCTION SUPPLY CHAIN IS STILL RECOVERING FROM THE COVID-19 PANDEMIC.

CASS was able to buy copper at $4.60 a pound. "We almost considered ourselves lucky" to get that price, Parvin says. "We were able to secure all of our copper well in advance of its actual need." However, that price was greater than the $60,000 escalation allowance CASS had put into its contract. "We historically always put an escalation allowance in anything copper, because of how volatile it is," he says. "Fortunately, we didn't get hurt too bad on that deal. We had most of it covered."

MANY MATERIALS HAVE SHOT UP IN PRICE

Besides copper, Parvin says other common roofing materials such as plywood and polyisocyanurate (ISO) insulation have

The trellis used at 10100 Santa Monica Blvd. in Los Angeles was made in GES' sheet metal shop.

A GES worker installs a back panel at Harvey Mudd College, a private science and engineering school in Claremont, California. GES' work is on buildings throughout the Los Angeles area.

seen at least short-term price hikes. Plywood went from $36 to $98 a sheet, he says, and insulation was in such demand that suppliers refused to quote a price before shipment.

CASS and a lot of other area roofing contractors responded to market conditions by stocking up on materials whenever they could. But as demand has slowed, many have found themselves stuck with more than they need.

"The insulation market kind of settled itself," Parvin says. "I'm trying to get rid of an extra 50,000 square feet of insulation right now. I thought I was going to be able to get rid of the ISO very easily … (but) all the contractors have yards full of insulation, so nobody wants to buy the insulation that I have."

While the local supply chain has started to loosen up, Parvin said prices on most metals are nowhere near what they were before the pandemic.

"Metal doubled in cost. What used to be $2 a square foot is $4 a square foot," he says. "They're starting to self-correct, but they're not dropping to where they were. I'm very hopeful — knock on wood — that things start to work more in our favor as prices start to settle."

However, Parvin says he doesn't expect to see prices similar to what he was paying in early 2020 ever again.

"People a lot smarter than me always say with economics: When you go through a big inflation period, the prices don't ever really come and settle all the way back to where they were," he says.

MORE PAINT PROBLEMS

Like GSM in Oregon, Parvin says finding some paints has been difficult. He's had to work with architects and owners on finding alternatives for hard-to-get custom colors.

"Those custom paint colors are six to eight weeks out at best coming from the manufacturers," he says. "They're a real problem. Some of the pigments are difficult to get. They had a run with black where you couldn't get that for a while. Dark blues were a big problem in the supply chain and caused a big delay on one particular project."

The client on that project — a large southeastern Michigan regional hospital — would not accept a stock color. For branding reasons, the client only wanted its custom blue. "And they waited for it," he says.

But in many cases, clients are willing to accept a color that's close as long as costs are comparable and it keeps the project moving.

Some owners, however, won't accept any deviations from what they've approved. That was the case with another recent CASS project, the 20-story Huntington Tower in Detroit. CASS was able to secure the last 90 sheets of 14-gauge duplex stainless steel in the U.S. to keep the project on track. But it cost Parvin almost twice as much to get it.

Parvin says the owner wasn't interested in any alternatives. "They weren't bending," he says.

THE SUPPLY CHAIN IS BETTER — REALLY

While it still has a ways to go, the supply chain is better, says Jay Bowman, a construction industry analyst with FMI who has spoken at several SMACNA events.

"We've seen the number of container ships unloading at ports has actually improved," Bowman says. "We've seen where delays in getting some materials have eased."

While the COVID-19 pandemic caused almost all economic activity to stop in March 2020, resuming normal operations hasn't been as quick or smooth. And that's not unusual, given the severity of the disruption, Bowman says.

"I would caution people to understand that 'better' is coming from probably one of the worst supply chain shortages we've ever seen post-World War II," he says.

With the pandemic's major impact now over, the supply chain should start to feel close to normal within a year, Bowman predicts. However, the willingness of contractors to try different approaches and suggest alternative materials should not be abandoned.

"I think people still need to think about those things and still use them," he says. "I think even when things get back to normal, that's a good muscle for people to have." ▼

State of the Union Response & GSA Carbon Scoring Rule Updates

Both chambers were in session in early February for the State of the Union legislative week. On Feb. 7, President Biden gave the State of the Union address to a pre-pandemic-sized crowd in the House chambers.

