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I hope you all had an enjoyable and relaxing holiday season as we make our way into 2018, and have taken some time to reflect on the past year. As an industry and as individuals, we truly have much to be thankful for. From successes in our business pursuits to personal and family achievements, there is something that each of us can look back upon with pride in the past year.

I know I’m not alone in saying that I find myself intently focused on business all year long. From exploring growth opportunities, to pursuing projects, to managing day-to-day tasks and operations, we dedicate a significant amount of time and energy to our industry. We take pride in our work, and enjoy the accomplishment of a job well done.

While it’s important to continue to take care of your customers and partners, I hope you were able to take some time to focus on your family and friends during holiday season. Our work can at times be consuming, and it can be easy to overlook those closest to us. A good work/life balance is important to our overall well-being, so be sure to acknowledge those who make your life fulfilling!

If you are a manager or a business owner, please try to be understanding with your employees. Recognize that they too are doing their best to manage work and family obligations, and that they may be stretched thin at times. They work hard throughout the year, so showing some compassion and recognizing their needs will go a long way in fostering positive relationships. Also, be sure to thank your employees for all they bring to your life and business. The success of any business is dependent on great people and their contributions.

As we gear up for another busy year in 2018, now is a great time to reflect on the past year and develop a plan for the next 12 months. Recognize your successes, and determine the best course of action to replicate them. Be mindful of the challenges and obstacles you faced, and figure out how to improve on them. Be intentional in your actions, and have trust in your experience.

On a personal note, I am extremely appreciative of the work of the NWCB Board of Directors, an amazingly talented staff, and our dedicated members across the region who have contributed to the growth of our organization over the past year. I am also thankful for the talented team of employees who motivate me to be the best version of myself each and every day. And last but certainly not least, I am grateful for a loving group of family and friends who make my life fulfilling.

So as we reflect on the past year and plan for the next, give thanks to those who help you succeed both personally and professionally. Working together, there’s nothing we won’t be able to accomplish in 2018.

Heath Hansen, NWCB President
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Members of:
As we say goodbye to 2017 and jump into 2018, I would like to thank all of you for your continued support. To our board members, to the signatory contractors of Washington and Oregon, to our labor unions, and to our manufactures and dealers, thank you all for your very generous support of the Northwest Wall and Ceiling Bureau.

2017 turned out to be a great year—a great year for our contractors, for our labor partners, the manufacturers and dealers—but it wasn’t without problems. One of the biggest problems everyone experienced was: “how do I get more good workers to meet the construction demands?” It was a problem in 2017 and will likely be one in 2018 but, as problems go, this is one of the best ones to have. Construction was booming in 2017, and the forecast for 2018 calls for more of the same. Seattle was in the top five cities in the country for the number of tower cranes and, if you’ve driven downtown recently or over to the eastside, we still have tower cranes popping up all over. It’s a beautiful thing to see.

The convention and trade show in Coeur d’Alene turned out to be a wonderful event. Once again Tiina and Maria worked their magic. We had a great turnout, good attendance at the exhibit hall and seminars and a manufacturer-and-dealer-sponsored party that will go down as one of the very best ever. When there are still over a hundred people at the party when the band stops playing, you know it’s been a great event.

For the 2018 convention and trade show we are heading south to the Arizona sun. We will be staying at the La Paloma Resort and Spa just outside of Tucson. Our goal is to make this convention the most enjoyable and rewarding you’ve ever attended. We hope to see you in Tucson May 3rd thru the 5th, so make your plans now and register on-line at the NWCB website. www.nwcb.org

For many years, the NWCB members have been recognized by the Marines as one of the largest donors to the US Marine Corps’ Toys for Tots campaign in the Puget Sound area. This was another banner year with contributions by the members exceeding that of previous years. The event was held at the amazing skybridge area of the Washington State Convention Center, overlooking downtown Seattle. Your gifts of toys for the children in western Washington, who otherwise may have had little or nothing for Christmas, shows the true generosity of our members. Thank you.

The NWCB events were great and it’s always nice to be able to network and spend time with our friends in the industry, but there was also a lot of work to be done on the technical side. We were very fortunate to have Peter Burns join us as the new Technical Consultant last April. Peter has been a great asset and has been at the forefront of addressing this year’s most daunting technical concern, the new OSHA Respirable Silica Standard. Together with our signatory partners in California, the Wall and Ceiling Alliance and Western Wall and Ceiling Contractors Association, the NWCB was able to publish a Silica Exposure Control Plan and bring timely awareness to our contractor members on their responsibilities related to the new OSHA standards.

Thank you all again for your continued support of the Northwest Wall and Ceiling Bureau. We look forward to the new year and discovering new and better ways to serve you, our members.

Terry Kastner
Executive Director
Northwest Wall & Ceiling Bureau

Construction was booming in 2017, and the forecast for 2018 calls for more of the same. Seattle was in the top five cities in the country for the number of tower cranes and, if you’ve driven downtown recently or over to the eastside, we still have tower cranes popping up all over.
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The industry bids farewell to a long time industry leader Billings and Cronn. With nearly 80 years specializing in plaster and stucco installations, they worked all over the world as well as on many of the iconic buildings back home in Portland. Our very best wishes go to the Cronn family as they make their final moves to close the longtime family business.

Applied Restoration, specializing in interior plaster and exterior stucco, EIFS, waterproofing, air barriers and continuous insulation assemblies, has opened a new office at 617 Industry Drive, Tukwila, WA 98188.

