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SMAC NEWS

Honoring the Past, Engineering the Future

Southland Industries helps transform the Samuel Oschin Air and Space Center into an immersive tribute to the space shuttle *Endeavour*.

SMACNA®

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CEO UPDATE Aaron Hilger

Embracing Innovation in Construction

Construction has been an industry that both embraces innovation and resists change. I know that seems at cross purposes, but it has generally been true. We like to solve complex problems and figure out how to build great projects. That being said, many of us don't like changing our processes or embracing new products — mainly because they often seem riskier than what we know. We are successful because we build good systems, and changing those systems is hard because they are core to our business.

When I was a kid, I recall my dad getting our company's first computers in the late 1970s and early 1980s. The TRS-80s were pretty cool if limited in function. 4 kilobytes of RAM were a big deal in 1977! The first spreadsheets made business and estimating easier, but they really did not change the game. I recall Dad customizing spreadsheets and programming them to make them work. The technology worked but really wasn't that much better than hand counting and recording the counts on a piece of graph paper. Adding them up was a bonus and maybe helped limit some errors. It was also great to be able to edit a document and then print it, instead of having someone decipher and type whatever was handwritten.

The early computers and related software were less meaningful than the "briefcase" phone in Dad's truck, allowing instant communication with the office and with some foreman. The phone just made us work a little faster; it really did not change that much, but it did make it a little easier to solve problems. For a roofer who had to make weather calls, it was invaluable.

The point of these examples is that construction companies were some of the first non-tech companies to embrace computers and cell phones. The technology did not change our work much on day one. Still, the TRS-80 has become a souped-up computer or cloud server running Rivit, Procore and/or Autodesk. That briefcase phone now fits in the palm of your hand (or used too before Apple and others made

FROM THE PRESIDENT

Tom Martin

phones big again) and has more computing power then a warehouse full of TRS-80s. Small early innovations adopted in the 1970s shape how we run our companies.

Today, we are talking a lot about Artificial Intelligence. AI is about as far away from the TRS-80 as the sun is from Earth. Like that TRS-80 though, it is making some things easier — estimating and contract review come to mind. Same with data organization and workflows. We are adjusting to this innovation and creating new innovations around it. SMACNA started an AI task force in 2024, and I am very interested to see the resources that we produce to assist members. I hope you have already taken part in our programming in this area.

Innovation means being open to new products, processes and technology. It also means being willing to change and move on from the "old way" of doing something. The goals of innovation are for projects to become more efficient, cost-effective, safer and of better quality. If a contractor can do that, they become more competitive and can do more projects — both in number and complexity.

Innovation sounds great. Who doesn't want to build amazing projects and become more profitable? Or work safer? The problem is that it is hard to do new things. There is a learning curve, and many new or innovative ideas might not work the first time or at all. It is hard to get over the idea that if it "isn't broke, don't fix it." Those are the things that got us to where we are. Said another way, good enough can be the enemy of great, but trying to be great is not cost- and risk-free. Anyone who has gone through a tech implementation knows how hard it is to change — both processes and people.

This edition of *SMACNews* has articles about innovation that provide members examples and ideas to consider as you grow your business. We have members, both large and very small, who run highly innovative companies. They have in common a strong understanding of their market niches, tolerances for risk, and commitments the pursuit of the better. Not every solution is for every company, and it is important that you clearly understand what you need, the problem(s) you are solving and the goal you have in mind. ▼

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.

The Power of Collaboration

One of the core values of membership is association and collaboration, especially within organizations like SMACNA. Proactively sharing resources and knowledge between member contractors is emerging as a best practice to ensure success on all levels.

Contractors have numerous opportunities to collaborate and advance our shared interests. Given the evolving attitudes of government stakeholders regarding public works and infrastructure, it is increasingly critical to work together on bidding and executing these projects. Different SMACNA contractors possess varying levels of experience and skill sets. For instance, one contractor might have extensive experience in federal or public sector contracting. At the same time, a different contractor might be new to this field but have valuable technical skills and expertise crucial for successfully executing bids and projects. If these contractors operate independently, they may struggle to meet customer demands, especially regarding scheduling. However, by collaborating, even in the form of a joint venture or as a subcontractor, they can enhance their competitive edge, ultimately benefiting the client, who will have access to a diverse range of expertise offered by signatory contractors. This collaborative approach will maximize value for the client.

Additionally, we have opportunities to collaborate with our partners at SMART. Labor and management must work together — labor provides the workforce essential for successful project execution, while management identifies and delivers the work needed to utilize our employees effectively. I understand this may sound repetitive, but it's crucial to note that SMACNA and SMART align on 90% of our issues. This was the approach I adopted with Mike Coleman, now the General President of SMART, during our collaboration in Cleveland. We focused on finding solutions and avoided counterproductive disputes over minor issues. Workforce challenges affect everyone in our industry; we must unite to address them.

There is much we can do regarding recruitment, education and talent retention. The perception that college is the only pathway to success is changing. A dynamic and motivated workforce is seeking fulfilling careers that support financial stability and family life without incurring debt. By continuing to partner with our labor associates to attract, retain and develop these individuals, we can take significant steps toward ensuring the long-term success of our industry and all SMACNA contractors.

Once again, thank you for the trust you continue to place in me and stay safe. ▼

Tom Martin, SMACNA President

Credit Unions Make For High-interest Projects

Expanding into architectural work has paid off for Standard Sheet Metal of Kansas City, Missouri. The company has become the go-to contractor for a regional chain of community credit unions.

Above, left: The credit union's drive-thru features a stepped cornice. Above, right: Standard Sheet Metal has an ongoing relationship with CommunityAmerica credit unions. The SMACNA member has fabricated and installed architectural sheet metal panels for several locations. Here, pallets of panels fabricated by SSM workers are delivered to a CommunityAmerica Credit Union jobsite for installation.

While visitors to CommunityAmerica Credit Union branches are focused on their finances, when Todd McLellan of Standard Sheet Metal (SSM) stops by, he focuses on something else — the buildings' sleek metal-clad white entryways with crisp lines and sharp corners.

That's because McLellan, a senior project manager at SSM, and his team were responsible for several of the branches' architectural details. SSM has been designing, making and installing sheet metal for industrial and custom projects in and around Kansas City, Missouri, for over 40 years. But the SMACNA member's expansion into architectural projects like CommunityAmerica Credit Unions is a more recent development, according to Roger A. Reed, the company's marketing director.

"While the company's initial focus was on fabricated components, we made the shift early on to include architectural work as well," Reed says. "In the last 20-plus years or so, we've really made a push toward more architectural work."

Reed credited company Vice President Shawn Mann for SSM's expansion into architectural projects.

"He was really aggressive at bidding on architectural work," Reed says.

For much of its history, SSM mostly handled what Reed calls "small, one-off" projects in its 5,000-square-foot sheet metal shop. "We had a press brake and a shear, some hand tools and that was about it," he says.

