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# On the Road to Recovery

BY MIMI RAINERO COLES | *Chairman, National Precast Concrete Association*

The formula for success in the precast business these days is learning to keep your ears and eyes open to the prevailing conditions and be prepared to adapt as needed.

Happy 2013! The publication of this issue of *Precast Inc.* magazine must mean that the world didn't end on December 21 and we didn't fall off the dreaded "fiscal cliff"! Hopefully folks in Washington can work together to make some decisions that will truly benefit our economy, get people back to work and create more security for our future.

If you follow the economic outlook forecasts for the construction industry, you've likely seen a variety of predictions for 2013, most calling for a decent growth rate of about 6% this year. If you track manufacturing, you'll note the outlook is a little more mixed. As precast concrete manufacturers, we have a stake in both of those sectors. So, how do we look at 2013 and the near-term beyond?

The formula for success in the precast business these days is learning to keep your ears and eyes open to the prevailing conditions and be prepared to adapt as needed. Even though the construction sector may be heading toward recovery (assuming the fiscal cliff issues are settled for now), the precast industry may not necessarily find great opportunity on that bandwagon. We're still adapting to a somewhat unsettled market rather than one in early recovery.

Because much of our business is often based on governmental infrastructure work at the federal, state and local level, our segment of the construction market is a little bit different. States, for example, tend to go into a recession later because they're working from the previous year's tax revenues. They come out of a recession later because it takes a year of recovery to boost the local economy and increase tax revenues for the next year's budget. So we're seldom working with real-day dollars.

So it goes in the precast industry. When the housing bubble plunged the construction industry into a steep recession starting in September 2007, many of us didn't feel it until at least a year later, because we were working off contracts from the previous year. An optimistic 5 to 6% growth for the construction industry most likely will result in a recovery closer to 2 to 3% for the precast industry. It's not bad news, just a little more tepid than the overall construction segment of the economy.

Your company's situation may not mirror this macro view of the precast industry, of course. Within our industry, every company is unique and precast concrete manufacturers are endlessly entrepreneurial and infinitely innovative. Many precasters have found product niches that take their business in a completely different direction. Many companies have evolved from underground product providers into full-service providers of architectural products, prestressed products, large landscaping components and a growing array of proprietary systems for paving slabs, foundations, walls and bridges. As the world continues to change around us, we'll continue to be innovative and adapt as necessary!

Yes, the recovery may be slower than most of us would like, but there are now signs that it really is starting to recover. As long as precast manufacturers continue to adapt to the market's needs and provide outstanding service and quality, we should find plenty of opportunity in a construction economy that generates nearly \$500 billion of business in North America every year.

As always, I'm interested to hear your perceptions of the precast industry and your experiences doing business in these challenging times. Please feel free to contact me at [mcoles@precast.org](mailto:mcoles@precast.org). ■



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# Ahead of the Game

Terry and Ben Gray, father and son owners of Pre-Cast Concrete Products of Maine Inc. in Topsham, Me., have channeled their entrepreneurial spirit into everyday issues not only for their own benefit, but for their employees and their customers as well.

Story and photo by Ron Hyink

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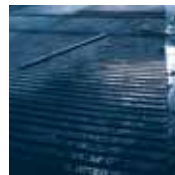
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# Hazardous Materials Reporting for Precasters

Precast plants are required to report annually on hazardous materials when they exceed specific thresholds.

BY DOUG RUHLIN

One doesn't typically think of a precast concrete manufacturing plant as a storehouse for hazardous or toxic materials. The truth, however, is that all precast plants have them, and many may be required to disclose their storage and use to local, state and federal government agencies. In fact, failure to do so can, and has, resulted in significant penalties.

The Federal Emergency Planning and Community Right-to-Know Act of 1986 (EPCRA) requires that all facilities (including precast concrete plants) report the processing, use or manufacture of hazardous chemicals and certain listed toxic chemicals (a subset of hazardous chemicals) if that processing, use or manufacture exceeds certain regulatory thresholds.

Federal regulations requiring this reporting fall primarily under sections 311-312 (for hazardous materials) and section 313 (for toxic chemicals and their releases to the environment) of the Act. These annual reports to the U.S. Environmental Protection Agency (EPA) are also required to be sent to certain state emergency response commissions (SERCs) and local emergency planning commissions (LEPCs), and some states may have their own similar or additional chemical reporting requirements.

## Cause and effect

The background behind these regulations was meant to help communities plan for emergencies involving hazardous substances, and to help increase the public's knowledge and access to information about chemicals at individual facilities,

their uses and release to the environment. The Act was passed in part due to the tragic industrial disaster in Bhopal, India, when an accidental release of an extremely toxic chemical escaped from a chemical plant and resulted in thousands of deaths. This event and another one later in the United States raised concerns about local preparedness for chemical emergencies and the availability of information on hazardous chemicals.

The EPCRA regulations require that facilities report – on an annual basis – hazardous and toxic chemicals in excess of certain reporting thresholds. The two primary types of Federal EPCRA reporting, discussed later, are:

- **Emergency and Hazardous Chemical Inventory Forms (Tier II Reporting)** – Requires annual reporting of the presence, use, processing or manufacture of any chemical at a facility that is deemed hazardous by OSHA and which is required to maintain a material safety data sheet (MSDS), and which exceeds the reporting threshold of 10,000 lbs for most chemicals.
- **Toxic Release Inventory (TRI) Reporting** – Requires annual reporting of the manufacture, processing or other use of any hazardous chemical that has been identified by USEPA as being toxic, and which exceeds the reporting threshold of 25,000 lbs for most toxic chemicals (for manufacture or process, or 10,000 lbs for other use). For certain toxic chemicals, identified as PBT chemicals (persistent bioaccumulative toxic chemicals), the reporting threshold can be much lower, such as 100 lbs for lead and 10 lbs for mercury.

