

IRMCA harder. VISION concrete

Virginia Ready-Mixed Concrete Association Newsletter

Expansion Begins on Western Virginia Forensic Lab

By Bob Nablo, Director of Industry Services

Construction has begun on a state facility in Roanoke County that will more than double the space available to the region's forensic scientists and medical examiners. The \$40 million project will add to, and renovate, the Virginia Department of Forensic Science's Western Laboratory, as well as the office of the Chief Medical Examiner, housed in the same building.

The two departments investigate crimes and deaths in western Virginia, handling more than 14,700 cases and performing more than 1,300 autopsies or exams. The 76 employees have outgrown the space that was built in 1995 and the adjacent Public Safety Center, which was once a public school. The new, three-floor, 63,000 sq. ft. facility will be attached to the existing space, more than doubling its size. Construction will take about two years.

The new space will allow room for the purchase of about \$6 million in new equipment, and new staffers. Currently, examiners have to wait for autopsy tables to become available or equipment to be ready. The expansion will fix that problem. The lab and the medical examiner's office cover the largest geographic area in the state, and are frequently the busiest. Scientists at the lab perform work in several different specialties, including DNA testing, trace evidence collection, drugs, toxicology, firearms, finger and footprints, and documents analysis. The work covers about 185 state agencies. A boom in meth labs means the office investigated about 200 such operations last year, compared with 20, or fewer, at each of the state's other three regional labs.

Sam Woolwine of member company Boxley reports that more than 2,500 cubic yards of concrete have gone into the early construction of the addition, with a bit more to be delivered. New construction is expected to be completed in 2015, with the renovations reaching completion in mid-2016.







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SAVE THE DATE

2015 Virginia Ready-Mixed Concrete Association

SPRING CONVENTION

May 17-19, 2015

The Greenbrier White Sulphur Springs, West Virginia

www.vrmca.com

2015 VRMCA Advisory Council Regions

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Salt Scaling

Ann-Germaine Danz, Director of Industry Services

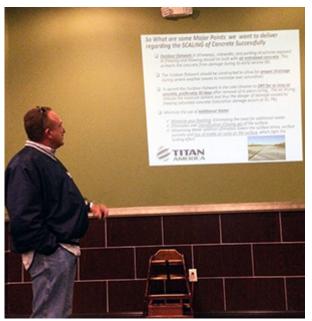
The Mid-Atlantic experiences an incredible amount of freeze-thaw cycles compared other areas of the country. Last year one member counted sixty five freeze days and fifty seven freeze/thaw cycles for the region. When the weather has a great swing from frigid teens to mild 50s, freshly placed concrete has a difficult time curing properly and young concrete in the first year or two can face challenges dealing with deicing treatments used to prevent slippery surfaces. Homeowners across Hampton Roads are reporting issues with crumbling driveway after two harsh winters. Bill Denison from Titan America gave a presentation to the Hampton Roads Advisory Council explaining ways to effectively communicate why salt scaling occurs and what can be done to prevent damage to concrete in winter conditions.

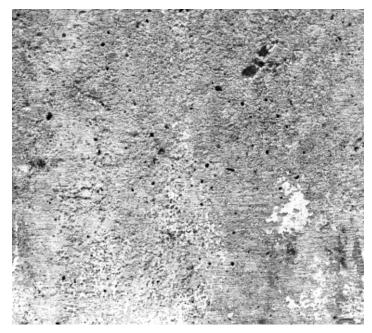
Salt scaling appears as local flaking away of hardened concrete near the surface. Scaling is caused in part by freeze and thaw cycles not allowing concrete to properly cure and is



compounded by the use of deicer salts. Roadway deicers and salt can enter one's driveway even if you have not applied them to your property directly. Cars and trucks driving on the road bring the chemicals home and deposit them along the drip line under the vehicle. At the chemical level, elevated osmotic and hydraulic pressures are causing a physical action leading to deterioration of the concrete surface. This means salt is pulling water away from the concrete and migrating deeper into the flatwork structure. Scaling typically occurs in the top $\frac{1}{4}$ inch; severe cases can be as much as $\frac{3}{4}$ of an inch.