With the new office in the Northwest, Applied Restoration, which was originally based out of southern California, is strategically poised to better serve the Northwest.

For more information, contact Applied Restoration by calling 253.220.8455 or visit www.appliedrestoration.com.

After nearly 94 years in the same location, J.J. Jefferson & Sons has moved from the old Burlington Northern train repair station in Freemont to a new location at the lower end of Magnolia at 2560 21st Ave. West, Seattle, WA 98199.

J. J. Jefferson & Sons has serviced Western Washington as a specialty contractor for the plastering industry since 1924. Congratulations to J.J. Jefferson on their new location and nearly 100 years in the plaster, stucco and EIFS industry. For more information, contact J.J. Jefferson by calling 206.202.9500 or visit www.jjjefferson.com.

Doug Bixel, president of Forrest Sound Products, announces that Tyler Tuengel and Michael Richardson have joined the Forrest Sound Products estimating team. “We are excited to bring new blood to our estimating department,” said Doug.

Tyler joined the company in 2014, having previously operated his own landscaping company. Michael has been in the ceiling trade for 15 years and started with Forrest Sound Products as a journeyman five years ago. He and his wife Samantha have twin boys and are expecting a third child soon. For more information on Forrest Sound Products, go to http://forrestsound.com/
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To implement the new OSHA Silica Rules, the Washington State Department of Labor and Industry (WA L&I) began a formal process called rulemaking to add a new chapter that addresses respirable crystalline silica (RCS) and to amend existing chapters of the Washington State Administrative Code (WAC). Regulations of executive branch agencies such as WA L&I are issued by authority of statutes. Like legislation and the Constitution, these regulations are a source of primary law in Washington State. The WAC codifies the regulations and arranges them by subject or agency. State rules governing WA L&I are found in Title 296 of the WAC.

WA L&I is proposing to add a new Chapter 296-840 to the WAC and to amend the existing chapters 296-841-20025 and 269-307-62625 of the WAC. The new chapter is needed because the WAC did not have a standard that specifically addressed RCS exposures in the workplace. The other two chapters will be amended to reference the new RCS chapter. The formal rulemaking process includes the following process and timeline.

Public Hearing: 12/15/17
End of public comments: 12/22/17
Rule adoption filing: 1/23/18
Effective date: 2/26/18

Construction employers must comply with the new rules: 10/1/18

NWCB staff submitted written comments and questions on December 14, 2017, and attended the public hearing on December 15, 2017. Our comments and questions will be responded to in writing and will be forwarded to our membership as soon as they are received from WA L&I. At the hearing, WA L&I Industrial Hygienist Larry Gore presented an overview of the proposed rule change along with the department’s timeline for implementing the changes.

—Peter Burns is a technical consultant at the NWCB headquarters in Seattle, Wash. He has over 25 years of experience in the building enclosure industry, performing architectural tests and inspections.
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In 2016, Washington voters adopted Initiative 1433, which had the primary purpose of increasing the minimum wage in Washington State over the next several years. Included in the fine print was mandatory paid sick leave requirements that became effective January 2018. Unlike prior paid sick leave legislation passed by many cities, this initiative did not include any carveouts for collective bargaining agreements entered into by unions with their employers. Typically, the union contracts already account for paid sick leave as part of the negotiated compensation package. Although many unions supported the increased minimum wage law, the mandated paid sick leave provision caught many contractors unprepared.

Initiative 1433 added new provisions to the Washington Minimum Wage Act ("MWA") RCW 49.46. Importantly, this new state law does not supersede any local paid sick leave ordinances, such as those in Seattle and Tacoma. There are some key differences between the various city ordinances and the new state requirements, and employers that are covered by a city ordinance must comply with both the state and city requirements, providing the benefits most favorable to the employee.

The purpose of this article is to review the new state paid sick leave requirements and how they might impact the construction industry. While some key differences with various city ordinances may be noted, any employer operating within a city that has its own paid sick leave requirements needs to find those requirements elsewhere.

1 Spokane’s paid sick leave ordinance automatically terminates upon the effective date of the new state paid sick leave requirements.

Implementing the Design Plans

All Employers are Covered.

As a preliminary matter, all employers in Washington must provide paid sick leave to nonexempt employees, regardless of size or industry. Exempt employees – those not covered by the minimum wage and overtime requirements of the MWA (e.g. executives) – are not covered by the state paid leave requirements. [Note, exempt employees may be covered by the local city ordinance requirements] Employers who have established different paid sick leave policies for non-exempt versus exempt employees should ensure that those policies comply with applicable city ordinances for those exempt employees working within the city limits.

Accruing and using paid sick leave – the numbers.

Employees must begin accruing paid sick leave on their first day of employment at a rate of one (1) sick leave hour for every forty (40) hours worked, including overtime hours. For standard full-time employees, this results in one sick leave hour per week. Paid sick leave need not accrue for paid, but unworked, time (e.g., holiday, vacation, or other non-work paid hours), though an employer can accrue paid sick leave on those hours if it chooses.

Employees must be able to utilize accrued paid sick leave after 90 days of employment. Further, employees must be allowed to utilize accrued paid sick leave in increments as small as the smallest timekeeping increment used for calculating compensation. So, e.g., if an employer keeps track of time for compensation purposes in 15-minute increments, non-exempt employees must be allowed to utilize their accrued paid sick leave in 15-minute increments.