Today, however, SSM is a much different — and much bigger — operation. It has a 40,000-square-foot shop with equipment such as a 10,000-watt fiber optic laser cutter that can easily slice through 1.25-inch steel plates. The shop also has a laser welder, punch press and a multi-axis routing table. About 40 employees, members of SMART Local 2, work in its sheet metal shop. Another

35 or so do field installation. Annual revenue is around $20 million.

HVAC WORK WAS NEVER A FOCUS

Unlike many SMACNA members, SSM has never focused on HVAC work, preferring to fabricate items like elbows and square-to-rounds for other area contractors without large sheet metal shops.

"Our shop has the capability to do a wide variety of components," Reed says. He estimates that 60% of the company's revenue is architectural sheet metal with the remainder being custom fabrication work.

Expanding into architectural work has paid off with SSM winning several CommunityAmerica Credit Union projects from general contractor A.L. Huber Construction of Overland Park, Kansas.

McLellan says they're a great partner on the credit union projects.

"They understand our capabilities," he says. "We're upfront with them on our timelines so they can incorporate that into their schedule."

Credit union project contracts range from $100,000 to $300,000, depending on whether its new construction or renovation of an existing building. CommunityAmerica Credit Union buildings have three basic styles, McLellan says, but they're modified to fit the site or structure.

"They're not all cookie-cutter," he says. "But it's still that iconic white entryway — the white ACM (aluminum composite material) panel. That look is still there."

The "look" McLellan refers to is designed by local architects GastingerWalker&. Like A.L. Huber, they're also great to work with, he says.

CommunityAmerica Credit Union Architectural Details

Standard Sheet Metal's work on CommunityAmerica Credit Union buildings typically includes:

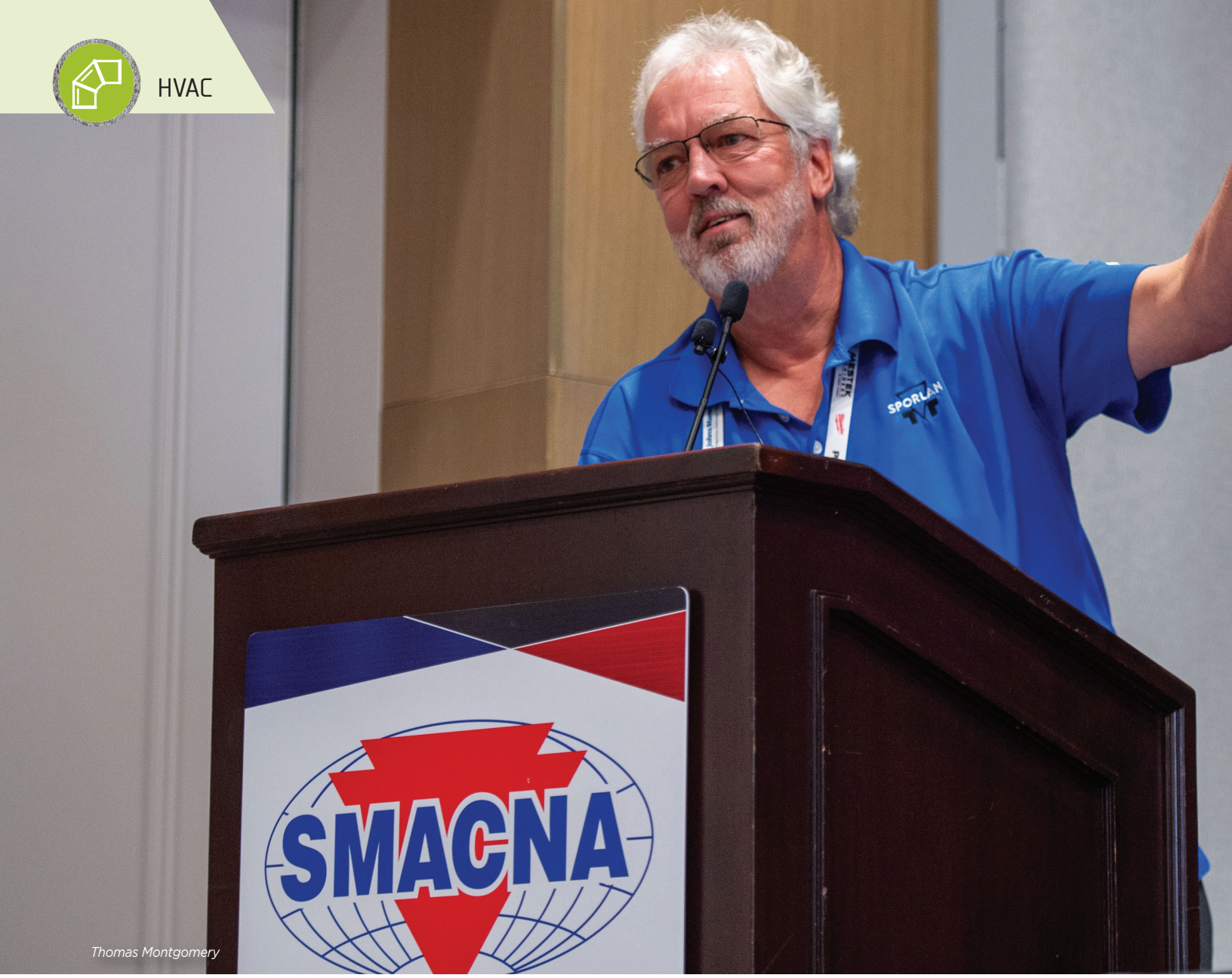
- 4-millimeter-thick bone white color metal panels made by Reynobond or Alfrex with a fire-rated core.
- Panels with a rainscreen system with concealed fasteners. One building used exposed fasteners for budget reasons.
- Some buildings have windows with perforated, 0.063-inch aluminum panels for shade.
- All flashing, trim and copings were made from 24-gauge, prepainted Pac-Clad, Berridge or Firestone steel.
- 16-gauge, galvanized zee girts made by SSM.
- 2-inch, rigid pink or blue board insulation as needed.

"The architect's very involved, and we work with them upfront on details," McLellan says. "As we work with them, they are incorporating our advice — whether it's flashing details or waterproofing. That collaboration makes them relatively smooth projects for us."

Reed says he's proud of the work SSM does on these projects, even though they're not as high-profile as some others, such as historic restorations or downtown skyscrapers, might be.

"Part of what we do is what I call 'the architecture of the every day,'" he says. "We're doing fire stations, schools, public buildings and banks. So these are the buildings that all of us visit regularly. And so it's kind of nice and exciting to see that kind of stuff. It's great to do a museum or some other iconic structures around town, but these are buildings that our families visit and use every day, and we are proud of that." ▼

Above, left: "Hat" channel girts are installed near the entrance to the credit union. Above, right: This CommunityAmerica Credit Union branch has sun shade panels custom made by Standard Sheet Metal workers.



Thomas Montgomery

Expanding Horizons

How adding commercial services can transform an HVAC business.