THE SENATE

Senators returned the week of Feb. 13 for a light legislative work week. However, they did hold several key committee hearings while in town only to leave again for 10 days. During this time, they completed the rules for:

- The Government Shutdown Prevention Act (S. 299)
- The Transportation Fuel Market Transparency Act (S. 259)

The Senate also spent the week considering nominations and finalizing their rosters and naming Subcommittee Chairs and Ranking Members:

- U.S. Senators Tom Carper (D-DE) and Shelley Moore Capito (R-WV) Chair and Ranking Members of the Senate EPW Committee announced committee spots.
- The Senate HELP Committee delayed advancing SMACNA-endorsed Wage and Hour nominee Jessica Looman due to Senator Casey's absence.

GROUPS ENDORSING THE STATE OF THE UNION

After the president's speech, the White House released a document outlining the organizations who applauded Tuesday's address:

- Sheet Metal, Air, Rail, Transportation Union (SMART): "On the campaign trail and during his first State of the Union speech last year, President Biden made big promises: substantial infrastructure investment for the first time in decades, the return of manufacturing to America, and an economy that works from the bottom up and the middle out, not the top down. Now, two years after the president's inauguration, we can say that the Biden administration is delivering on those promises."
- Sean McGarvey, President, NABTU: "... President Biden and the 117th Congress laid an extraordinary sustainable foundation that will generate millions of middle-class, family-sustaining careers and protect workers' health and wages for years to come."

SMACNA COMMENTS ON GSA CARBON SCORING RULE FOR FEDERAL CONTRACTORS

While generally endorsing the FAR decarbonization policy goals (Federal Supplier Climate Risk and Resilience Rule, FAR Case No. 2021–015, 87 Fed. Reg. 68312) that establish guidelines and incentives for the largest direct federal contractor market leaders, SMACNA had many suggested revisions to the policy draft.

As the world's largest purchaser of products and services, with $630 billion of procurements in 2021, the federal government relies heavily on its supply chain to deliver critical services to the public. The Proposed Rule would provide the government with the critical information needed to make higher quality contractor selection decisions at a time of great variability among companies in their handling of climate change risk, as well as highly complex construction project decisions. The FAR Council's proposal contains several core provisions that directly confront the buildup of risk in the federal supply chain. Together, they will ensure that the government has the emissions-related disclosures and science-based targets it needs to determine whether larger scale contractors are meeting the federal government's sustainability goals and project requirements.

SMACNA SUGGESTIONS:

- SMACNA said the gross dollar volume threshold is too low for HVAC/mechanical contractors of relatively small size.
- SMACNA proposed HVAC-mechanical equipment specified by federal officials not be counted toward the $50 million federal contract sales volume.
- SMACNA supported a higher threshold for the $50-million category if it excludes HVAC-mechanical equipment specified by the federal contract and not fabricated by the contractor bidding on the project.
- SMACNA endorsed the listed and other waiver exceptions for contracting officials to be flexibly administered for the earliest implementation period.
- SMACNA suggested that federal contractors not only provide climate change resiliency for materials supply and delivery related assurances and forecasts but also include their skilled workforce and training capabilities as a key factor in measuring construction resiliency security and program viability.
- SMACNA endorsed the overall collection of exemption provisions responsive to the subcontracting businesses.

Private developers and the U.S. government, as well as many state and local governments have supported a variety of modest as well as more advanced initiatives to reduce emissions and energy costs by supporting efficiency upgrades in public and private facilities. Generally, this has been through support for job-creating retrofit tax incentive and direct grant programs as well as incentives to produce sustainable buildings. The federal infrastructure initiatives also have included direct grants to state and local code authorities to upgrade building codes to focus on decarbonization, where possible. These emission and efficiency enhancements have included the adoption of more aggressive and modern energy codes for new buildings with public support to make long overdue reforms.

CYBERSECURITY

Nick Espinosa

Understanding Possible Targets of Cyberattacks

With reports telling us that cyberattacks have been perpetually on the rise, and with the cybersecurity industry not only short millions of qualified professionals but also suffering from burnout, preparing for attacks is getting tougher.