## EPCRA Tier II reporting/Community Right to Know reporting

EPCRA sections 311-312 require annual reporting of the presence, use, processing or manufacture of any chemical at a facility that is deemed hazardous by OSHA and exceeds the reporting threshold of 10,000 lbs, 75,000 gallons for gasoline, 100,000 gallons for diesel fuel, and lower quantities for substances listed as extremely hazardous. This type of reporting is usually required to be made to SERC, the LEPC and possibly other local agencies such as your local fire department (which may also be the LEPC).

Here is a simple determination of whether a chemical or material is hazardous and subject to reporting: Is there an MSDS (material safety data sheet) for the chemical as required by the OSHA Haz Comm standard?<sup>1</sup> If so, then this chemical or material is subject to the reporting requirement if the facility has used, processed or manufactured more than 10,000 lbs of the hazardous material or chemical (with the above-referenced exceptions for fuels and extremely hazardous substances). This type of reporting is often called “Tier II” reporting due to the name of the EPA Tier II reporting form, or “Community Right-to-Know” or CRTK reporting.

What sorts of chemicals or materials might commonly be reported for a precast concrete plant? A great place to start is with your MSDS listing (which is hopefully current and complete, including MSDSs for all hazardous chemicals and materials at the plant). All industrial facilities should review their MSDSs and their material use records annually for Tier II reporting applicability and compare it against the 10,000-lb threshold. Materials at a precast concrete plant that might require Tier II reporting may include diesel fuel, gasoline, concrete chemical admixtures, cement, fly ash, slag cement, sand and perhaps stone, concrete itself and more.

Typically, Tier II reporting is done electronically, and in most states, copies of the reports must be submitted to the EPA with copies forwarded to the SERC and LEPC. However, in some states, these reports may be required to be made directly to the EPA, SERC and LEPC.

## TRI/Form R reporting

EPCRA regulations also require that facilities annually report the manufacture, processing or other use of toxic chemicals in excess of reporting thresholds, typically 25,000 lbs for manufacture or processing, or 10,000 lbs for other use. For certain toxic chemicals, identified as PBT chemicals, the reporting threshold can be much lower, such as 100 lbs for lead and 10 lbs for mercury. There are a few additional important restrictions such as SIC/NAICS<sup>2</sup> code and employee hours worked (which may exempt closed precast plants), although these restrictions are not typically relevant at most precast concrete facilities.

Like Tier II reporting, TRI reporting is made to the USEPA, SERC and LEPC. Also like Tier II reporting, some states may have similar or additional requirements that may also exceed the scope of the federal requirements.

TRI reporting requires an annual report of how much each chemical has been managed through recycling, energy recovery, treatment and environmental releases during the previous calendar year. The reporting is also referred to as Form R reporting because of the name of the USEPA reporting form.

What might commonly be required to be reported at a precast concrete plant?

- TRI/Form R reporting is for a subset of hazardous chemicals, those that are toxic and are present on a listing generated by the EPA. At precast concrete facilities, potential reporting triggers might be the presence of nitrates in certain concrete admixtures (they must be >1% of the mixture). Depending upon the volume present in the admixture, it might take only a few thousand gallons used at your plant over a year’s time to trigger the need for TRI/Form R reporting due to the presence of more than 25,000 lbs. Determine where you stand by checking your MSDS for all your products you use at your plant, check the contents against the TRI list, and then calculate whether you exceed the reporting thresholds.
- Additional reporting may be required for chemicals such as lead and mercury in cement, fly ash and slag cements. These PBT chemicals have no minimum concentrations (such as the 1% concentration identified above for non-PBT chemicals), and may not appear as a listed component of materials such as cement, fly ash and slag cement. However, should their total use at the precast concrete plant exceed the reporting thresholds, they should be reported. If you are unsure about the concentration of toxic chemicals, other means may be required to estimate or confirm the concentration, such as requesting compositional data from the supplier or getting independent chemical analyses.

TRI/Form R reporting requires two steps. First is determining whether to report in the first place, followed by evaluating the release of the toxic chemical to the environment. While this can be complex, it is often based on standard emission or discharge factors, which can be used to provide an estimation of potential releases to the environment, rather than the

NFCA file photo



need for more elaborate release or discharge monitoring or modeling. Exceeding the reporting thresholds is based on the volume you process at your plant, not the amount you release. Depending on your process, it may be possible that releases to the environment may be very minimal, or that there may not be any release to the environment at all. In that circumstance, it is important to note that the precast plant is still required to report.

It should also be recognized that nearly all NPDES stormwater discharge permits issued in the United States require the identification of the presence and handling of TRI chemicals (usually identified in the NPDES permit as Section 313 chemicals). Failure to identify the presence of these chemicals not only may result in a reporting violation, but could also trigger a lack of compliance with your NPDES stormwater permit.

Tier II and TRI reporting are not the same. They have different chemicals, reporting criteria, deadlines and reporting processes. Doing one type of reporting does not eliminate the need for the other. Also, failure to perform either or both of these required types of chemical reporting may carry significant monetary penalties.