As the HVAC and sheet metal industry continues to evolve, adding commercial services has become a pivotal growth strategy for businesses looking to diversify their revenue streams, stabilize cash flow and attract top-tier talent.

Thomas Montgomery, North Regional Director of Mesa Energy (dba EMCOR Services Mesa Energy), shared his expertise during SMACNA's 81st Annual Convention in Palm Desert, California, providing invaluable insights into why and how businesses should take the leap into commercial services.

ABOUT MESA ENERGY

As a licensed, full-service HVAC, building automation and retrofit contractor, Mesa Energy combines high-quality consulting services with efficient, cost-effective customized energy solutions. The company's experience spans nearly every major industry.

Mesa Energy targets quality and innovation in projects like the Molina Healthcare office towers in Long Beach, California, where a complete mechanical system retrofit led to a reduction in annual operating costs by $250,000.

BUILDING A SUSTAINABLE FUTURE

Montgomery began his convention talk by highlighting the shift in market dynamics happening in the commercial space. "In 2024, the U.S. mobile service market is projected to hit $80 billion, and by 2034, it's expected to soar to $146 billion," he notes. This growth isn't just a number; it represents opportunities for HVAC businesses willing to adapt.

Adding commercial services allows HVAC businesses to tap into recurring revenue streams. Montgomery compares it to the utility industry. "When you build up a customer base with automatic billing, it becomes a continuous revenue-generating machine," he says. This stability is particularly attractive in industries prone to seasonal fluctuations, offering a consistent buffer against downturns.

THE VALUE OF SERVICE OVER CONSTRUCTION

One of Montgomery's key points was distinguishing between mobile service work and traditional construction projects.

He emphasizes that service operations require a unique approach. "Service is a reactive business," he explains. "Your technicians need to be prepared to tackle unexpected challenges, often with limited lead time."

The financial upside is clear. Montgomery cites that while construction projects may yield a gross profit margin of 15% to 20%, well-optimized service operations can achieve margins upwards of 35% to 40% on average, with some repair work hitting 60% or more. "The numbers don't lie," Montgomery says. "Service work not only commands higher markups but also builds a loyal customer base that leads to repeat business."

LAYING THE GROUNDWORK FOR SUCCESS

Transitioning into commercial services requires careful planning and investment in the right tools, people and processes. Montgomery outlines several key steps:

1. **Leadership Expertise:** "Having someone on your leadership team with a strong service background is critical," he says. This ensures the operation is managed efficiently and aligns with the company's long-term goals.
2. **Tech Training and Tools:** Commercial service technicians require advanced training to handle computer-driven systems, injection tools and complex diagnostic equipment. Montgomery emphasizes investing in versatile technicians who can adapt to various scenarios.
3. **Operational Systems:** From billing to dispatching, robust systems are essential for managing the fast-paced nature of service work. Montgomery recommends exploring modern solutions like Microsoft Dynamics to streamline operations.
4. **Customer Relationships:** Building trust is crucial. "Your best technicians are not just good at their trade; they excel at customer service," he remarks, sharing stories of technicians who became indispensable to clients through their dedication and relationship-building skills.

"SERVICE WORK NOT ONLY COMMANDS HIGHER MARKUPS BUT ALSO BUILDS A LOYAL CUSTOMER BASE THAT LEADS TO REPEAT BUSINESS." — Thomas Montgomery

CHALLENGES AND STRATEGIES

Expanding into commercial services is not without its challenges. Montgomery acknowledges common hurdles such as pricing pressures, competition and the difficulty of finding and retaining skilled technicians. He stresses the importance of a well-thought-out compensation plan, including rewards for securing maintenance contracts. "It's hard to be mad when you see those commissions rolling in," he jokes.

For businesses looking to fast-track their service division, Montgomery suggests acquisitions as a viable option. "Find a solid operation with good systems and people already in place," he advises. This approach minimizes the growing pains associated with starting from scratch and offers immediate access to an established customer base.

A WINNING FORMULA

The long-term benefits of adding commercial services go beyond financial gains. It positions businesses as full-service providers, increases valuation and creates opportunities for internal growth. "This isn't just about making money; it's about building a legacy," Montgomery says.

As businesses look ahead, the message from Montgomery is clear: Adding commercial services is not just a strategy; it's a necessity for those aiming to thrive in an increasingly competitive industry.

Lowering Carbon Footprints

How a pharmaceutical facility implemented a low carbon HVAC system.

In 2022, SMACNA member United Mechanical, headquartered in Rockland, Massachusetts, helped a Massachusetts pharmaceutical production facility lower its carbon footprint and increase the energy efficiency of its building.

United Mechanical partners with general contractors and property managers to devise economical solutions to meet HVAC needs and aggressive construction schedules.

The company offers a range of services, including sheet metal, coordination and fabrication, as well as in-house BIM capabilities and managing projects with VDC. Its growth to a full-service fabrication facility since 1991 is a result of a focus on details, as well as a commitment to service and craftsmanship. United Mechanical prides itself on the fact that 80% of its business comes from repeat clients.

This pharmaceutical facility needed complex mechanical solutions, and United Mechanical had 30 years of experience to bring to the job.

SOME BENEFITS OF USING PHENOLIC DUCT

This pharmaceutical production facility required more than 8,000 square feet of Thermaduct's Thermaround outdoor round ductwork to give the application's HVAC system a smooth aluminum interior with an R-12 phenolic insulated value.

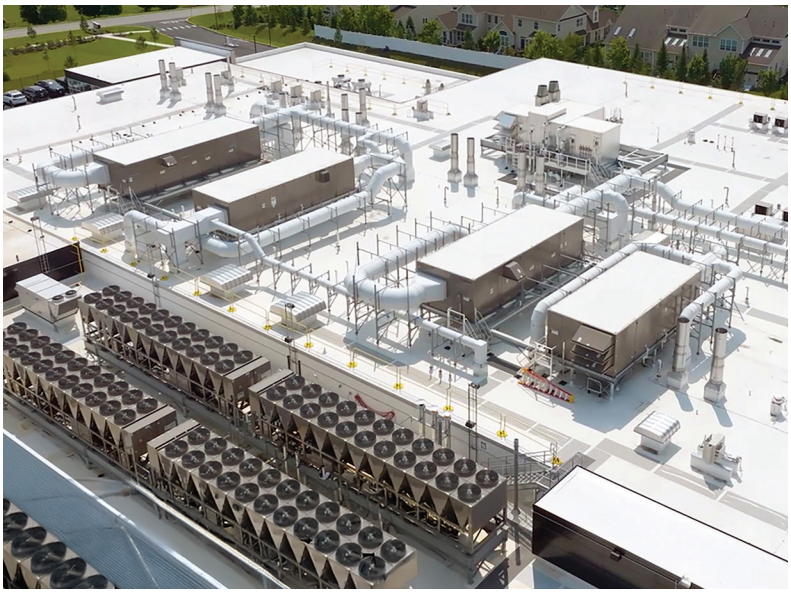
By using phenolic materials in this application, the medical facility was able to see the following benefits at its new location:

- **Lower Embodied Carbon Materials –** The use of phenolic materials and fabrication practices allowed

THE PHARMACEUTICAL FACILITY NEEDED COMPLEX MECHANICAL SOLUTIONS, AND UNITED MECHANICAL HAD 30 YEARS OF EXPERIENCE TO BRING TO THE JOB.

for a reduced carbon HVAC system when compared to traditional metal and insulation alternatives.