More cyberattacks — plus understaffed cybersecurity teams — create the perfect storm for ensuring that our governments, businesses and homes are ill-equipped to face this onslaught. Add to that a war where one of the most prolific governments for hacking is losing handily in an invasion they thought would take a weekend, and it's not "if" we'll be attacked; it's "when."

So, let's explore the possible strategic targets the enemy has that can harm your business.

LOSS OF INTERNET VIA YOUR INTERNET SERVICE PROVIDER

Internet Service Providers (ISP) are the backbone of the entire infrastructure and economy of the planet. The internet runs the financial system, most phone systems, communication and security systems. An extended outage could shut down business operations and everything connected to the internet.

LOSS OF ELECTRICITY

For over a century, electricity has literally kept the lights on, kept many of us warm on freezing nights, and kept every convenience in our lives up and running. Electricity is critical to modern civilization at this point. Without it, businesses and life could grind to a halt.

LOSS OF WATER AND WASTE WATER

Unfortunately, this is one of the many areas where U.S. infrastructure is severely vulnerable. A recent Inspector General report revealed that of the more than 50,000 water and wastewater districts across the nation, a vast majority are incredibly susceptible to cyberattack.

LOSS OF TRADITIONAL COMMUNICATION

Many buildings have hardwired alarms and communications to outfits like local first responder systems and security companies. The issue is that much of this older infrastructure is now into hybrid communications systems that need the internet to complete the connection. If the internet gets hit, traditional communication will be impacted, which could cut access to critical services.

DISRUPTION OF SATELLITE SERVICES

In modern society, satellite systems are now beyond critical. Our entire navigation infrastructure relies on GPS. Outside of personal vehicles having their GPS go down, airplanes rely heavily on GPS, as does shipping. While some redundancies are built into specific applications (we have navigation beacons for airplanes, for example), this would be a huge disruption to personal life and commerce.

DISRUPTION OF APPS & SERVICES

Prior to their invasion, Russia attempted to destabilize the Ukrainian economy and society by launching cyberattacks against the banking infrastructure, knocking out access to financial institutions across the country. The goal was to panic the general population that the economy was crashing and, thus, people would make runs on the bank. Combined with a disinformation campaign designed to ramp up fear, it was an effective tactic that the Ukrainian government worked overtime to counter.

How would the United States fair under those conditions? Given that within the first week of the pandemic, almost everyone lost their minds, and we saw runs on stores for toilet paper, you tell me.

DISRUPTION OF LOCAL GOVERNMENT

Local government is integral. To that end, it's critical it stay online during disasters.

In the next issue, we'll talk about how a business can fix these vulnerabilities and better prepare for cyberattacks. ▼

Nick Espinosa is a cybersecurity expert, working with companies to design custom cyberdefense strategies. Learn more at www.securityfanatics.com.

FINANCIAL STEWARDSHIP

Ronald J. Eagar

Top Contractor Strategies for 2023: Part 1

With 2023 well underway, there is still a lot of noise in the world today that detours business owners from charting a confident course through this new year.

For construction contractors, who are now feeling the real COVID-19 impact that most other industries experienced in 2020, that noise revolves around the replacement of dwindling backlogs, material price increases, continued labor concerns, and the effect of interest rate hikes on capital expenditures. With no plans for additional governmental assistance programs, the potential to see a wave of contractor failures is real — and has already started.

While it is easy in the doom and gloom that comes with the shorter days and longer nights of winter to discuss inflationary concerns or debate if a recession is looming or already here, it is more productive to focus on the strategic planning techniques contractors can employ to capitalize on the opportunities we believe will emerge this year, like the first flowers of spring. Here are the first five of our Top 10 Contractor Strategies for 2023:

1. Purchasing & Procurement. Take inventory regarding how you have been dealing with the price fluctuation of construction materials. To mitigate price fluctuation, consider purchasing and storing stock items in advance and in bulk, or secure a purchasing agreement for stock items in an effort to lock in prices and minimize the overall cost. Review if change orders are being accepted for increased costs of construction materials or altered lead times for purchasing materials.