If you determine that your precast concrete plant may have been required to report in the past yet failed to do so, or that previously submitted reports may have been incomplete, you should consult with qualified legal or technical counsel. It may be

possible to consider using the EPA Audit Policy for self-reporting of past potential violations in order to avoid liability or penalty. However, this route includes restrictions (including being time-sensitive after discovery of a potential violation) and may not avoid state-specific penalties. If an outside party discovers (such as during an inspection by the EPA) that you haven't been reporting and if you are found to be in violation, the penalties can be severe, including significant monetary penalties from the EPA.<sup>3</sup>

Chemical use reporting at precast concrete plants is not difficult, and should not be avoided if required. Like all other aspects of environmental regulations, being in compliance is far preferable to being out of compliance. ■

*Doug Ruhlin is an environmental/sustainability consultant with Resource Management Associates, which provides consulting services to the concrete and construction materials industries throughout the United States and internationally. View his website at [www.RMAgreen.com](http://www.RMAgreen.com), or contact him at [doug@RMAgreen.com](mailto:doug@RMAgreen.com) or (609) 693-8301.*

<sup>1</sup> See the article "GHS: A New World Order for Safety" on page 10 in this issue for a discussion of the Globally Harmonized System (GHS) that will replace the MSDS requirement later this year for labeling hazardous materials.

<sup>2</sup> SIC stands for Standard Industrial Classification; NAICS stands for North American Industrial Classification System

<sup>3</sup> <http://www.rmagreen.com/rma-blog/bid/40707/USEPA-Enforcement-TRI-Reporting>

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The revelation of the UN's Globally Harmonized System (GHS) will implement new labels through OSHA to improve safety for all employees.



# GHS: A New World Order for Safety

BY EVAN GURLEY

By Dec. 1, 2013, all precast plant employees must be trained to identify new, internationally standardized chemical hazard labels and learn how to use new safety data sheets (SDSs). So how will OSHA's implementation of the new Globally Harmonized System (GHS) into its Hazard Communication Standard (HCS) affect precasters and their approach to hazard communication?

First, let's take a brief look at what GHS is and why OSHA decided to accept this new standard. According to OSHA, GHS is an international approach to hazard communication, providing criteria for classification of chemical standards, and a standardized approach to labeling elements and safety data sheets (SDSs). GHS was formed under an international umbrella to manage the process for a new universally recognized labeling system. The result is a United Nations document known as "The Purple Book," or the "Globally Harmonized System of Classification and Labeling of Chemicals," which can be used by regulatory agencies such as OSHA to establish mandatory requirements for hazard communication.

## Standardized hazard labels

OSHA states that this new document provides harmonized classification criteria for health, physical and environmental hazards of chemicals. It also includes standardized label elements that are assigned to these hazard classes and categories, and provides the appropriate signal words,

EFFECTIVE COMPLETION DATE	REQUIREMENT(S)	WHO
Dec. 1, 2013	Train employees on the new label elements and safety data sheet (SDS) format.	Employers
Dec. 1, 2015*	Meet compliance with all modified provisions of this final rule, except: The distributor shall not ship containers labeled by the chemical manufacturer or importer unless it has a GHS label.	Chemical manufacturers, importers, distributors and employers
June 1, 2016	Update alternative workplace labeling and hazard communication program as necessary, and provide additional employee training for newly identified physical or health hazards.	Employers
Transition period** to the effective completion dates noted above	Optional compliance with either 29 CFR 1910.1200 (the final standard), or the current standard, or both.	Chemical manufacturers, importers, distributors and employers

\*The EU implementation date for classification of mixtures is June 1, 2015.

\*\*During the phase-in period, employees shall be in compliance with the revised HCS (chart above) or the current/existing HCS.

Revised Hazard Communication Standard chart provided by OSHA

pictograms, and hazard and precautionary statements to convey the hazards to users. A standardized order of information for SDS is also provided. Pharmaceuticals, food additives, cosmetics and pesticide residues in food will not be covered at the point of intentional intake, but will be covered where workers may be exposed and in transport.

The primary use of the SDS is in the workplace. It is used as a source of information about hazards and to obtain advice on safety precautions. The SDS should provide comprehensive information about a chemical or substance or mixture.

### Why GHS is needed

The new GHS will eventually improve the safety and health of workers through more effective communication on chemical hazards – plain and simple.

The original HCS, implemented in 1983, is a performance-oriented standard, essentially allowing chemical importers and manufacturers to convey information on material safety data sheets and on labels in whatever format they choose. While this has worked in the past, OSHA believes that a more standardized approach to classifying and conveying hazardous information and harmful effects that the chemical poses will be more effective and provide continuous improvements in the American workplace.

Another major benefit of adopting GHS is the communication and the standardization among other countries that interact with the United States in the chemicals trade. Many times international requirements differ, causing confusion and conflicts. For example, labeling in other countries may be difficult to read or the terminology may not be well understood among other countries, leading to confusion and possibly the incorrect handling of chemicals. The change to GHS will minimize these issues by standardizing the labeling and

information of chemicals imported and exported.

### Phase-in period for GHS

When will this begin to affect precasters? The answer is now. While full compliance of all modified provisions of this final rule doesn't take effect until June 1, 2015, employee training on the new label elements (pictograms and signal words) and SDSs needs to begin no later than Dec. 1, 2013.

### Required training




Another significant change comes with training workers on the harmonized training provisions. GHS does not include training provisions, whereas the revised HCS requires workers to be retrained within two years of the final ruling publication. GHS recognizes training is essential, but it does not require training.