- **Weather Resistant Cladding –** United used Thermaround's 1000-micron vinyl cladding and its assembly process to ensure a continuous cladded surface with minimal seams. Phenolic duct is fully sealed in each corner with a continuous bead of sealant supplied by the manufacturer in all four corners of the duct section. Longitudinal seams can be secured on the exterior with panel fasteners, which are metal clips with teeth that grip into the phenolic and are sealed with UL 181 approved tape.
- **Closed Cell, High R Value Insulation –** Using phenolic materials with high-insulated values helped the facility meet energy code requirements, using less space.
- **Low Leakage Flanged Connections –** United Mechanical had a relatively easy installation process using offset couplings and flanged connections. The manufacturer offers online training for tips on proper installation of these connections.



DUCTWORK'S ROLL IN LOWERING EMBODIED CARBON

Lowering embodied carbon of HVAC systems is a growing conversation in the HVAC industry.

With such a heavy dependence on high carbon producing materials such as rolled steel and glass insulation, ductwork has many times been left out of that conversation. In 2004, when phenolic materials entered the U.S. Market, a true low carbon alternative became available to contractors and building owners. This material offers less embodied carbon during manufacturing of the insulated panels and lower energy usage for fabrication into ductwork.

United Mechanical's teamwork philosophy enabled its project team of designers, engineers, subcontractors and vendors to work cooperatively, ensuring that the end results exceeded the customer's expectations.

How to Use Telemarketing to Bridge the Off-Season Gap

HVAC marketing expert Alex Van Leeuwen shares actionable strategies for leveraging text message campaigns to generate leads, boost revenue and stay top-of-mind with customers all year long.

For many HVAC contractors, the off-season presents a persistent challenge: how to keep the job flow consistent when demand naturally wanes. Alex Van Leeuwen, owner of HVAC Marketers, shared actionable strategies at SMACNA's 81st Annual Convention, outlining how contractors can use telemarketing — specifically text message marketing — to bridge this seasonal gap.

"The off-season can feel like a waiting game, but it doesn't have to be," Van Leeuwen says. "With the right approach, you can tap into your existing customer list to generate consistent work, no matter the time of year."

LEVERAGING YOUR BEST ASSET: THE CUSTOMER LIST

Van Leeuwen emphasizes that a company's customer list is its most valuable resource. "Your previous customers are your best future customers," he says. "They're already qualified — they know your brand, trust your work and are more likely to respond positively to outreach."

One of the key advantages of text message marketing, he explains, is its unparalleled engagement rate. While email marketing averages an open rate of just 20% and a response rate of 6%, text messages boast a staggering 98% open rate and a 45% response rate. "The difference is night and day," he notes. "When you send a text, your customer sees it within seconds — unlike an email that might sit in a crowded inbox for hours or even days."

THE SPI APPROACH TO TEXT MESSAGING

Success in text message marketing depends on how you craft your messages. Van Leeuwen uses the "SPI" approach to help HVAC contractors optimize their outreach:

1. **Short:** Keep messages concise to ensure they're quick to read and understand.
2. **Personal:** Address customers by their first name and make the text feel conversational, not automated.
3. **Intriguing:** Use wording that creates a sense of urgency or scarcity, such as "a few remaining coupons."

Alex Van Leeuwen

Avoid discussing pricing upfront to spark curiosity. For example, a simple message like:

"Hi Nicole, it's Alex from ACME Air. We have a few remaining coupons for fall tune-ups. Would you be interested?"

This can generate responses such as: *"Sounds great, I'm in!" or "Yes, please, are there any left?"*

RESULTS YOU CAN BANK ON

Van Leeuwen broke down the numbers for the audience, showing the potential return on investment (ROI) of this strategy. For a customer list of 5,000, approximately 4.7% (235 customers) will respond positively. With a 50% close rate, that translates to 117 booked jobs. At an average ticket price of $500, this approach can generate nearly $59,000 in revenue — no advertising budget required.

"It's like printing money in the off-season," Van Leeuwen quips.

BEST PRACTICES FOR SUCCESS

Van Leeuwen shared best practices to maximize results:

- **Segment Your List:** Remove recent customers and those with active maintenance agreements to avoid irrelevant offers.

- **Rotate Offers Seasonally:** Focus on offers that generate demand, such as seasonal tune-ups, heater safety inspections or smart thermostat installations. Avoid offers that depend on specific weather conditions.
- **Assign Ownership:** Designate a team member to manage the campaign, respond to inquiries and upsell services like maintenance agreements or indoor air quality solutions.

NAVIGATING REGULATORY COMPLIANCE

One important consideration is regulatory compliance. Van Leeuwen notes that the FCC's A2P 10DLC guidelines require businesses to register their messaging campaigns and allow customers to opt out. "You have to include an opt-out option, but you can keep it conversational," he advises. For example: "BTW, if you don't want to receive texts, just say 'STOP.'"

IMMEDIATE STEPS TO TAKE

To get started, Van Leeuwen recommends starting small with a segment of 1,000 customers. "Use the exact messaging templates I suggest, field responses diligently and track the results," he says. "Once you see how effective it is, you can scale up."

For HVAC and sheet metal contractors looking to combat unpredictable job flow and leverage their existing resources, text message marketing offers a game-changing solution. As Van Leeuwen concludes: "This strategy isn't just about bridging the off-season gap; it's about building a year-round connection with your customers and ensuring they think of you first when they need HVAC services." ▼

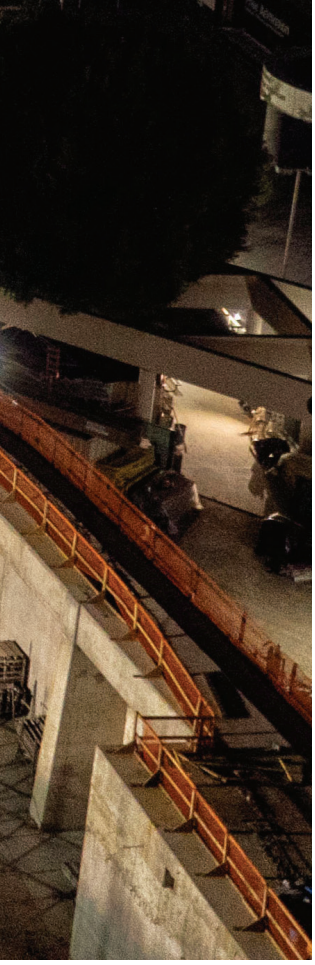


Photo: California Science Center

COVER STORY

Honoring the Past, Engineering the Future

Southland Industries helps transform the Samuel Oschin Air and Space Center into an immersive tribute to the space shuttle *Endeavour*.