Sick leave hours must be paid at the greater of the current minimum hourly wage at the time the employee uses the leave or the employee’s normal hourly compensation rate.

There is no cap on how many hours of paid sick leave time that the employee can accrue. Likewise, there is no cap on how many accrued paid sick leave hours the employee may use.

At the end of the year, if the employee has any accrued, but unused, paid sick leave hours, the employer must carry over up to 40 hours into the next year. The carry-over will be available for the employee’s use in addition to any hours the employee accrues in the next year.
Putting the “New Construction” to Use

Employers are required to regularly inform each employee about the amount of paid sick time that is available to the employee for use, as well as how much the employee has accrued and used. This should be done at least monthly.

Accruing and using paid sick leave – the reasons.

Employers must allow their employees to use their paid sick leave for absences related to the health of the employee or the employee’s family members. “Family” is broadly defined, and includes spouses, domestic partners, children (natural, adopted, foster, step, etc.), parents, parent-in-laws, grandparents, grandchildren, and siblings. “Related to health” is also broadly defined, and includes medical appointments, time for diagnostic tests or treatment, and self-care.

Employers also must allow an absence for leave under the Washington Domestic Violence Leave Act (i.e. reasons related to domestic violence, sexual assault, or stalking). Finally, paid sick leave is available for use by the employee when leave results from an order by a public official for public health concerns that pose a health risk to the community.

An employer may require employees to give reasonable advance notice of an absence from work, provided that notification does not interfere with an employee’s lawful use of their paid sick leave. If prior advance notice is not possible, the employer may require that notice be given as soon as is practical under the circumstances. Additionally, an employer may not require the employee to find a replacement worker to cover for the hours during which the worker is on paid leave as a condition of taking the paid leave.

For absences exceeding three (3) working days, an employer may require verification that the employee’s use of paid sick leave is for an authorized purpose. If so, the employee must provide such documentation within a reasonable time during or after they return from leave. The verification requirement is implemented to safeguard against potential abuse of the mandatory paid sick leave law. It is important to remember that this requirement cannot result in an unreasonable burden or expense to the employee, nor may it exceed privacy or verification requirements otherwise established by law.

One last, but rather critical, caveat to Washington’s mandatory paid sick leave law is that employers are prohibited from disciplining, discriminating, or retaliating against an employee for using paid sick leave or for exercising his or her rights under the law. This includes a prohibition on adopting or enforcing attendance policies that would count the use of paid sick leave as an absence that may lead to or result in discipline against the employee. With employment discrimination claims already commonplace, it is expected the new law will only provide more grounds for these kinds of lawsuits. If you have not already purchased employee liability insurance, now may be a good time to talk with your insurance broker.

Regardless of the reason for separation from employment, the law does not require an employer to “cash out” or pay an employee for the financial value of accrued, but unused, paid sick leave. Note, though, that an employee who is rehired by the employer within twelve (12) months of the prior separation date is entitled to have the previously accrued, but unused, paid sick leave reinstated. This is true even if the employee is rehired at a different location from where he or she previously worked for the employer. Additionally, if an employee has already met the initial 90-day waiting period, there is no waiting period upon reinstatement. Employers should be sure to retain records of this information for all departing employees in the event that they return. In fact, accurate record keeping may be one of the key challenges and added expense of implementing the new law. It also could serve as a trap for the unprepared employer that might wrongfully assume the new law does not cover their situation.

The Finished Product

As the finishing touches are added to the new state-wide paid sick leave law, Washington employers should consult with their payroll personnel, their insurance broker and their legal counsel to revise as needed their existing sick leave policies to ensure compliance with the MWA and any potential new liability it may create. Employees hired on or after January 1, 2018, must be provided written-notification of the amendments to the MWA no later than the start of employment, whereas existing employees are required to receive written-notification no later than March 1, 2018.

Employers should also review their employee handbooks and other employee policies, such as attendance procedures, to assess whether revisions are necessary to comply with the law’s anti-retaliation provisions. Human resource personnel should be trained accordingly on how to properly implement and document employee paid leave to reflect the new law.

— James Yand, Attorney and Partner at Miller Nash Graham & Dunn LLP.
— Christian Hawthorne-McClenny, Associate Attorney at Miller Nash Graham & Dunn LLP.
As I start this article, let me tell you a bit of a secret: While you are reading this article sometime in February, I wrote it a couple weeks before Christmas. Writing articles this far in advance requires either vague predictions or a crystal ball. I will be going mostly with vague predictions based on my current data for today as my crystal ball is at the shop for repair. So why take on this topic? Because, the economy and workforce shortage are the top topics of discussion these days.

By the time you read this, I believe we will have returned (or very closely approached) pre-recession peaks of construction employment in Oregon. In August of 2007, Oregon had a grand total of 110,800 individuals working in construction (all sectors). Three years later, that same data showed 62,100 individuals working in construction. We can all remember those dismal days, but here we are almost back with 104,900 in October 2017. What this means is that we have had a huge regrowth of a workforce that is either out of practice or completely unexperienced and thus production rates are not great.

By the time you read this, I believe we will be seeing strong increases in material costs. As of now, (December 2017) material prices have risen 5.6 percent year over year with crude petroleum leading the way at a 30-percent increase. With national and even international construction growing quickly, along with most other sectors, the logical consequence is demand will be out pacing supply. We can’t predict exactly which element will be the largest challenge, but we can predict materials will be harder to find and more expensive.