Outdoor concrete that is placed in regions that experience freezing and thawing should use air entrained concrete to protect the structure from damage early in its service life. To avoid over saturation, contractors should take care to grade for proper drainage away from the concrete and minimize the use of additional water. Bill stressed that saturation damage occurs at 91.7%. Minimize finishing of the surface to protect the concrete. When the surface is over worked, there is a densification or a loss of stable air voids that could have otherwise fought the scaling. Additional important preventative measures are to maximize curing and maximize air drying to lower saturation. In Cold Weather, when temperatures average below 40 degrees Fahrenheit, concrete must be protected against freezing for the first day or two. When the temperature is above 40 degrees Fahrenheit continuous moist curing should be maintained at least 7 days. If concrete can only be cured a few days, it should be kept at 60 degrees Fahrenheit or higher to obtain enough strength and to help lower saturation. Unfortunately once scaling has damaged the concrete, the owner's options are often limited to either a partial or full tear out and replacement of the driveway.





"Material for Life" Bacterial Concrete or Bioconcrete or Self-Healing Concrete

Hessam Nabavi, Director of Industry Services

After water, concrete is the second most consumed product on earth. Ton for ton, it is used annually twice as much as steel, aluminum, plastic and wood combined. Concrete is used in buildings, bridges, roadways, airports, dams etc. One challenge with concrete is that it is prone to cracks. Concrete cracks when it is under tension. "Micro-cracks" are an expected part of the hardening process and do not directly cause strength loss, but over time, water and aggressive chemicals can get into these cracks. If these cracks become too large, they will lead to corrosion of the steel reinforcement which results in an unattractive appearance, but also jeopardizes the structure's qualities. One reason engineers often specify a larger amount of steel reinforcement than is necessary for the structure is to prevent the cracks from becoming too large. The additional steel does not have any structural value and usually is an additional expense which increases the cost of construction. Another way to deal with cracks is to repair them, but this can be extremely difficult and rather expensive. Needless to say, most of the world's infrastructure is made from concrete; the upkeep of concrete structures represents a huge and growing effort. Even well-made

concrete needs to be looked after, especially if we want it to last stainability for years to come. Ultimately over the long term, repair and eventual replacement is inevitable unless there is a self-healing mechanism imbedded in concrete that can repair itself.

For example, in the human body, skin is our first line of defense against the wear and tear of everyday life. If skin is damaged, it repairs itself. It has a self- healing power. Inspired by this remarkable living internal healing process, researchers have been working on developing a damage sensing and repair process that can be engineered into other materials such as concrete. The idea is to produce a "material for life", one with a built-in first aid system (first-aid kit) that responds to all manner of physical and chemical damage by self-repairing, over and over again. Self-healing materials were voted one of the top-ten emerging technologies in 2013 by the World Economic Forum and are being explored by various industries. But perhaps one area where self-healing might have the most widespread effect is in the concrete-based construction industry.

On-going research is being conducted in different laboratories around the world for developing an effective self-healing methodology for concrete. Among those,

a Dutch researcher's invention is gaining more traction and looks very promising. The concrete mix that has been developed contains small ceramic pods filled with dormant spores of calciteprecipitating bacteria and nutrients (calcium lactate, a component of milk), nutrient the bacteria needs to survive. In solid concrete slabs, these spores remain dormant. When cracks occur the spores are being activated by water seeping into the ceramic pods, the bacteria spring into action, using the calcium lactate for nutrient. In the process they excrete the mineral calcite, a form of calcium carbonate which is one of the two primary components of limestone. This calcite bonds to the concrete and starts to build up a mineral structure that fills the crack. Self-healing of crack damage recovers any stiffness lost when the material was damaged and returns it to its original state. Research has shown that the cracked concrete can recover over 90% of its strength.

The use of bacterial concrete not only reverses deterioration, it could minimize the cost and environmental effects of building new structures and it could also lead to substantial savings, especially in steel reinforced concrete. Another noteworthy use of bacterial concrete could be for constructing underground retainers for hazardous waste, as no humans would have to go near it to repair the cracks.

The ultimate goal for concrete is to be a "Material for Life" that could heal itself over and over again when needed.