The Samuel Oschin Air and Space Center, a 200,050-square-foot addition to the California Science Center in Downtown Los Angeles, is more than just a building project — it's a monumental effort to preserve history and inspire future generations. Designed to house the historic space shuttle *Endeavour* along with other iconic aircraft, the project presents both technical challenges and unparalleled opportunities for innovation.

Photo: California Science Center

A look at the main staircase at the Samuel Oschin Air and Space Center.

Southland Industries, a leader in commercial HVAC systems and MEP building solutions, was awarded the contract for this ambitious project in April 2022 after a competitive bidding process. "Southland has a strong history with this client, and we were honored to be invited to bid," explains Senior Project Manager Jesse Jong. "This project stood out because of its sheer complexity and the legacy it represents — not just for our client, but for the community."

A CHALLENGING UNDERTAKING

Southland's scope of work includes designing and fabricating an intricate commercial HVAC system within a space defined by its exposed overhead utilities and soaring heights — up to 40 feet in some areas. The project also involves the fabrication and installation of more than 350,000 pounds of ductwork, 1,500 feet of double-wall roof duct and 3,000 feet of welded piping.

"The Samuel Oschin Air and Space Center is unlike anything we've worked on before," Jong says. "It's not just about HVAC; it's about preserving and showcasing history while ensuring the building performs at the highest level of safety and efficiency."

At the heart of this historic project lies the *Endeavour*, the

Southland workers installing duct at the Samuel Oschin Air and Space Center.

iconic NASA Space Shuttle that completed 25 missions during its operational career, including servicing the Hubble Space Telescope and contributing to the construction of the International Space Station. The Samuel Oschin Air and Space Center will serve as the permanent home for this marvel of aerospace engineering, where it will be displayed in its vertical launch position, supported by authentic flight hardware such as real solid rocket boosters and an external fuel tank. This setup will be the only place in the world where visitors can witness a complete space shuttle system in such a configuration.

One of the most notable features is the atrium where the *Endeavour* will stand in its vertical launch position. This space incorporates high-rise smoke mitigation measures, an essential component of building safety, and aesthetic air distribution systems across multiple viewing platforms. The complexity of coordinating trades within this confined and congested environment has required meticulous planning and collaboration.

"The high ceilings and dense utilities meant we had to think differently," Jong shares. "We've worked closely with our trade partners to share scaffolding and dance floors, ensuring accessibility while staying on schedule. These collaborations are critical to our success."

OVERCOMING OBSTACLES THROUGH INGENUITY

Southland faced several logistical challenges throughout the project. One of the most significant ones was the fabrication and installation of a massive, 120,000-pound double-wall roof duct system. With only one month for fabrication and a week for crane placement, the team ramped up production by 100%.

"Fred Cabahug and Erik Lopez led our shop team through an incredible effort to meet the accelerated schedule," says Jong. "The coordination between the field and the shop was seamless, and the quality of the work is a testament to the team's expertise."

The design also evolved mid-project. Originally, the building required three duct risers (two supply and one return). However, after discussions with the design team, the return riser was eliminated by converting the four-sided concrete shaft into a return plenum. "That redesign was pivotal," Jong explains. "It allowed us to maintain accessibility for scaf-

Samuel Oschin Air and Space Center Architectural Fact Sheet

Project Overview: A 2,000-square foot expansion is the centerpiece of the third phase of the California Science Center's three-decade master plan. This creates a permanent home for the space shuttle *Endeavour* and will also hold a diverse collection of aircrafts and spacecrafts, as well as immersive experiences and hands-on educational exhibits that encourage active learning through discovery.

Location: Exposition Park Drive in Los Angeles, California

New Building Specs: 200,000 square feet, 192.5 feet tall

Projected Cost: $425 million

Estimated Project Completion Date: Mid-2025

This is the Endeavour *after being installed at its permanent display at the Samuel Oschin Air and Space Center. The display features the orbiter-in-launch configuration, along with actual flight-rated solid rocket boosters and a flight-rated external tank.*

Photo: California Science Center

The project involves the fabrication and installation of more than 350,000 pounds of ductwork, 1,500 feet of double-wall roof duct and 3,000 feet of welded piping.

folding and reduced the overall complexity of the installation."

A TEAM EFFORT FOR A LASTING LEGACY

Southland's peak crew size for the project reached 14 workers, with a combined 31,000 hours of work split between field and shop efforts. The construction has been a full team effort, led by Sheet Metal Leads Kenny Diekmann and Justin Hannon, and Logistics Manager Frank Coleman and Shop Lead Fred Cabahug. "We have a saying here: 'No one succeeds alone,' and this project embodies that sentiment," Jong says. "From our welders to our logistics experts, everyone has played a critical role."

The project's significance isn't lost on the team. As the permanent home of the space shuttle *Endeavour*, the Samuel Oschin Air and Space Center will be the world's only facility showcasing a fully assembled space shuttle system, including authentic solid rocket boosters and an external tank. "This is more than just a building; it's a landmark," Jong emphasizes. "To know our work will be part of something that inspires exploration and innovation for generations is incredibly rewarding."

INNOVATION ROOTED IN HISTORY

For Southland Industries, the Samuel Oschin Air and Space Center is a perfect example of how innovative solutions and teamwork can tackle even the most complex challenges. "This project is about bridging the past and the future," Jong reflects. "We're building a facility that honors human achievement and inspires the next generation to dream big. It's not just a project — it's an inspiration."

As construction continues toward its anticipated completion in September 2025, Southland Industries remains committed to delivering excellence. With over 75 years of experience, the company continues to prove why it's one of the nation's leading MEP building systems experts. ▼

One of the most significant project challenges was the fabrication and installation of a massive, 120,000-pound, double-wall roof duct system.

FEATURE STORY

Dodging Contract Landmines: A Survival Guide for HVAC and Sheet Metal Pros

From tricky clauses to airtight scopes, learn how to protect your business, avoid disputes and master the fine print with expert tips.

Contracts are the cornerstone of every project in the HVAC and sheet metal industry. They govern how and when you get paid, who's responsible for risks and what happens when things don't go as planned. But, too often, contractors sign on the dotted line without fully understanding the terms they're agreeing to, and that can lead to disastrous consequences.

Charles "Chip" Mitchell, founder and principal of Blue Fence Advisors, has made it his mission to help contractors better navigate these legal minefields. "Contracts are one-sided by design," Mitchell explains. "They're written to protect the party upstream, whether that's the general contractor or the owner. But there are ways you can protect yourself, even if you don't have much leverage."

With over 30 years of experience in construction law and risk management, specializing in helping contractors navigate the complexities of contracts and safeguard their businesses, Mitchell offers practical, actionable advice tailored specifically for HVAC and sheet metal contractors. Here's how to identify and manage contract risks so you can safeguard your business and focus on what you do best.