By the time you read this, I believe your backlog will still be even stronger. A rather unique data point is the Associated Builders and Contractors’ Construction Backlog Indicator (CBI). This reading rose to 9.45 months this quarter. This is the longest recorded backlog of nonresidential projects since 2009, when the CBI was created. Year over year, this index is up 9.2 percent. Additionally, the American Institute of Architects billings index increased eight of the last ten months, suggesting that your work will be increasing six to nine months later. Their initial contracts are also consistently increasing with seemingly the only regulator being the need for more designers to do the work.

But with all that said, keep your operations as lean and marketable as you can, this can’t last forever.

So, what are we up to at the NWCB Oregon chapter? This past fall, we had three great seminars with high attendance. Legislative review, ceiling systems and OSHA silica regulations. All had large showings average over 50 attendees per month. We also had a tremendous Christmas Party with nearly 100 people attending. Participation rates were absolutely great.
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INDUSTRY TO CONVENE IN TUCSON, ARIZONA

Tiina Freeman, CAE

The 2018 Northwest Wall and Ceiling Industries Annual Convention and Trade Show will be held May 3-5 at the Westin La Paloma Resort & Spa in Tucson Arizona.

The theme of the 2018 convention is “Visionary Leadership.” The goal of this event is to help you approach the future in a strategic manner and share your vision with others in an effective way to reach your goals. We have carefully chosen the speakers and trainers to inspire you and to give you the new tools you need to compete in today’s marketplace. You will take home ideas that you can put to use right away to benefit your business and career.

A key element of the convention is a trade show displaying and demonstrating the latest tools, systems, equipment and services to the wall and ceiling industry. It is a one-stop source for information to those who want to stay abreast of the latest products to help enhance their businesses. To the exhibitors, it is a precious chance for face-to-face time with existing and new customers in a relaxed, fun environment.

continued on next page
The new benefits offered to exhibitors this year include:

- Facilitated, pre-arranged appointments in the exhibit hall Thursday afternoon.
- Lead retrieval capabilities.
- Badge scanning.
- Fun gamification – attendees will be awarded points for visiting booths.
- Use of a new event app to arrange meetings outside official events and communicate with customer before and after the show.

In addition to the trade show, the convention offers educational sessions providing the latest must-know information and ample opportunities to connect with industry peers and partners at meetings. The 2018 Outstanding Project of the Year Awards will be announced at the opening ceremonies as we celebrate the contributions of our industry.

But, it isn’t all business -- we’ve made sure to build in time for relaxation and fun too. Thursday morning, before the official opening of the event, delegates will have a chance to experience Arizona golf at its finest and tee off at the highly anticipated convention tournament at the Westin La Paloma Country Club. As a fun alternative to golf, we are also offering a fantastic dude ranch experience with an option of horseback riding or fishing that morning. Saturday afternoon brings another opportunity to experience the Sonoran Desert up close as teams head out to compete in our friendly jeep rally.

As always, our event is family friendly and family members are welcome at the convention events. We’ve organized special activities for the spouses, and the young ones can have their own special adventures at the Westin Kids Club. With museums, historic sites, hiking trails, golf courses and shopping around every corner, Tucson offers something for everyone and is a destination for a fun family vacation.

There’s no place better suited and more welcoming for our annual convention than Tucson, Arizona. With more than 350 days of sunshine every year, traveling to Tucson will be a special treat to those of us who have just endured a long—and perhaps a cold, wet or snowy—winter. And, those 350+ sunny days, set the stage for 350+ nights per year of amazing for stargazing. All you need to do is look up and marvel at millions of twinkling stars. For a closer look, peek into one of the powerful telescopes at the pool during our Friday night Manufacturer & Dealer Party.

Start planning your trip to Tucson now! Full details and convenient convention registration are available on our website at www.nwcb.org.

We are looking forward to seeing you in Tucson!
GUESTROOM RESERVATIONS

Make your room reservations now for the best selection of room types. Our group rates are valid three days before and after our event. The resort charge has been waived for our group. The cutoff date for group reservations is April 11, 2018, or earlier, if the block fills up. Rooms may not be available after that date, or they may be available at a higher rate.

ONLINE RESERVATIONS
Link found at wallceilingshow.org

PHONE RESERVATIONS
520.742.6000

GROUP RATES
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BEWARE OF CONVENTION HOUSING PIRACY
Room pirating is a practice carried out by third-party companies that act as travel agencies, wholesalers, or destination management companies to solicit attendees—sometimes very aggressively—for room reservations for other organization’s meetings. They use various tactics such as offering supposedly better rates, saying that the room block is full, and representing themselves as being affiliated with the convention organizer by illegally using the organization’s name, logo and materials. Note that NWCB does now have third parties contact you regarding the convention. If you are contacted by one of these pirate companies, please get as much information as possible on the party approaching you and pass it along to the NWCB immediately.

EDUCATION

KEYNOTE SPEAKER
Paul Smith

Paul Smith is one of the world’s leading experts on organizational storytelling. He is a bestselling author of the books *Sell with a Story*, *Parenting with a Story*, and *Lead with a Story*. He is a former consultant at Accenture and former executive and 20-year veteran of The Proctor & Gamble Company.