After Self-Healing



the

SW VA Council Hosts Breakfast Seminar For Local Engineers

By Bob Nablo, Director of Industry Services

In late March the Southwest Virginia Council hosted the first part of a two-part event intended to educate, and then train, area engineers and contractors in the design, testing and placement of pervious concrete. Fifty-five engineers and Council members gathered at Boxley's Support Center in Blue Ridge to hear two Professional Engineers who have designed completed projects that featured pervious concrete. John Neel of Gay & Neel Engineers in Radford, and Steve Schad of AECOM in Roanoke each spoke about their projects and outlined the considerations that led them to use – or in some cases, not use – pervious concrete. They touched on topics such as storm water runoff, local regulations, cost, appearance, Best Management Practices, and owner requirements, noting why pervious concrete was either the best material for a certain project or was not the final choice.

A wide range of engineering professionals attended, ranging from private companies, large and small, to local municipalities and

governmental agencies. The breakfast was quite well received, with much discussion during the presentations and several complimentary comments after the event. The second part of the plan will be to host a pervious concrete technician certification class at Chandler Concrete in April, including a lunch and a pervious placement demonstration by VRMCA member Procon, of Rocky Mount, VA. This will be the second of three certification classes in Virginia, with one having already been held in the Hampton area, and a third scheduled for Northern Virginia at the end of April. These events are a result of the monies raised by the annual SW Council Golf Outing. Every year the funds raised by the golf outing help pay for seminars, meetings and the like. This year we will not only fund breakfast and luncheon seminars, but hope to move the regular Council meetings from Roanoke to the Blacksburg/Christiansburg area once during the year, and also to Lynchburg once in 2015, making it easier for some member companies to attend.









Women in Concrete Social

By Ann-Germaine Danz, Director of Industry Services

Members and guests from across Virginia met for an evening happy hour event in the New Town development in Williamsburg to discuss the role of Women in Concrete. This first of its kind event for VRMCA was inspired by the Women in Concrete Alliance (WICA) to be held later this spring at the Miami International Concrete Sustainability Forum. The Women in Concrete Alliance aims to supply information, opportunities, and mentoring to women working in the concrete industry.

Women in Concrete began in 2005 as a luncheon and forum at the World of Concrete at which attendees networked. In the last five years more than a 1,000 women have shared their experiences at what has become an annual event. This group manages social networking accounts on Facebook, Twitter, and LinkedIn as well as regular contributions to The Concrete Producer and Concrete Construction magazines. Related groups such as the non-profit Women in Trucking exist to provide a greater understanding of some of the special challenges women face on the road. One of the major issues the Women in Concrete Alliance wishes to explore is how gender diversity can help meet the challenges of concrete industry sustainability. The call for a corporate diversity initiative is often met by a groan, but the inclusion of diverse people, backgrounds and ideas is a large part of being a socially responsible company. Mixer drivers are in demand as seen by the help wanted sign at just about every ready mix plant. Taking a look at the industry as a whole, women comprise just about 8% of the concrete industry workforce. Small changes in work site conditions like including a separate women's restroom or demonstrating that the 40 pound lifting requirement really is not that challenging once you know proper lifting mechanisms and train your body to do the work are a few means of removing barriers to entry. Another positive for CDL drivers looking to enter the ready mix industry is the benefit of being home at the end of every night.

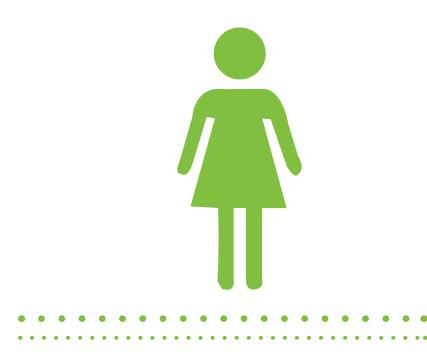
Despite the name, men were more than welcome to participate in the event. Four men and eleven women attended including a mixer truck driver, plant manager, and engineer from Vulcan Materials, Board Member Genevieve Switzer President of T&W Block, and sales personnel from Titan America, and guests from ECS Mid-Atlantic all joined in on the round table discussion. Attendees suggested that future events could be more inclusive of members across the state if they took the form of a breakfast or cocktail hour at the VRMCA conventions. This happy hour was generously sponsored by Michael Lamb of Richmond-based GreenRock Materials.