For a complete side-by-side comparison of the existing versus the revised rules, visit [osha.gov/dsg/hazcom/side-by-side.html](http://osha.gov/dsg/hazcom/side-by-side.html).


### GHS goal: increased safety

The development of the GHS has been a long and complicated process. OSHA expects that the modifications to the HCS will result in increased safety and health for the affected employees and reduce the numbers of accidents, fatalities, injuries and illnesses associated with exposures to hazardous chemicals. This internationally uniform system for hazardous chemical labels and more comprehensive SDSs is a significant improvement in accurate chemical identification that will benefit every precast concrete manufacturing facility through increased employee safety. ■

*Evan Gurley is a technical services engineer with NPCA.*

GHS LABEL ELEMENTS	
Product Name or Identifier <i>(Identify Hazardous Ingredients, where appropriate)</i>	
	
Signal Word	
Physical, Health, Environmental Hazard Statements	
Supplementation Information	
Precautionary Measures & Pictograms	
	
First Aid Statements	
Name and Address of Company	
Telephone Number	

HCS PICTOGRAMS AND HAZARDS		
<b>HEALTH HAZARD</b> Carcinogens Mutagenicity Reproductive Toxicity Respiratory Sensitizers Target Organ Toxicity Aspiration Toxicity		<b>FLAME</b> Flammables Pyrophorics Self-Heating Emits Flammable Gas Self-Reactives Organic Peroxides
<b>GAS CYLINDER</b> Gases Under Pressure		<b>CORROSION</b> Skin Corrosion/ Burns Eye Damage Corrosive to Metals
<b>FLAME OVER CIRCLE</b> Oxidizers		<b>ENVIRONMENT (Non-Mandatory)</b> Aquatic Toxicity
<b>EXCLAMATION MARK</b> Irritant (skin and eye) Skin Sensitizer Acute Toxicity Narcotic Effects Respiratory Tract Irritant Hazardous to Ozone Layer (Non-Mandatory)		<b>EXPLODING BOMB</b> Explosives Self-Reactives Organic Peroxides
<b>SKULL AND CROSSBONES</b> Acute Toxicity (fatal or toxic)		



**Recycling process water and harvesting rainwater are important tools to lower production costs and establish your organization as an environmental steward.**

# Process Water: Recycle the Blue, Save Some Green

BY BRYAN GROTZ

NPCA file photo

**H**ow can we place a value on water? It is the most used substance on earth and, of course, without it we'd have no concrete. But if it is such an abundant resource, what is the incentive to conserve its use?

Actually it is fresh, clean water that holds the most value. Whenever clean water touches anything in the plant, though, the water is not clean anymore; its status drops a notch or two to "process water." And by law, all manufacturing facilities must collect this process water and discharge it in a manner prescribed by the EPA and state agencies. So then it becomes a prudent matter to reuse process water as much as possible before discharging it.

The harvesting of rainwater also makes sense, and rainwater and process water can both be used for water-dependent chores that don't require clean water, such as coring and wash-down. This practice not only can save a precast plant some money on production costs, it can also distinguish it as an environmental steward – and a strong advocate for LEED points.

## **Process water characteristics**

Process water is characterized as caustic, high in dissolved and total suspended solids (TSS), and high in pH (with a typical pH range between 11 and 12).<sup>1</sup> Process water is typically discharged into the municipal or county sewer system after being treated to meet local water quality requirements. Some precast concrete plants combine process water and stormwater into one treatment system, while others direct the two streams

into separate systems. Federal and local laws usually require discharge water to have lower TSS and pH ( $\geq 10$ ) levels than process water.

Treatment of process water often includes a concrete grit separator or a holding tank with a series of baffles to allow solids to settle out. While in the holding tank, suspended solids will settle to the tank's bottom, and the water will come into equilibrium with the air (including carbon dioxide, or CO<sub>2</sub>) around it, allowing the pH to decrease.

The pH and TSS continue to decrease as water is pumped into a second holding tank. In the second holding tank, process water can be dosed with sulfuric or hydrochloric acid for even lower pH. A lower pH can also be achieved by mixing more CO<sub>2</sub> into the process water through the use of a bubbler or with the addition of dry ice. A number of factors affect the pH of process water, so it is wise to consult a chemical engineer when designing a plant-customized water treatment system.

It's clear that costs are involved in meeting requirements for discharging water. However, using clean drinking water supplied by local utilities for process water only contaminates water that would otherwise be safe to drink, and the producer incurs additional costs in the time, money and energy spent purifying process water to acceptable standards. Since every precast plant must use, treat and discharge water, why not take advantage of recycled process water?

**A HOLDING TANK BENEATH A WASH-OUT AREA ALLOWS SUSPENDED SOLIDS TO SETTLE AND THE pH IN THE WATER TO DECREASE.**

### Recycling process water: going the “extra mile”

Concrete is made with potable water. Municipal or drinking water is favored, because it has consistent quality regulated by law. But now, efforts to reuse process water from homes and industries alike have increased, including precast industry initiatives to recycle process water. Treated process water remains nonpotable, but it has significant advantages in manufacturing.

Using treated process water rather than discharging it (and continuing to deplete the drinking water supply) requires that a producer take the added initiative to install a water recycling system. When it does, the costs of discharging process water diminish. That’s good news for the producer and the environment.

Treating process water often means additional reduction of pH and TSS to produce water adequate for production. Treated process water can be reused to produce concrete as long it meets ASTM requirements. ASTM C1602 states that, when making concrete with nonpotable water, the compressive strength must remain within 90% of the control mix with set times not > 1 hr. or > 1½ hr. of control concrete.<sup>2</sup>

This ASTM standard also lists optional chemical concentrations for mixes using recycled process water along with a mixture comparison guide of mixes made with potable and nonpotable water.