2. Revisit Your Prequalification Process. With so much talk in the industry about other construction contractors in distress and fear of failure, this is a good time to revisit and update your subcontractor prequalification process. When the contractor's prequalification program relies on year-end information, the issue becomes the reliability of outdated financial statements on which you are making decisions. In addition, 2021 saw the end of government grant programs, such as PPP and ERC, so results may have been skewed. Asking for updated financial information, whether CPA-prepared or not, could give the qualifying contractor greater insight into the current financial health of a subcontractor before it is too late. Don't be afraid to be more critical in your analysis and ask questions.

3. Operations & Disaster Planning. Take note of increased costs this year due to inflation. If you implement innovations to streamline operations, you may be eligible for R&D credits to help reduce any tax bite coming your way. In the event of future disasters or slowdowns, have a plan in place and make sure your team knows the proper procedures to execute during a business crisis.

4. Project Performance Management. This is an ongoing review of the efficiency of your projects. It is essential to have a formal policy in place for communicating, reviewing and documenting actual job performance in relation to the final buyout budget. Management should review job costing and profitability on a regular basis and make necessary changes in estimating and project management.

5. Internal Controls & Auditing. Reflect on whether your business has sufficient internal controls in place to deter the opportunity for someone to commit fraud, including your remote employees. Ensure job costs are being posted to the correct project. Also, review how journal entries are originated, approved and posted within your accounting environment.

Every market condition presents opportunities, and this one is no different. So, keep your eyes open. These may come in the form of labor or other talent, new customers as you step up and fill a market void or accelerated investments in technology. Whatever it is, be open to it.

Your service providers and advisors are key sources of innovative ideas and strategies. Stay engaged in a continuous dialogue with them to understand what they are seeing across the industry. For example, a conversation with your bonding agent could reveal problems other contractors are experiencing and help you avoid them through proper planning. Keep in close contact with your audit and tax professionals, as their insights into your financial condition can yield valuable recommendations for greater efficiencies and cost savings. This discussion should extend to the bank, making sure they are on board with any upcoming requests that will require your credit providers' backing. Leave no room for surprises. ▼

In the next issue of SMACNews*, we will reveal another five contractor strategies for 2023. If you have any questions, contact Ronald Eagar, construction partner at Grassi Advisors & Accountants, at reagar@grassicpas.com.*

LEGAL

Grant Collins

State Marijuana Laws May Pose Security Clearance Problems for Contractors

In recent years, states have moved quickly to pass laws legalizing marijuana. To date, 21 states have legalized recreational marijuana and an additional 16 states have authorized marijuana for medical use.

Despite these state law changes, since 1970, marijuana has been classified as a Schedule I "controlled substance" under the federal Controlled Substances Act, 21 U.S.C. §§ 801-971 ("CSA"). This means that even the simple possession of marijuana is a violation of federal law.

Why is this important? SMACNA contractors performing work on military bases and other facilities that require a security clearance may be faced with workforce challenges. In particular, a worker's current and prior marijuana use can disqualify the worker from obtaining a security clearance or cause a worker to lose an existing security clearance.

THE SF-86 FORM

Before obtaining a security clearance, workers must complete the Standard Form 86, Questionnaire for National Security Positions ("SF-86"). Section 23.1 of SF-86 asks the following: "*In the last seven (7) years, have you illegally used any drugs or controlled substances? Use of a drug or controlled substance includes injecting, snorting, inhaling, swallowing, experimenting with or otherwise consuming any drug or controlled substance.*"

The instructions in Section 23 make clear that the question relates to federal law: "The following questions pertain to the illegal use of drugs or controlled substances or drug or controlled substance activity in accordance with federal laws, even though permissible under state laws."

SF-86 also makes clear that "The U.S. Criminal Code (title 18, section 1001) provides that knowingly falsifying or concealing a material fact is a felony, which may result in fines and/or up to five (5) years imprisonment."

MARIJUANA USE MAY BE A DISQUALIFYING SECURITY CONCERN

The National Security Adjudicative Guidelines ("NSAG") articulates the security concern for the illegal use of drugs:

> The illegal use of controlled substances, to include the misuse of prescription and non-prescription drugs, and the use of other substances that cause physical or mental impairment or are used in a manner inconsistent with their intended purpose can raise questions about an individual's reliability and trustworthiness, both because such behavior may lead to physical or psychological impairment and because it raises questions about a person's ability or willingness to comply with laws, rules and regulations. Controlled substance means any "controlled substance" as defined in 21 U.S.C. 802.