SESSIONS:
“Lead with a Story: Discovering Storytelling as a Strategic Leadership and Business Tool”

“Tell Your Story: Learn to Craft and Communicate Stories that Get Results”

ADDITIONAL SEMINARS:
“Virtual and Augmented Reality in Construction”

“Prompt Payment Clauses”

“The Master Plan: Valuing Your Business and Your Options”

“Continuous Insulation Finish Systems (CIFS)”

CLOSING KEYNOTE:
“Build a Personal Brand & Impressions that Matter”
TUCSON ATTRACTIONS

Tucson links:
The Westin La Paloma Resort & Spa
https://westinlapalomaresort.com/

Tucson Visitors’ Bureau
https://www.visittucson.org/

Tucson International Airport
https://www.flytucson.com/
As we enter the winter months, it seems appropriate that we remember the winter of 2016-2017. That winter was extremely harsh, not in terms of snowfall, but in extended periods of low temperatures and low humidity. Following the extreme cold conditions, the NWCB inspected a number of projects with drywall cracking. Following is a summary of those inspection report findings and what we need to watch out for this winter.

During the months of December and January, drywall cracking, primarily at the tape joints between successive sheets of gypsum board, enlarged gaps between MDF wood panels and excessive gaps at wood trim, had started to appear. Although drywall is referred to by the International Building Code as a “flexible” finish, unanticipated building movement such as structure settling, curing of wood framing, thermal shock due to rapid and extreme changes in temperature and humidity, and deflection stresses – caused by changes of the dead and live loads to the building – may cause stress to the gypsum wallboard to the point where cracking will occur. In extreme cases, the cracking will occur within the drywall surface itself rather than at the tape joints, which are the point of least resistance. When cracking occurs through the gypsum board product itself, it is generally a result of building movement such as settlement or deflection. On all of the projects inspected, cracking appears to have followed the tape joint between successive sheets. This type of cracking could also be related to building movement but there were no indicators that the movement was related to settling of the structure or deflection related to dead or live loading.

What is somewhat disconcerting is that the cracking appears to occur randomly. The only real pattern of cracking appears to be that it generally occurs at the exterior walls, beneath the exterior windows or at relatively small soffits. Most of the drywall cracks have occurred at sections of wall that are less than 30 feet which is the spacing that the Gypsum Association, ASTM Standards and the NWCB recommend for the installation of control joints. The cracking does not appear to be related to the use of control joint accessories. The cracking between successive gypsum panels appears to be a result of thermal contraction. Cracking of tape joints due to thermal contraction will be more pronounced on smaller gypsum panels than on large wall surfaces.

In addition to the drywall cracking, wood trim at handrails and at window sills have increased gaps at miter joints or between the window and wood cap due to shrinkage, or thermal contraction. Lumber or wood shrinkage is a direct result of the reduction in the moisture content of the wood and, typically, due to humidity changes within the building. Additionally, the joints or gaps between successive MDF panels have increased, again indicating that the panels have experienced shrinkage. Shrinkage in wood members as well as gypsum panels is a result of reduced moisture. All of the wood products, as well as gypsum board products, had been acclimated to the interior environment of the project per Industry Standards and manufacturers recommendations. The interior environment was maintained by means of temporary heat, standard to the industry, and most recently by activation of the project HVAC system.
The following are examples of typical drywall cracking observed during the months of December and January:
During late November, the month of December and the first half of January last winter, the Northwest experienced uncommonly cold weather over an extended period. During this extreme cold, temperatures were recorded as low as 12º F at night with daytime temperatures in the mid to high 20s. In the Pacific Northwest, winter temperatures generally hover in the 40s and 50s during the day, with lows dipping to the 30s. Not only were temperatures uncommonly cold, but the relative humidity levels were also recorded to be extremely low, with interior relative humidity recorded on one of the projects to be as low as 10 percent RH. Typically, in the Pacific Northwest, relative humidity will average approximately 70 percent RH outside, with an interior relative humidity in the comfortable range of 35 to 50 percent.

Taping, finishing gypsum wallboard, and painting activities will generally introduce high levels of moisture resulting in levels of high humidity and, when left unchecked, moisture in the air will be absorbed by the gypsum board resulting in swelling or expansion of gypsum board. As the gypsum board expands, joint compound at the joints will be forced outward forming a visible bead of joint compound, proud of the surface of the joint. This condition is referred to in the industry as “ridging.” It is a direct result of the expansion of gypsum board from excessive or high relative humidity.

Conversely, when the relative humidity becomes extremely low, especially over a short period of time, gypsum board will contract or shrink. As this occurs, the gypsum board will pull away from the tape joint, the point of least resistance, and the tape joint will crack. The effects to wood products, again, are similar. If moisture levels within the space are too high, the wood will absorb moisture and expand. If levels are too low, the moisture in wood products will evaporate and the wood will shrink.

Even though most of the projects we inspected last winter were on house-power, where the HVAC system was providing temperature conditioned air, the HVAC systems drew air from the exterior. The HVAC system warms the air, and it is then delivered to the interior space, but the humidity of that air is seldom conditioned. The result is a rapid change in the interior relative humidity from a comfortable range of 35 to 50 percent to, as recorded on one of the projects, as low as 10 percent RH.

Care should also be taken when temporary heat is used. It is common for the heater units to be installed at the corridors, near the elevator shaft, and for the warm air to distributed by fans. But, if the area at the source of the heat becomes extremely warm, the high temperatures will reduce the humidity and bake the board nearest the heat source, which will also result in cracking of the drywall joints. Although very challenging, especially during the winter months, the temperature and humidity should be maintained within those ranges recommended by the NWCB and Gypsum Association, 24 hours a day and 7 days a week. (See NWCB Technical Document 300-103 Gypsum Wallboard and Winter Weather.)