To bring process water to a quality that yields a good mix, some precasters use a mixture of treated process water, stormwater and municipal water. Additional water can dilute high TSS concentrations and lower pH to better meet mix requirements. Some precasters have even noted a better product finish as a result of using recycled water. In particular, they report better-looking surfaces with fewer bug holes. Improved surface appearance is most likely due to the increased level of fines (from TSS remaining in gray water) in the mix.

### Are you ignoring on-site assets?

Recycled water can also be used in other ways, not just in concrete mixes. In the precast industry, collected stormwater or treated process water will often be suitable for toilets and irrigation. Rainwater harvesting systems recycle gray water<sup>3</sup> from bathing, sinks or washing machines. By taking advantage of free rainwater and gray water, one can store useable water without relying on drinking water sources. The stored water is doubly important for regions subject to severe droughts.

Collected rainwater needs little to no treatment as long it is used within a short time, because if it sits too long in a recycling system, it can develop odors from decaying organic matter.

Downspouts and swales (longitudinal site depressions) are used to collect rainwater and direct it to a holding tank. (A surface swale directs water to the holding tank after natural “filtering” by surface vegetation.) Stored rainwater is then pumped from the tank as needed. Fountains can be added to the system for minimizing the buildup of organic decay and odors and for landscape watering.

Harvesting rainwater saves money and public drinking

water from being literally flushed away. Efficient use of rainwater and process water decreases the volume of polluted water entering overtaxed combined sewer systems (CSS). The discharge of contaminated water into lakes and streams from heavy rains is a serious legal concern for large cities where EPA mandates now demand expensive CSS reconstruction.

### Establish your plant as a LEEDer

Reusing process water and conserving and protecting water resources allow facilities to earn LEED (Leadership in Energy and Environmental Design) points (Pilot Credit 10: Sustainable Wastewater Management). LEED points are a green bonus that markets your plant as a good environmental steward to informed specifiers and customers. LEED certification means that your facility is reaping the economic benefits of lower energy costs, tax rebates, new equipment rebates, zoning allowances and other federal, state and utility business incentives.

As new EPA rulings and LEED specifications require environmentally friendly technologies in a project’s material selection, precast concrete producers will find it makes good business sense to adopt recycling systems earlier than later. Currently, precast concrete facilities are advancing green production processes and benefiting economically from more cost-effective water recycling measures. These green initiatives not only save production costs in the long term, but elevate your plant as the go-to producer for today’s specifiers and owners. ■

*Bryan Grotz, a 2012 intern with NPCA, is majoring in environmental engineering at Colorado State University.*



RATHER THAN DISCHARGING PROCESS WATER, PRODUCERS CAN TREAT IT WITH A RECYCLING SYSTEM.

NPCA file photo

<sup>1</sup> See the article “Muddy Waters” in the September-October 2012 issue of *Precast Inc.* for a description of pH balance in process water.

<sup>2</sup> ASTM C1602, “Standard Specification for Mixing Water Used in the Production of Hydraulic Cement Concrete.”

<sup>3</sup> Gray water is the recycling of ‘waste’ water that is generated in homes and commercial buildings through the use of water for laundry, bathing or manufacturing processes. Gray water differs from black water, which is discharged from toilets and garbage disposals into sewage systems. Gray water can be reused for a variety of purposes. Visit [www.ecolife.com/define/grey-water.html](http://www.ecolife.com/define/grey-water.html)

# 8 Reasons Why GCs like Precast Concrete

Successful general contractors prefer precast to minimize headaches on the job.

BY CLAUDE GOGUEN, P.E., LEED AP, AND CHRIS VON HANDORF, P.E.

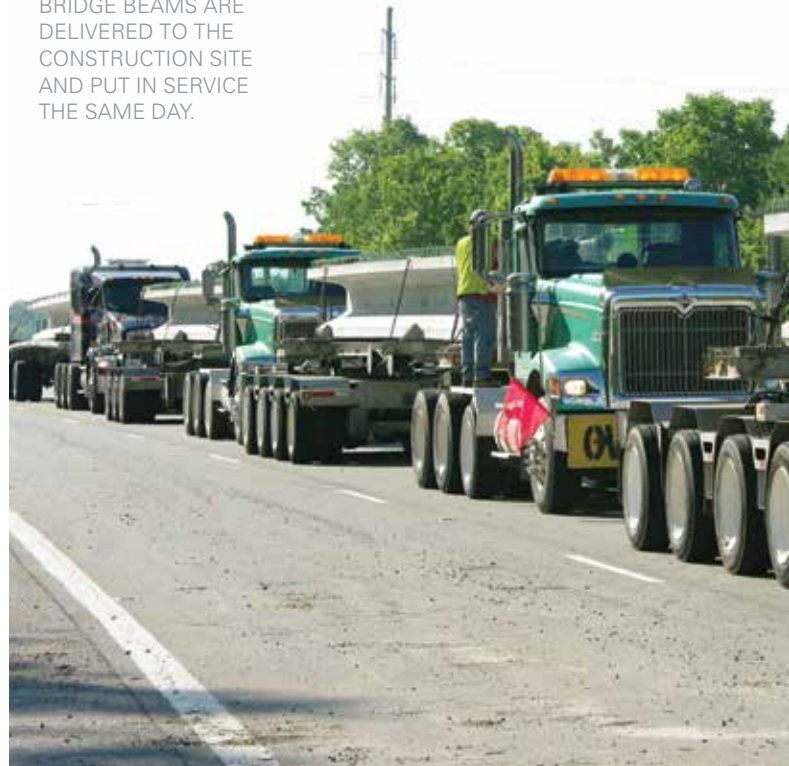
It's a constant challenge for producers to convince specifiers of the advantages of precast. General contractors work with all types of construction materials, but the reality is that they often propose – and prefer – precast concrete solutions based on their own experience with successful jobs. What keeps general contractors coming back to precast concrete? Hear it straight from them, and add these bullets as ammunition to your sales and marketing pitch.