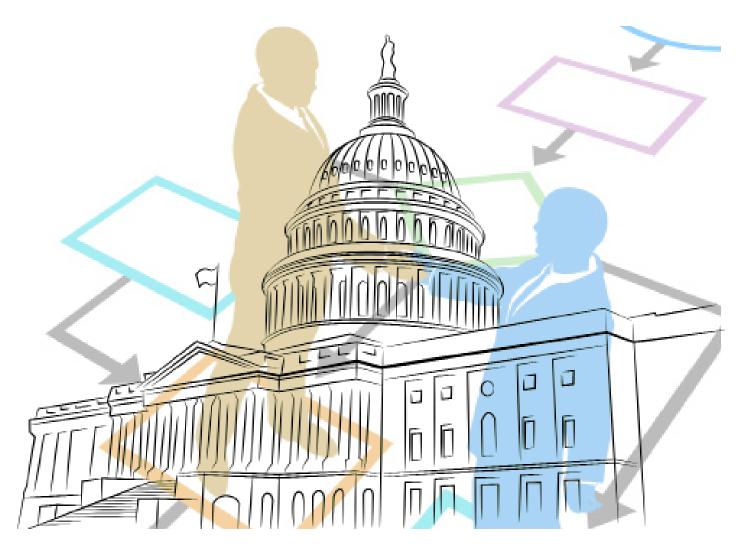






NLRB Adopts New Election Procedures

By John G. Kruchko & Jacquelyn L. Thompson



On December 12, 2014, the National Labor Relations Board ("NLRB" or the "Board") announced that it adopted the final rule amending its procedures for union representation elections. The new rule's primary purpose is to permit union representation elections to occur as quickly as possible. The final rule implements changes to the Board's election procedures that are substantially identical to changes proposed by the Board in 2011. A federal court struck down those changes on technical grounds because the Board did not have a quorum when it issued the rules.

On March 19, 2015, the House of Representatives passed a resolution to do away with the rule in a 232-186 vote, sending the measure to President Obama's

desk. Congress used the Congressional Review Act to eliminate the election rule, which they have denounced as an attempt to help labor unions surprise employers with organizing drives. Under the seldom-used Congressional Review Act, lawmakers can block any regulation they disapprove of from going into effect. On March 31, 2015, President Obama vetoed the resolution. While the Senate voted 53-46 to pass the resolution, that is fourteen votes shy of the total needed to override a veto.

Accordingly, the new election rules took effect April 14, 2015.

A. The Rule

The new election procedures have the

following consequences:

• The rule shortens the time period between the filing of a petition for an election and the holding of the election. Currently, the standard time period is 42 days. The new "quickie election" procedures will allow an election in under 20 days.

• The rule substantially limits the opportunity for a full pre-election evidentiary hearing of contested issues, such as the appropriate bargaining unit, supervisor determinations, and individual voter eligibility.

• The rule eliminates the pre-election request for review. Employers will have to seek review of all Regional Director election rulings through a single, postelection request.

• The rule requires that employers provide additional contact information of unit employees, including personal email addresses and cell phone numbers, to the union.

B. Practical Effect of the Board's Rule Changes

• Once an employer receives the election petition, it will have a very short time period to assess appropriate bargaining unit issues and prepare for a representation hearing;

• If an employer does not become aware of a union organizing campaign until after it receives the petition, it will have less time to make an effective case against unionization;

It will be easier for unions to win NLRB representation elections; and
It will be more difficult to overturn the results of an election in favor of a union

C. Employers' Bottom Line

As mentioned, the Board's final rule took effect on April 14, 2015. Under the new operating rules, employers who wish to remain non-union should take the following action:

> • Quick discovery of employee discontent and covert union organizing is now imperative. Review your union avoidance training for supervisors to ensure they are

receiving periodic instruction on the signs of union organizing and how to respond if they see union activity.

• Effective communication skills must now be an essential qualification for every manager. Assess your leadership team and work with individual members of management to improve their communication skills.

• Revise personnel policies to allow for legal workplace restrictions on union organizing. There are numerous ways to slow down potential organizing by employees and outside union agents. Consult with employment counsel to determine which policies are legal and effective.