It is the opinion of the Northwest Wall and Ceiling Bureau that the cracking of the drywall and the shrinkage of wood on these inspected projects has been a direct result of the unseasonably cold temperatures combined with very low relative humidity and a rapid swing in the interior humidity. These factors have caused the contraction of the gypsum board and subsequent cracking of the board joints and the contraction of wood products,
which leads to increased gaps at the mitered joints. It is also the opinion of the Northwest Wall and Ceiling Bureau that the subsequent drywall cracking and wood shrinkage was outside the control of the drywall contractor, and the repairs should be compensable.

When the anomalous weather conditions, which caused the extreme low humidity levels and drywall cracking, have returned to somewhat normal levels, repairs to the drywall cracks can be performed successfully. Before beginning repairs, make sure the interior relative humidity is within an acceptable range and representative of conditions after occupancy, or approximately 35 to 50 percent.

There is a concern that, if the relative humidity has not stabilized to an acceptable level, the gypsum board and wood products will absorb moisture from the space as the interior conditioned space returns to normal levels of humidity and expand to their original size. As the gypsum board returns to its designed shape, the expansion may result in ridging if repairs are performed to early. With wood products, the expansion could lead to compression at the joints and buckling. Therefore, it is imperative that the gypsum board and wood products be provided sufficient time to acclimate to acceptable humidity levels before repairs are undertaken. To minimize opportunities for drywall cracking and problems with finishing gypsum board, ASTM Standard C840 for the installation and finishing of gypsum board and the Gypsum Association GA 216 require that spaces be brought into acceptable environmental conditions 48 hours prior to the application or finishing of gypsum board. In addition, the NWCB recommends that these proper environmental conditions be maintained throughout the project until the HVAC system is activated and balanced.

—Terry Kastner is Executive Director of Northwest Wall & Ceiling Bureau.
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Traditionally, suspended gypsum-board ceilings have not been subjected to seismic considerations or engineering. With the new proprietary suspended T-bar drywall grid ceilings and their similarities to suspended T-bar acoustical ceilings, there is the question of whether T-bar drywall grid ceilings must conform to the same seismic considerations as suspended T-bar acoustical ceilings. Although the materials are similar in appearance and installation methods, suspended T-bar drywall grid ceilings are not required to conform to seismic considerations required of suspended T-bar acoustical ceilings.

The following information will provide a clear understanding of whether Suspended T-bar drywall grid ceilings must conform to the seismic design requirements of ASCE 7 Chapter 13, Seismic Design Requirements for Nonstructural Components.

The first irrefutable fact is that we are dealing with two types of ceilings. One, lay-in acoustical ceiling tiles; and, two, screw- or nail-attached gypsum wallboard.

International Building Code (IBC)

For the construction of walls or ceilings that receive screw- or nail-attached gypsum board, we begin with the building code.

IBC Chapter 25, Gypsum Board and Plaster; Section 2508, Gypsum Construction, directs that construction and materials shall be installed in accordance with Table 2508.1, Installation of Gypsum Construction.

When installing gypsum board to steel framing, the code references ASTM C754 and ASTM C1007. ASTM C754 covers the requirements for the installation of interior nonstructural steel framing and furring members designed to receive screw-attached gypsum panel products. Section 6 of ASTM C754 describes the standard installation of wire-suspended CRC main runners and furring members to receive gypsum panels. ASTM Standards do not address specific proprietary systems, thus suspended T-bar drywall grid ceilings are not described in ASTM C754. Furthermore, ASTM C754 does not address seismic requirements for suspended gypsum-board ceilings. (ASTM C1007 is for installation and erection requirements for load-bearing construction.)

To determine what seismic requirements must be met for suspended gypsum-board ceilings, we look to IBC Chapter 16, Structural Design; Section 1613, Earthquake Loads, which states: “Every structure, and portion thereof, including nonstructural components that are permanently attached to the structure and their support and attachments, shall be designed and constructed to resist the effects of earthquake motion in accordance with ASCE 7, excluding Chapter 14 and Appendix 11a.”

continued on next page
American Society of Civil Engineers ASCE/SEI 7

ASCE 7, Chapter 13, Seismic Design Requirements for Nonstructural Components, Section 13.5.6, Suspended Ceilings, states: “Suspended Ceilings shall be in accordance with this section,” and provides two exceptions. Exception 2 specially addresses suspended gypsum-board ceilings by stating the following: “Suspended ceilings constructed of screw- or nail-attached gypsum board on one level that are surrounded by and connected to walls or soffits that are laterally braced to the structure above are exempt for the requirements of this section.” Therefore, suspended gypsum-board ceilings, meeting this criteria are specifically excluded from seismic requirements. But, are proprietary suspended T-bar type drywall grids also exempt from these seismic requirements?

International Code Council (ICC) Evaluation Service Reports (ESR)

For the installation of proprietary systems such as Suspended T-bar drywall grid ceilings we must refer to the manufacturer’s literature and, to ensure that the installation meets the intent of the code, we must comply with IBC Chapter 1, Scope and Administration; Section 104, Duties and Powers of Building Official; Sub-Section 104.11, Alternative Materials, Design and Methods of Construction and Equipment. Sub-Section 104.11 permits the use of alternative material, design or method of construction provided the proposed design is satisfactory and complies with the intent of the provisions of the code. To ensure that the alternative materials and method of installation comply with the code, supporting data shall be provided to the building official and shall consist of valid research reports from approved sources.