## Where's the laydown yard?

Whether GCs are working in downtown Chicago or repairing existing facilities in the suburbs, adequate space for equipment and material storage is a must. Enough maneuvering room for large cranes and delivery flatbeds is always one of the contractor's first questions. Materials for a GC's initial tasks – work trailer siting, power access connections and excavation – require securable, safe space at the work site. Then there are space demands for steel, wood, bricks, saws, welding and fabricating machines, pipe, backfill materials, mobile cranes, man lifts, tarps for rain and space heaters for the cold. The list goes on, and we haven't even mentioned critical items like parking space for workers and the ubiquitous (and seldom leveled) porta-potties. Everything must be easily accessible to workers, yet it cannot interfere with construction activities.

Now let's compare the space required for precast concrete erection. Structural and architectural precast products are typically hoisted directly from the transport truck by crane or forklift and set into final position ready for service, thus eliminating the need for on-site laydown areas. That's one less problem for the GC.

PRECAST CONCRETE BRIDGE BEAMS ARE DELIVERED TO THE CONSTRUCTION SITE AND PUT IN SERVICE THE SAME DAY.



## Who's going to haul this junk to the dump?

GCs struggle to remove mountains of waste material and debris from construction sites. On large projects, pouring concrete on site can create heaps of formwork waste that must be hauled away. Not so with precast concrete – it is fabricated off site. Just-in-time finished product delivery goes hand-in-hand with minimizing site impacts. No on-site storage equals less site impact. Two more labor-intensive and potentially contract-bending issues solved for the GC.

## Several trades in small spaces: safety concerns

On a fast-paced project, construction sites can become overly crowded with multiple subcontractors vying for the same workspace. This worker congestion can create an environment less than conducive to safety. OSHA statistics tell us that whether on site or in a precast plant, construction workers are at a high risk for injury and even death. So how does precast concrete reduce on-site safety risks?

Precast building systems can be installed by a relatively small crew in a timely manner. Since the product is manufactured off site and installed quickly, there are fewer workers to bump into each other at the construction site. Intentionally or unintentionally, precasters take some of the worker-safety liability away from general contractors thanks to off-site production – a fourth avoided migraine for the GC.

**“The No. 1 reason is efficiency. In construction, time is money, and precast concrete saves time, saves labor and saves money.”**

– **Scott Sweeney, vice president, Gradex Inc.**  
[scott@gradexinc.com](mailto:scott@gradexinc.com)



NPCA file photo

**“It’s easy to install. We can install a 200-ft run in two days instead of two weeks.”**

– **Dave Hardin, executive vice president and chief engineer, Gohmann Asphalt and Construction Inc.**  
*dhardin@gohmannasphalt.com*

job-site meetings, asking the owner and general contractor if there are any issues. In fact, some precasters today are using the same project management software as the GCs who are running the projects. Voila! Smooth supplier coordination and logistics, good communication and product service (like a thorny connection problem solved by the precast engineer): a GC’s dream – advantage six.

**Wind, rain and cold: no friends of the GC**

A general contractor’s greatest nemesis is the weather. It is uncontrollable and can completely ruin a project schedule. Since a big part of being a general contractor is managing risk, it makes a lot of sense to eliminate some of the uncertainty about meeting the schedule. Precast concrete virtually eliminates weather-related construction delays. Again, depending on the project, contractors may choose precast concrete over cast-in-place concrete to reduce some of the risks to their project schedule – the seventh incentive to stick with precast.

**“Buy America” and supporting local jobs**

These days, construction materials are manufactured just about everywhere. Materials can be shipped across land and sea in a matter of weeks or even days. Employing local manufacturers and supporting local job creation matters to most GCs. Moreover, there is something to be said for a GC or owner who can get in his car and drive to the precast plant to take a look at a product being manufactured for his project.

This industry access is an intangible benefit that precasters offer to contractors, engineers and architects. This often overlooked perk should be used to the precaster’s advantage whenever possible, as few competing products can offer the same insight to project principals. Consider it the eighth reason why GCs like precast

**Final thoughts**

All of these reasons to use precast are no-brainers for plant owners and their sales teams, but that’s exactly why they bear repeating. It’s easy to forget that the general contractors you’re selling your product to don’t know everything you know about the advantages of precast. And even if they do, it doesn’t hurt to remind them. Rather than assuming or taking for granted that these advantages are common sense, share them often. ■

*Claude Goguen, P.E., LEED AP, is NPCA’s director of Technical Services. Chris Von Handorf, P.E., is a structural engineer with Hoch Associates in Indianapolis.*

**“Another advantage is that you reduce the site impact by not having to provide a level area for forms, reinforcing and truck washout.”**

– **Mike Jaskela, sales manager, Rieth-Riley**  
*Mjaskela@rieth-riley.com*

**“Time is money” – overused expression, but still true**

The use of precast concrete means there is no schedule delay or waiting around while cast-in-place concrete cures and gains strength. Precast can be delivered to the site, installed and put in service on the same day. For transportation projects, the use of precast concrete paving slabs or infrastructure products means that traffic can be reopened just a few hours after installation. Angry complaints about extended road closures from the driving public and businesses are minimized. In construction, time is money, so being able to complete projects faster can mean incentive pay and more profit for general contractors. No project delays and more profit = the fifth (and maybe the best) part for GCs.