In 2014, the Director of National Intelligence issued guidance making clear that state marijuana laws do not authorize citizens to violate federal law, including the Controlled Substances Act. The Director explained:

> An individual's disregard of federal law pertaining to the use, sale or manufacture of marijuana remains adjudicatively relevant in national security determinations. The adjudicative authority must determine if the use of, or involvement with, marijuana raises questions about the individual's judgment, reliability, trustworthiness and willingness to comply with law, rules and regulations, including federal laws, when making eligibility decisions of persons proposed for, or occupying, sensitive national security positions.

As the Director explained, "agencies continue to be prohibited from granting or renewing a security clearance to an unlawful user of a controlled substance, which includes marijuana."

GUIDANCE ON MARIJUANA USE, CBD AND MARIJUANA INVESTMENTS

In December 2021, the Director of National Intelligence issued guidance in response to the influx of state laws sanctioning recreational and medical marijuana use.

As an initial matter, the Director emphasized that feder-

al law remains unchanged with respect to marijuana. As the Director explained, "the illegal use or misuse of controlled substances can raise security concerns about an individual's reliability and trustworthiness to access classified information or to hold a sensitive position, as well as their ability or willingness to comply with laws, rules and regulations."

With respect to prior marijuana use, prior recreational marijuana use is relevant, but not determinative, to adjudications of eligibility. In evaluating an applicant's prior marijuana use, adjudicators use the "whole-person concept" to determine whether that individual's behavior raises a security concern. Relevant mitigating conditions include, but are not limited to, "frequency of use and whether the individual can demonstrate that future use is unlikely to recur, including by signing an attestation or other such appropriate mitigation."

The Director also opined on use of CBD oil. Specifically, although the 2018 Agriculture Improvement Act excluded hemp with a delta-9 tetrahydrocannabinol ("THC") concentration of not more than 0.3% from the definition of marijuana within the CSA, the Director noted that products are often mislabeled and can have greater than 0.3% THC. As a result, workers risk violating the CSA when they use products labeled CBD oil and will be subject to investigation in the event that they test positive for marijuana.

While the 2021 guidance does not substantively change the policy for adjudicating security clearances, it is a helpful reminder that marijuana use remains relevant (although not determinative) in security clearance decisions.

BOTTOM LINE

Contractors who perform work that requires a security clearance would be well advised to pay attention to these requirements and educate their workforce on these requirements prior to completing their SF-86.

For interested contractors, SMACNA is preparing a white paper on the issue of marijuana and security clearance. ▼

Grant Collins is an MSBA-certified specialist in both traditional labor law and employment law at Felhaber Larson. Grant's traditional labor practice involves preparing for and serving as chief spokesperson for collective bargaining, advising employers on their rights and obligations under collective bargaining agreements and the National Labor Relations Act (NLRA) and representing employers in grievance arbitrations and unfair labor practice charges before the National Labor Relations Board. Reach him at gcollins@felhaber.com or through www.felhaber.com.

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March 5–9
Business Management University 2023
Tempe, AZ

March 16–17
Association Leadership Meeting
Las Colinas, TX

March 26–29
Project Managers Institute
Raleigh, NC

APRIL

April 17–19
Supervisor Training Academy
St. Louis, MO

MAY

May 7–10
Senior Project Leadership Institute
Rosemont, IL

May 21–24
Financial Boot Camp
Tempe, AZ

SEPTEMBER

September 17–20
Project Managers Institute
Aurora, CO

OCTOBER

October 1–4
Financial Boot Camp
Rosemont, IL

October 15–18
2023 SMACNA Annual Convention
Phoenix, AZ

NOVEMBER

November 5–7
Planning Your Exit and Business Valuation
San Diego, CA

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SMAC NEWS is published bimonthly by the Sheet Metal and Air Conditioning Contractors' National Association for its national, international and associate members.

Executive Editor: Jeff Henriksen
Managing Editor: Nicole Wisniewski
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