The International Code Council (ICC) is identified in IBC Chapter 35, Referenced Standards, as a recognized and referenced agency by the code.

As required by the code, the ICC is an independent agency that provides supporting data to assist in approval of materials or assemblies not specifically provided for in the code. ICC provides the supporting data by testing the alternative material and their installation and providing that data in the form of an Evaluation Service Report.

The four major manufactures of T-bar drywall grid ceilings have ICC Evaluation Service Report’s for their proprietary T-bar drywall grid ceilings: Armstrong ESR-1289, CertainTeed ESR-3336, Chicago Metallic ESR-2631 and USG ESR-1222. All four manufacturers address seismic requirements in basically the same manner as noted previously in ASCE 7 Section 13.5.6: “Suspended ceilings constructed of screw or nail-attached gypsum board on one level that are surrounded by and connected to walls or soffits that are laterally braced to the structure above are exempt for the requirements of this section.” Or, in language similar to ASTM E580, the Standard Practice for Installation of Ceiling Suspension Systems for Acoustical Tile Lay-In Panels in Areas Subject to Earthquake Motions.

ASTM E580

Although ASTM E580, referenced by ASCE 7, is specific to seismic requirements for acoustical ceiling tile, ASTM E580 Section 1.7 also addresses seismic requirements for suspended gypsum panels as follows: “Ceilings constructed of gypsum board which is screw- or nail-attached to suspended members that support a ceiling on one level extending from wall to wall shall be exempt from the requirements of this practice.”

At this point, it is relatively clear that the code, by reference to ASCE 7, does not require seismic design for suspended drywall ceilings that meet the criteria of ASCE 7 Section 13.5.6 Exception #2. It is also clear that the ICC ES reports for these proprietary drywall grid ceilings systems do not require seismic design provided the ceiling meets the criteria of ASCE 7 Exception #2. And, it is also clear that ASTM E580 excludes suspended gypsum panel ceilings from seismic requirements.
ASTM C840

For control joint requirements we must refer to ASTM C840, Standard Specification for Application and Finishing of Gypsum Board, Section 20.3.3, which states: “Control joints in interior ceiling with perimeter relief shall be installed so that linear dimension between control joint do not exceed 50 feet and total area between control joints do not exceed 2500 square feet. “Additionally, Section 20.3.4 states: “Control joints in interior ceiling without perimeter relief shall be installed so that linear dimensions between control joints do not exceed 30 feet and total area between control joints does not exceed 900 square feet.”

In conclusion, although suspended acoustical grid ceilings and suspended drywall grid ceilings have similarities in the appearance of the materials and installation methods, the code is clear that seismic bracing or design is not required when suspended ceilings constructed of screw or nail-attached gypsum board on one level are surrounded by and connected to walls or soffits that are laterally braced to the structure above.

—Terry Kastner is the Executive Director of the Northwest Wall and Ceiling Bureau.
“How close to the edge are you willing to drive?” is a question I’ve heard building scientists ask for years to encourage architects, architectural specifiers, product manufacturers and installers of building enclosure systems and materials to ask hypothetical, what-happens-if questions. What happens if the only material of a control layer that separates driving wind and rain from the interior of the building fails? Is the design robust? Are there additional lines of defense? Can the enclosure withstand a wetting event and dry in at least one direction? The analogy of a car driving up the side of a mountain road with a 1,000 foot drop a few feet away has always stuck with me because it fit with what my high-school driving instructor drilled into me. Aside from scaring the daylights out of us with 50’s era safe driving/horror films, he pounded the concept of anticipating trouble and applying your skills and knowledge every time you hit the road.

Having a highly trained and skilled workforce with the knowledge to anticipate problems and the skills to properly install materials is one of the best ways to deliver the promise of high-performance building. The Carpenters Training Program (CPT) and the NWCB are committed to providing that kind of training and the skilled workers needed to keep those promises.

I have heard the phrase “how close to edge” and the term “robust” used for years by a fellow Minnesotan, Pat Huelman an Extension Professor from the Cold Climate Housing Technology Program at the University of Minnesota. The mission of the extension housing technology team has been to research and to share those findings with the architectural, engineering and construction (AEC) industry to improve the safety, durability and efficiency of buildings. Pat has spent the past 30 years working with the AEC industry, general and subcontractors, building officials, students and attic rats like myself, integrating good building science into real world construction practices and construction details.

I attended a conference presentation Pat gave at the 2012 Duluth Energy Design Conference and recently found the power-point slides. The presentation was an excellent building science primer. Even though it was geared toward residential construction, the physics, challenges and concerns are the same and, I think, especially relevant today.
In the past year, I’ve found that one of the most exciting aspects of working with the NWCB has been to see our members’ commitment to the educational opportunities offered by both the Carpenters Training Program and the NWCB seminars. Having a highly skilled and trained workforce that produces quality work in a safe and efficient manner is the hallmark of our membership. I would like to highlight three initiatives that are helping to make a difference.

NWCB Educational Programs

We had great turn-outs at the NWCB educational programs in the Northwest in 2017 and featured the following topics:

- Global, National and Local Economic Outlook with Michael Parks
- General Contractor Panel Discussion
- The Power of Social Media for Wall and Ceiling Businesses with Mel De Paoli
- Oregon Legislative and Inspection Seminar with Celina Patterson, Paul Phillips Ryan Tribbett and Jeff Newgard
- Understanding the New Silica Standards with Jeff Spann, Jeff Jackson and Terry Kastner
- Suspended Drywall and Acoustical Ceilings with Marc Chavez and Terry Kastner

From Building Science: Control Layers and High Performance Enclosures Energy Design Conference Duluth, MN. Patrick Huelman Cold Climate Housing Coordinator University of Minnesota Extension 2012.