**How do I fix this fast?**

Many precasters pride themselves on providing a high level of service along with their high-quality products. An overriding mantra heard throughout the industry is that producers want to “make it right” on every contract. This means not cutting corners and fixing problems the way they are supposed to be fixed.

Depending on the size of the precast operation and the type of products manufactured, precasters may designate a project manager to see projects through from the time they hit the production line and through to installation and service. Precast project managers or customer representatives will often attend

# On the Road Again

**A primer on precasters' responsibilities for truck drivers at the plant, on the road and on the job site.**

BY BRIDGET McCREA



NPCA file photo

No precaster wants to hear about its manhole risers toppling off a truck while the vehicle is driving down the highway or its panels falling from a boom truck while it's parked at a job site, but accidents happen. In fact, according to the U.S. Bureau of Labor Statistics (BLS), vehicle-related accidents happen a lot. The most recent numbers show that more than 1,700 deaths occur annually as a result of occupational transportation incidents. That number is more than 38% of the 4,547 annual number of fatalities from occupational injuries.

The BLS says that fatal highway incidents are the most frequent type of fatal work-related events and accounted for nearly two out of every five fatal work injuries in 2010.

Motor vehicle crashes incur both economic costs and human costs. On average, a fatality occurring on the job costs a business more than \$500,000 in direct and liability costs, and each nonfatal injury costs nearly \$74,000.

An accident doesn't have to be fatal in order to impact the precaster that registered the vehicle and hired a driver to transport it to and from the job site. Products can fall off trucks while they are on the road, trucks can be unintentionally steered into buildings and other structures, and bulky precast items can fall off truck-mounted cranes. Even if no one gets physically hurt during such mishaps, the financial liability will likely find its way back to the precaster.

"The basic rule of law applies in pretty much all contexts and areas, including the plant/yard, on the road and at a delivery site," says Thomas J. Simeone, a personal injury attorney with Washington, D.C.-based Simeone & Miller LLP and a part-time law professor with extensive experience with the liability of delivery drivers. "Generally, an owner/employer is responsible for the acts of its employees/agents, including their negligence."

There are some exceptions to the rule, such as when a delivery driver injures a fellow employee (another employee of the same precast firm), the injured employee is limited to a workers' compensation claim (rather than a personal injury case). "The other, and probably more important, exception," says Simeone, "is that a manufacturer will not be liable for the negligence of an independent contractor."

The latter exception has pushed some companies to use more independent contractors or "1099" workers to deliver from point A to point B. "One of the reasons that companies turn employees into independent contractors is to limit their liability for the worker's negligence," Simeone says, adding that the mere fact that the manufacturer and driver call their relationship an "independent contractor relationship" and provide for payment via 1099 (rather than employee withholding) is not binding in a court.

"Instead, a court can still find a driver to be an employee," Simeone explains, "if the manufacturer retains and/or exercises control over the driver's actions to such a level that the driver is for all intents and purposes an employee." Simeone says this law will apply whether the driver is on the road, at a delivery site, or on the manufacturer's property. "Finally, if the driver is injured by someone other than the manufacturer, then he can bring a claim against that person, including a customer of the manufacturer," says Simeone. "And if he is an employee, he can also bring a workers' compensation claim."



## Reading the fine print

Risk of work-related motor vehicle crashes cuts across all industries and occupations – not just those that require heavy lifting and tractor-trailers. In the United States, companies and drivers that operate large trucks and buses are covered by comprehensive safety regulations. In contrast, there are no federal occupational safety regulations that cover the workers who use smaller, employer-provided vehicles or personal vehicles.

According to Richard De Angelis, a spokesman with the Occupational Safety and Health Administration's (OSHA) office of communications, three different government groups develop and enforce motor vehicle safety regulations. The mission of the Department of Transportation's Federal Motor Carrier Safety Administration (FMCSA) is to prevent commercial motor vehicle-related fatalities and injuries on public highways. Travel on public highways is under the jurisdiction of the Department of Transportation (DOT). But when employees are loading and unloading trucks, OSHA regulations govern the safety and health of the workers. It is the responsibility of employers to ensure their safety at the warehouse, at the dock, at the rig, at the construction site, at the airport terminal and in "all places truckers go to deliver and pick up loads."

Finally, De Angelis points out that OSHA does not have jurisdiction over truck drivers while they are traveling on public roads to get to and from their employer's place of business and customer locations. (Additional information regarding OSHA standards that apply to the trucking industry can be found on OSHA's website.<sup>1</sup>)

Regardless of which governing body is in charge when an accident happens, Simeone says the most important fact that precaster's need to keep in mind – at least from a legal liability point of view – is that the actions of any agent (defined as someone you are responsible for) of the company can come back to haunt you. "If you have control over the person and are benefitting from the work he's doing, then he's an extension of your company," says Simeone. "When he's negligent, you'll also be on the hook for the negligence."

When looking at the three key areas where a precaster's risk heightens in terms of driver safety – in the yard, on the road and at the job site – Simeone says there's really no difference among the three areas in the eyes of the law. "The location really doesn't matter," he says. "Generally, the precaster will be responsible as long as the person driving is working within the scope of the 'agency.'"