• Communicate your position on unions to employees with various techniques and media. Given the new "quickie election" rules, employers must become more aggressive in communicating their position that employees are better off in a non-union environment. Use new employee orientation, employee handbooks, and "Don't Sign the Card" meetings.

• Create a workplace that fosters employee participation in the operation of the company. Utilize employee committees to address safety or greater efficiency in operations. Schedule regular"state of the company" meetings to communicate with employees.

• Survey wages and benefits provided by other employers in your locality and industry. Company wages and benefits should not be so far below the norm so as to provide organizing issues for union adherents.

Ensure that your employees are treated with respect, dignity, and fairness. Audit your employee relations program to ensure that supervisors are treating employees fairly. There must be uniform discipline and opportunities for advancement, without discrimination.
Monitor the activity of unions that are specific to your industry and which might conceivably approach your employees. Appoint a Human Resources associate to review local union websites and organizing activity in the community.

The shortened time period for union elections will place a premium on swift reaction by employers to union organizing activity. Employers are encouraged to speak with their labor counsel now about putting in place a rapid response plan for management because they may not get a second chance to prepare for sudden union organizing activity.

John G. Kruchko is a Partner with the Labor & Employment Law Firm of FordHarrison, LLP in Tysons Corner, Virginia; Jacquelyn L. Thompson is also an associate in the firm's Washington, D.C. office. Paul M. Lusky, Of Counsel in the firm's Baltimore office, prepared an original version of this article. For more information, please contact Mr. Kruchko or Ms. Thompson at (703) 734-0554 or by e-mail at jkruchko@fordharrison. com or jthompson@fordharrison.com. This article is published for general information purposes, and does not constitute legal advice WSACTIVELLP:7459607.1



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Mixer & Plant Maintenance Committee Seminar

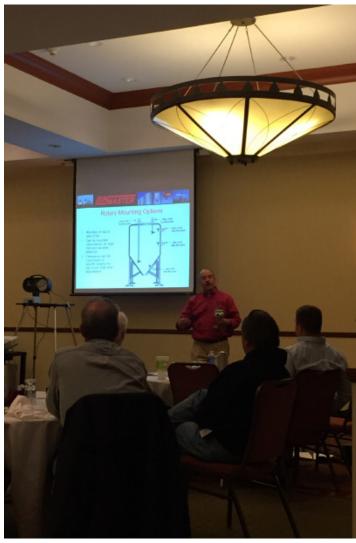
On Tuesday, April 28th, the Mixer and Plant Maintenance Committee held its first seminar in Richmond, Virginia. Industry professionals, including Clean Energy Fuels, McNeilus Companies, Kimble Mixer Company, BinMaster, and Argonics, presented products and technology that benefit the equipment we purchase for our everyday business.

We learned how Compressed Natural Gas could be used as a fuel alternative in our truck equipment, how to design a mixer truck for maximum weight savings that will benefit carrying payload, how to use polyurethane lining materials in high wear places with specific wear properties, and the many ways to track the material levels in our plant bins.

We hope all attendees enjoyed the day and thank you again to all of our speakers! Please contact Christina Sandridge at VRMCA if you are interested in joining the Fleet & Plant Maintenance Committee.











On the Horizon Calendar of Upcoming Events

May 12, 2015

Hampton Roads Council Meeting 11:30 AM – 1:00 PM Crazy Buffet and Grill Chesapeake, VA

May 13, 2015 Blue Ridge Business Meeting 12 Noon – 2:00 PM

Rowe's Family Restaurant Staunton, VA

May 14, 2015

NVCAC Executive Council Meeting 10:30 AM – 2:00 PM Bob O's Restaurant Chantilly, VA Central VA Council NO Meeting in May

May 17-19, 2015

VRMCA Spring Convention The Greenbrier White Sulphur Springs, WV

May 26, 2015

Southwest Business Meeting 8:00 AM – 9:30 AM The Roanoker Restaurant

October 4-6, 2015

VRMCA Fall Convention Hilton VA Beach Oceanfront Hotel Virginia Beach, VA

Please visit the online calendar for an up-to-date list of events. www.VRMCA.com/calendar



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The Smart Road bridge, at 175 feet tall, is Virginia's tallest bridge. Approximately 9,647 cubic yards of high-strength concrete were used to construct the 2,000-foot long bridge.