Keeping our eyes on the ball.

- How is high performance – especially, health and safety, long-term energy efficiency, and building durability – built into our current game plan?
- Is it possible that we are putting our eggs into a very fragile basket?
- Is our basket getting more fragile with changes in the industry?
  - It appears that some of the designs, systems, materials, and operations are falling short of our performance expectations.
- Is it possible that we have over-invested in things and under-invested in good design and proper execution?
- Are we investing in risky designs, systems, and materials and hoping for perfect execution?
- Making the case for robust: Don’t think of it as a thing, but more of a conceptual way of evaluating new designs, systems, materials
  - It is bullet proof, and unlikely to fail?
  - If it fails, it won’t hurt anything else?
  - If it fails, it will be easy to repair or replace?
  - If it fails, there is a planned back-up or redundancy?

continued on next page
Carpenters Training Program
The Northwest Wall & Ceiling Contractors Association (NWCCA) has recently launched a new member service initiative called the Carpenters Training Program (CTP). The program is designed to maintain a regular body of highly trained union carpenters who possess the knowledge and skills necessary to serve projects. NWCCA will be working to provide the following services:

• Provide program oversight.
• Review and approve trainers and course content to ensure that they meet CTP standards and learning objectives.
• Maintain a current roster of approved trainers and courses.
• Maintain records of course completions and account withdrawals.

Information about the program can be found at http://nwcca.com/

Building Certifications
The final initiative is one that I believe has tremendous potential to further separate our workers from the pack. The Carpenters International Training Center Las Vegas is offering five separate building envelope certifications

• Certified Building Envelope Technician
• Certified Building Envelope Specialist—Air & Moisture Barrier
• Certified Building Envelope Specialist—Thermal Barriers
• Certified Building Envelope Specialist—Spray Foam Barriers
• Certified Master Building Envelope Specialist.

A sample of some of the skills that students will learn through the program:

• Assisting with the installation of the building envelope.
• Evaluating the effectiveness of the different components of the building envelope.
• Preparing the surface for installation of the air, moisture, or thermal barrier systems.
• Recognizing the appropriate materials to use and prepares them for the installation of the air, moisture, or thermal barrier systems.
• Identifying and locating the common problems and flaws in the air, moisture, or thermal barrier system in order address issues.
• Following plans for proper installation that include applications at transitions.
• Properly installing flashing used in exterior applications (e.g., wall-to-roof).
• Understanding the impact of water movement on buildings and on the application of the moisture barrier.
• Anticipating and identifying problematic areas with the integrity of the moisture barrier during installation, i.e., maintaining continuity of the moisture barrier.

Having a highly trained and skilled workforce with the knowledge to anticipate problems and the skills to properly install materials will help deliver the high-performance building of the future. The Carpenters Training Program (CPT), the NWCB and its members are committed to providing the training and the skilled workers needed to get the job done.

—Peter Burns is a technical consultant at the NWCB headquarters in Seattle, Wash. He has over 25 years of experience in the building enclosure industry, performing architectural tests and inspections.
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Tucson, Arizona

NW Wall & Ceiling Industries
May 3-5
2018
Convention & Trade Show
Tucson, Arizona
NWCB NORTHWEST (SEATTLE) CHAPTER

Wednesday, February 21
NW Chapter Luncheon:
“Gypsum Association GA-600 Fire Resistance Design Manual”
Marriott Courtyard Bellevue Downtown
11010 NE 8th Street
Bellevue, WA 98004
11:30 am - 1:30 pm
Check-in 11:00 am to 11:30 am
Lunch and program 11:30 am to 1:00 pm

Wednesday, March 21
NW Chapter Luncheon:
“L&I Silica Standards Update”
Location to be announced
11:30 am - 1:00 pm
Check-in 11:00 am to 11:30 am
Lunch and program 11:30 am to 1:00 pm

For more information on the events of the NWCB Northwest Chapter, please visit www.nwcb.org or call 206.524.4243.

NWCB OREGON CHAPTER

Thursday, March 08
NWCB Oregon Seminar:
“Washington State Mandatory Paid Sick Leave”
The Grand Hotel at Bridgeport
7265 SW Hazel Fern Rd
Tigard, OR 97224
11:30 am - 1:30 pm
Check-in 11:30 am to 11:45 am
Lunch and program 11:45 am to 1:00 pm

Thursday, April 5
NWCB Oregon Seminar:
“Gypsum Association GA-600 Fire Resistance Design Manual”
The Grand Hotel at Bridgeport
7265 SW Hazel Fern Rd
Tigard, OR 97224
11:30 am - 1:30 pm
Check-in 11:30 am to 11:45 am
Lunch and program 11:45 am to 1:00 pm

Thursday, June 7
Douglas McClain Golf Invitational / NWCB Oregon Annual Golf Tournament
Langdon Farms Golf Club
Aurora, OR
6:30 am - 2:30 pm

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- NWCB Technical Documents Catalog
- Stucco Resource Guide
- Impacts to Labor Productivity in Steel Framing and Gypsum Wallboard & User Guide

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