WHY CONTRACT RISK IS CRITICAL

The stakes for contractors are high. A single overlooked clause can lead to unpaid invoices, unexpected liabilities or legal battles that drain your resources. Mitchell emphasizes that every contractor, regardless of size, is considered a "sophisticated commercial entity" in the eyes of the law. "Courts expect you to understand what you're signing," he says. "You can't claim ignorance just because you're a small business dealing with a large general contractor."

For HVAC and sheet metal contractors, this reality is especially important. As downstream subcontractors, they often face additional risks passed down from the owner or general contractor. "You're at the bottom of the food chain," Mitchell says. "If you don't protect yourself, you'll be the first one left holding the bag when something goes wrong."

"THINK OF A CONTRACT LIKE AN ICEBERG. THE MAIN AGREEMENT IS JUST THE TIP. THE REAL RISKS ARE HIDDEN IN THE ATTACHMENTS."

— CHARLES MITCHELL

SCOPE, PRICE AND TIME: THE FOUNDATION OF RISK MANAGEMENT

Mitchell identifies three pillars of contract success: scope, price and time. "If you get these three elements right, you're already ahead of the game," he says.

1. **Scope**
   The scope of work defines what you're responsible for, and what you're not. Mitchell advises contractors to be crystal clear about exclusions. "Ambiguity is your enemy," he says. "If the scope isn't detailed enough, you'll end up doing extra work for free."

   For example, if the contract specifies "install ductwork," it should also clarify who provides the duct, whether insulation is included, and what happens if the design changes mid-project. "The more detailed your scope, the less room there is for disputes later," Mitchell explains.
2. **Price**
   Your pricing structure should align with the contract's payment terms and expectations. Mitchell warns against underestimating the cost of complying with administrative requirements, like submitting detailed cost breakdowns or daily reports.

   "Contractors often focus on direct costs and forget about the hidden costs of compliance," he says. "If the contract requires detailed documentation, build that into your price."
3. **Time**
   Unrealistic schedules are a recipe for disaster. "If the timeline is too tight, you're setting yourself up for delays and penalties," Mitchell says. He recommends pushing back during negotiations if

"AT ITS CORE, CONTRACT MANAGEMENT IS ABOUT SETTING EXPECTATIONS. THE MORE YOU COMMUNICATE ... THE FEWER PROBLEMS YOU'LL FACE."

— CHARLES MITCHELL

the schedule doesn't allow for reasonable contingencies.

PRACTICAL STRATEGIES FOR MITIGATING RISK

Mitchell also offers tips for managing contract risk:

1. **Read the Entire Contract and All Attachments.** "Think of a contract like an iceberg," Mitchell says. "The main agreement is just the tip. The real risks are hidden in the attachments." These include referenced documents like general conditions, specifications and upstream contracts.

   Make sure you have a complete copy of the contract, including all exhibits and appendices. "If you don't have everything, you can't fully understand your obligations," Mitchell warns.
2. **Create a Risk Register.** Mitchell advises contractors to create a risk register for each project. This document summarizes key provisions, deadlines and potential risks in one place. "It's like a cheat sheet for your project team," he says. "It ensures someone has read the contract and knows what to watch for."
3. **Document Everything.** Documentation isn't just a good habit; it's your best defense in a dispute. Mitchell stresses the importance of daily reports, photos and written correspondence. "If it's not in writing, it didn't happen," he says.

   Use technology to streamline documentation. Apps and software tools can make it easier to record daily activities, track changes and maintain organized records.
4. **Understand Notice Provisions.** Notice provisions are often overlooked but very important. They dictate how and when you must notify

the other party of issues like delays, changes or disputes.

"Failing to comply with notice provisions can waive your rights to additional compensation or time extensions," Mitchell warns. He recommends sending all notices in writing, preferably as PDFs on company letterhead.

NAVIGATING RISK ALLOCATION CLAUSES

Contracts often include clauses that shift risk onto subcontractors. Mitchell highlights two common examples:

- **Pay-if-Paid Clauses:** These clauses state that you only get paid if the general contractor gets paid. "In some states, these clauses aren't enforceable," Mitchell says. "But where they are, they put you in a precarious position."
- **No-Damage-for-Delay Clauses:** These clauses prevent you from claiming compensation for delays caused by the owner or general contractor. Mitchell advises negotiating exceptions, such as delays caused by negligence. "You may not be able to remove these clauses, but you can soften their impact through negotiation," he says.

ADDITIONAL TIPS FOR HVAC AND SHEET METAL CONTRACTORS

The world of contracts can be complicated, Mitchell points out, offering additional suggestions for sheet metal and HVAC contractors when it comes to the following common things he's seen that can be concerning in contracts.

1. **Protect Yourself Against Scope Creep Scope Creep.** — where additional work is requested without additional payment. This is a common problem. Mitchell recommends documenting all

Charles "Chip" Mitchell, founder and principal of Blue Fence Advisors

change requests and obtaining written approval before proceeding. "Don't start extra work until you have a signed change order in place," he emphasizes.

2. **Manage Subcontractor Coordination.**
   If you're working with lower-tier subcontractors, their performance can impact your liability. Mitchell advises including flow-down clauses in your contracts with subcontractors, ensuring they adhere to the same terms you've agreed to.
3. **Use Technology to Your Advantage.**
   From contract analysis tools to project management software, technology can help contractors identify risks and stay organized. "AI tools are getting better at flagging problematic clauses," Mitchell says. "While they're not perfect, they can save you time and help you focus on the most critical issues."

WHY RISK MANAGEMENT IS ABOUT COMMUNICATION

Mitchell emphasized the importance of clear communication in contract negotiations. "At its core, contract management is about setting expectations," he says. "The more you communicate upfront, the fewer problems you'll face down the line."

He encourages contractors to involve their project teams in the risk management process. "Your project managers and foremen are on the front lines," he says. "They need to understand the contract and be empowered to act when issues arise."

For HVAC and sheet metal contractors, managing contract risk isn't optional — it's essential for survival in a competitive industry.

By focusing on scope, price and time; understanding key clauses; and leveraging practical tools, contractors can protect their businesses and improve project outcomes.

As Mitchell puts it, "You'll never make a one-sided contract perfect, but you can make it manageable. And that's often enough to ensure your success in the end."

The Reintroduction of the Main Street Tax Certainty Act

In January, Senator Steve Daines (R-MT) and Congressman Lloyd Smucker (R-PA-11) reintroduced their Main Street Tax Certainty Act — legislation to make permanent the Section 199A deduction. The bills mirror S. 1706 and H.R. 4706 from last Congress, meaning the campaign to protect Main Street from looming tax hikes is once again a bicameral and bipartisan effort.

The legislation introduced builds on SMACNA's prior success in a big way. Whereas the previous House bill garnered support from 91 original cosponsors — a significant feat in and of itself — Congressman Smucker's bill was released with the backing of 151 original cosponsors. It's the same story in the Senate, with 36 original cosponsors signing onto Senator Daines' legislation compared to 14 the last time around.

Also notable is the fact that every member of the Senate Republican Leadership team backed the Main Street Tax Certainty Act, as well as the full roster of Republicans on the House Ways & Means Committee. That's in addition to the more than 235 trade associations that joined our letter thanking Senator Daines and Congressman Smucker on this critical issue.

And it's not just Congressional tax-writers who support 199A permanence, as we saw during the Member Day hearing.

Here's what Congressman Tony Wied (R-WI) had to say: "I strongly support making the 199A tax deduction permanent to provide much needed relief to the small businesses, working families and farmers in my district and across the country. Should Congress fail to renew 199A, 52,230 small businesses in Wisconsin's 8th District would be hit with an unconscionable 43.4% tax rate. Any limitation or reduction in 199A would unfairly target and hurt middle class taxpayers and the small businesses who are the lifeblood of our economy."

And Congressman Tom Barrett (R-MI): "Our small business owners, the backbone of our local economy, will face even greater challenges. For example, nearly 44,000 small businesses in mid-Michigan will see their tax rate rise to 43% if the Small Business Deduction expires... These numbers are not just statistics — they are stories of struggle and sacrifice. They represent families deciding between paying their bills or putting money aside for the future and small business owners weighing whether they can afford to expand or hire."

And Congressman Tim Moore (R-NC): "Western North Carolina's economy also relies on small businesses — our state is home to over 964,000 small businesses, which employ nearly half of our workforce. These business owners have told me that without the certainty of the TCJA's small business deductions, their ability to invest in new equipment, hire workers and expand operations would be at risk. Making these provisions permanent isn't just good policy, it's essential to their survival. Because if these provisions were to expire, North Carolina would lose 5.9 million jobs, $540 billion in wages, and $1.1 trillion in economic output."

The bottom line is that Section 199A is more than just a tax provision. It protects thousands of local communities from fewer jobs and more boarded up buildings, reduces the tax burden on local businesses to make them more competitive and allows multi-generation businesses to stay family-owned.

SMACNA is extremely grateful to Congressman Smucker and Senator Daines for their leadership on this issue, as well as the dozens of lawmakers that supported the Main Street Tax Certainty Act. S-Corp and the Main Street Employers Coalition are looking forward to working together to get this critical legislation enacted before it's too late. ▼

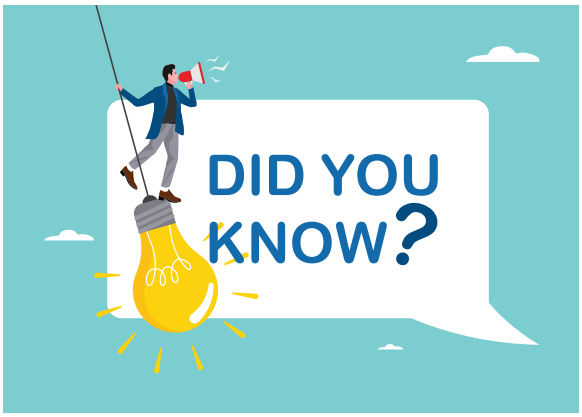
CULTURE OF RESPECT

Dushaw Hockett

10 Things You Should Know About Culture of Respect As We Head Into 2025

Sometimes I feel that people misunderstand what the Culture of Respect is about.

When we first launched this effort, we wanted EVERY person in our industry to see the importance of this work and how it would benefit them. But we haven't always been successful in doing this. That said, in 2025, we commit to doing a better job at communicating about the work. And to kick things off, below are 10 things everyone should know about the Culture of Respect.



WHAT IS THE CULTURE OF RESPECT (FORMERLY BE4ALL, BELONGING AND EXCELLENCE FOR ALL)?

1. Culture of Respect is a joint effort between SMACNA, SMART and the ITI.
2. Our goal is an industry where people support one another; an industry where we say to members and co-workers: "I got your back!"
3. It supports workers and contractors in striving for the highest standards of performance and professionalism in their technical skills and crafts. Our work is about recruiting and retaining the best talent and is not about lowering standards.

WHY IS CULTURE OF RESPECT IMPORTANT?

THE HUMAN CASE

4. Culture of Respect is about being a good person and lifting people up — no matter who they are.
5. It is an opportunity to get to know people as people and recognize that having an open mind toward others will lead to better relationships.
6. It is about kindness, respect and treating others with dignity.
7. It is about unlearning the biases we all have. It's about opening the door to new and valuable connections and building relationships in the workplace that go beyond race, gender, geography, political orientation, etc.

BUSINESS/ECONOMIC CASE

8. Culture of Respect is helping us create a workplace culture that will attract the best talent to our industry. We want to recruit excellent candidates to our industry and make them feel like they belong by creating a respectful workplace.
9. This is about math. If we want to solve workforce issues and attract future customers, we need to recruit and retain more workers. We can't afford to exclude certain groups. We need every talented and qualified individual in the United States and Canada.
10. Winning formula: Hire the best of the best + diversity = greater profits. Issues such as high employee turnover, interpersonal conflict and low morale result in reduced productivity and financial losses.

As Gary Myers, Vice President of Marketing and Business at Intech Mechanical, Roseville, California, says: "When I heard about our JATC rolling out the Bias and Belonging training, I was very skeptical. I am so glad I pushed through my skepticism and attended the training. I was able to see how well this training aligns with Intech Mechanicals Core Values. At the end of the day, it comes down to being a good human being, treating people how they want to be treated and doing the right thing ..." ▼

For more information on this initiative and for Culture of Respect Toolbox Talks, visit www.smacna.org.

Ronald J. Eagar

The California Wildfires – Another Disruption to the Construction Industry?

The devastating news out of California related to the recent wildfires has impacted thousands of residents and businesses. As with all natural disasters, we are left on the road to recovery once they pass. While the fires were across the country, there could be a reverberating effect on the national construction industry as Los Angeles and surrounding areas start to rebuild.

INFRASTRUCTURE DAMAGE

The fires have severely damaged critical infrastructure systems such as power, sewer, and water. While rebuilding people's homes should be the primary focus, restoring needed utilities cannot be too far behind. The damage these systems incurred will require extensive reconstruction efforts, increasing the demand for construction materials and labor in that region and across the country. Expect to see infrastructure projects to be fast-tracked and surge as designated federal funds are released.

SUPPLY CHAIN DISRUPTIONS

Undoubtedly, there will be an increase in demand for construction materials in the affected geographies, which could lead to local material shortages and higher prices. Construction companies can combat this by purchasing materials from other parts of the country, which they may not be accustomed to selling across State lines. The ripple is the strain on the national construction supply chain, causing disruptions nationwide. This, coupled with potential tariffs, the construction industry could be looking at a double threat, and should revisit its procurement plans and strategies immediately.

SKILLED LABOR EFFECT

Regardless of the rebuilding California will experience, these companies need skilled labor. Local laborers are already in demand, which has started to create shortages and increased wages and benefit costs. As with material concerns, the immediate strategy would be to pull labor from nearby markets and states, thereby creating another ripple effect creating additional labor shortages for an industry that already does not have enough skilled labor to meet the pre-disaster demands of construction.

INSURANCE CONSIDERATIONS

The insurance market is bracing for record claims and substantial losses expected due to the high value of properties affected. Preliminary estimates of insured losses range from $10 billion to $20 billion, with a minimum of 10,000 structures damaged and rising. While local premiums are expected to increase and underwriting standards will not get easier, there is also a national insurance consideration. Insurance companies are in the business of making money, and paying out will necessitate nationwide increases. And for New York, a region already in a complex insurance market, this translates to another increased cost and bottom line hit.

AN OPPORTUNITY

Amidst all this tragedy and loss, there is an opportunity to focus on and build more resilient homes and infrastructure by adopting construction practices that can potentially withstand natural disasters. The national construction industry should lean into technology to research and build with more evolving materials that can withstand wind, fire and water, emphasizing sustainable and resilient building practices. (*EDITOR'S NOTE: Building codes are much improved since those houses were built, and the wind speeds, in this recent case, were an extemporaneous factor.*)

CONCLUSION

What California is enduring will impact the local and national construction industry, driving demand for materials and labor, stressing the insurance market and prompting a reevaluation of building practices. The savvy construction company executive can learn from this by investing in new ways to build, identifying and developing an emerging labor pool and identifying new materials to incorporate into building practices. ▼

For more information, please contact Ronald J. Eagar, CPA, CCIFP Partner at Grassi, at reagar@grassiadvisors.com, through www.grassiadvisors.com or 516-336-2460.

LEGAL

Grant Collins

Federal and State Contractors Assess the Impact of President Trump's Executive Order Ending Affirmative Action and DEI

On Jan. 21, President Trump signed the "Ending Illegal Discrimination And Restoring Merit-Based Opportunity" Executive Order (EO). This EO rescinds EO 11246, which mandated certain aspects of the affirmative active requirements. The EO also bars "illegal" DEI programs and promotes "colorblind equality" and merit-based opportunity.

While there are still many unanswered questions about the EO — and legal challenges are expected — here is a summary of the impact of the EO on state and federal contractors.

RESCISSION OF EO 11246 AND PROHIBITION ON "ILLEGAL" DEI PROGRAMS

Unlike many EOs, EO 11246 is codified in regulation (41 C.F.R. ch. 60) and it is currently implemented through FAR 52.222-6. The Department of Labor's Office of Federal Contract Compliance Programs ("OFCCP") has been responsible for enforcing EO 11246.

Trump's new EO directs the OFCCP to immediately stop:

- Promoting "diversity."
- Holding Federal contractors and subcontractors responsible for taking "affirmative action."
- Allowing or encouraging Federal contractors and subcontractors to engage in workforce balancing based on race, color, sex, sexual preference, religion or national origin.

The EO further provides, however, that contractors "may continue to comply with the regulatory scheme" for a period of 90 days, or until April 21, 2025.

Moving forward, executive agencies must require federal contractors "to agree that ... compliance in all respects with all applicable Federal anti-discrimination laws is material to the government's payment decisions" and for federal contractors "to certify that [the contractor] does not operate any program promoting DEI that violates any applicable Federal anti-discrimination laws."

The EO does provide that the Attorney General and the Secretary of Education will issue guidance within 120 days.

The EO does not supersede federal law. This means that contractors must continue to comply with equal employment and nondiscrimination requirements that apply to all employers, including Title VII of the Civil Rights Act of 1964 (Title VII). That means government contractors cannot, for instance, discriminate against employees or applicants "because of such individual's race, color, religion, sex, or national origin."

The EO also does not end affirmative action requirements for covered federal contractors under two laws aimed at protecting veterans and individuals with disabilities: (1) the Vietnam Era Veterans Readjustment Assistance Act (VEVRAA) and (2) Section 503 of the Rehabilitation Act. These programs are enforced by the OFCCP and require covered federal contractors to engage in affirmative action outreach efforts for protected veterans and individuals with disabilities, as well as creating affirmative action plans.

IMPACT ON FEDERAL CONTRACTORS

Federal contractors with existing contracts wonder whether the EO modifies the existing contract language. These contractors are in a difficult spot: complying with the EO would require them to ignore the contract requirement (such as the previously listed FAR clauses. Contractors should use the EO's 90-day window to discuss the EO with a higher level contractor or federal agency, monitor developments, assess risks, and take any necessary actions.

For new federal contracts, federal contractors should be prepared "to certify that [the contractor] does not operate any program promoting DEI that violates any applicable Federal anti-discrimination laws." As noted above, federal contractors must continue to comply with equal employment and nondiscrimination requirements.

It is unclear whether the EO will apply to non-federal contract operations.

IMPACT ON STATE CONTRACTORS

Many states, such as California and Minnesota, have state affirmative action and DEI programs that the current administration may consider violative of the EO.

Federal contractors will need to review these state programs and ensure that the state programs are in compliance with "any applicable Federal anti-discrimination laws." Unless there is a legal challenge to the EO, contractors may be forced to choose whether they wish to be federal contractors or state contractors. ▼

Grant Collins is a specialist in labor and employment law at Felhaber Larson. Reach him at gcollins@felhaber.com. We'll discuss how this may impact JATCs in the next issue..

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SMACNA CALENDAR

2025

MARCH

March 7-8
College of Fellows Meeting
Scottsdale, Arizona

March 9-12
Project Managers Institute
Minneapolis, Minnesota

March 16-12
Senior Project Leadership Institute
Rosemont, Illinois

March 24-26
Supervisor Training Academy
St. Louis, Missouri

APRIL

April 7-9
2025 SMACNA Fab Forum
Boston, Massachusetts

MAY

May 6-8
CEA National Issues Conference
Washington, D.C.

May 19-21
Financial Boot Camp – Interpret, Navigate, Analyze!
Phoenix, Arizona

JUNE

June 1-3
Council of Chapter Representatives Meeting
Louisville, Kentucky

June 8-11
Project Managers Institute
Salt Lake City, Utah

OCTOBER

October 26-29
2025 SMACNA Annual Convention
Maui, Hawaii

Welcome New SMACNA Members

Air Design Systems Inc.	Willow Springs, Illinois
Bell Mechanical Contractor Inc.	East Rochester, New York
Clay Dunn Enterprises Inc. dba Air-Tec	Carson, California
CRS Metalworx Inc.	Barberton, Ohio
EMCOR Mesa Energy Systems	Kirkland, Washington
Fluid Balance LLC	Round Rock, Texas
Hurliman HVAC	Spokane Valley, Washington
Iron Range Plumbing and Heating Inc.	Hibbing, Minnesota
JMA Mechanical	Lompoc, California
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Rainier Metal Works	Seattle, Washington
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