In some instances, the company will be free of risk. An employee who is commuting to or from work, for example, or running personal errands,

won't generally fall under the agency umbrella, he explains, even if the vehicle in question is a company-owned or company-leased truck. "The employer is usually not responsible if the driver rear-ends another car on the way to or from work," Simeone says. "If the person isn't doing work for the company at the time, then it doesn't matter where the accident takes place – the precaster won't be on the hook for it."

## The big rigs

If you routinely use 18-wheel tractor-trailers to deliver precast

## Deciphering the Hours of Service Rules

In December 2011, the Department of Transportation and Federal Motor Carrier Safety Administration published the final version of the Hours of Service of Drivers Rule with an effective date of Feb. 27, 2012, and compliance of July 1, 2013 (for selected provisions). Put in place to ensure drivers get adequate rest after so many hours on the road, the rules apply to all commercial motor vehicle (CMV) drivers whose vehicles are used as part of a business, involved in interstate commerce, and fit any of these descriptions:

- Weighs 10,001 pounds or more
- Has a gross vehicle weight rating or gross combination weight rating of 10,001 pounds or more
- Is designed or used to transport 16 or more passengers (including the driver) not for compensation
- Is designed or used to transport nine or more passengers (including the driver) for compensation
- A vehicle that is involved in interstate or intrastate commerce and is transporting hazardous materials in a quantity requiring placards is also considered a CMV

Here are the final rules that all drivers must follow:<sup>2</sup>

### SUMMARY OF 2011 HOS FINAL RULE PROVISIONS Changes Compared to Current Rule

PROVISION	CURRENT RULE	FINAL RULE COMPLIANCE DATE JULY 1, 2013
Limitations on minimum "34-hour restarts"	None.	(1) Must include two periods between 1 a.m. – 5 a.m. home terminal time. (2) May only be used once per week.
Rest breaks	None except as limited by other rule provisions.	May drive only if 8 hours or less have passed since end of driver's last off-duty period of at least 30 minutes. [HM 397.5 mandatory "in attendance" time may be included in break if no other duties performed]
PROVISION	CURRENT RULE	FINAL RULE COMPLIANCE DATE FEBRUARY 27, 2012
On-duty time	Includes any time in CMV except sleeper-berth.	Does not include any time resting in a parked vehicle (also applies to passenger-carrying drivers). In a moving property-carrying CMV, does not include up to 2 hours in passenger seat immediately before or after 8 consecutive hours in sleeper-berth.
Penalties	"Egregious" hours of service violations not specifically defined.	Driving (or allowing a driver to drive) 3 or more hours beyond the driving-time limit may be considered an egregious violation and subject to the maximum civil penalties. Also applies to passenger-carrying drivers.
Oilfield exemption	"Waiting time" for certain drivers at oilfields (which is off-duty but does extend 14-hour duty period) must be recorded and available to FMCSA, but no method or details are specified for the recordkeeping.	"Waiting time" for certain drivers at oilfields must be shown on logbook or electronic equivalent as off duty and identified by annotations in "remarks" or a separate line added to "grid."

products to customer job sites, the safety rules get a bit more onerous (see the sidebar “Deciphering the Hours of Service Rules), according to Simeone. That’s because the regulations around this type of transportation are especially stringent and sometimes even difficult for the most diligent driver to follow. They are required to maintain log books, check in at weigh stations, pay fines (when certain rules aren’t followed), and a myriad other issues can come up at any time while your employees are on the road.

Lawsuits related to tractor-trailer transportation can’t always be avoided, but through proper documentation and rule following, they can be minimized and at least fought successfully at the legal level. “Make sure your drivers are documenting everything they do, filling out their log books, following the regulations and getting the proper amount of rest while on the road,” says Simeone. “There are a lot of regulations put on commercial drivers, and all of that information will be [used as] evidence in court.”

For those drivers who are behind the wheel of smaller vehicles and/or driving short distances to and from customer sites, Simeone says the precaster’s best line of defense is a written policy that’s reviewed, updated and enforced. Have drivers read and sign the policy, he says, and then enforce it in a good faith effort that, if it should become necessary, will stand up in a court of law. “If you can prove that you’ve honestly

enforced the policy in good faith and that there are no glaring omissions,” says Simeone, “at least you’ll have one less issue to fight in the case.”

Programs that promote safe driving behaviors, diligent vehicle and equipment maintenance, and the latest rules and regulations will also go a long way in helping to minimize risk. Early intervention steps – like checking the driving records and histories of anyone who is going to be in control of a company vehicle and even conducting routine drug tests – can also help ward off problems before they occur.

“When you hire drivers, you always want to check their licenses and driving records, and then make sure they’re up to speed on all of the safety regulations that govern what they’re doing at the plant, on the road and at the customer’s location,” Simeone says. “Add a written policy to the equation, and you’ll be protected as much as you can be.” ■

*Bridget McCrea is a freelance writer who covers manufacturing, industry and technology. She is a winner of the Florida Magazine Association’s Gold Award for best trade-technical feature statewide.*

<sup>1</sup> [www.osha.gov/SLTC/trucking\\_industry/index.html](http://www.osha.gov/SLTC/trucking_industry/index.html)

<sup>2</sup> This chart is available at [www.fmcsa.dot.gov/documents/hos/HOS\\_Compare\\_new\\_rule\\_to\\_current.pdf](http://www.fmcsa.dot.gov/documents/hos/HOS_Compare_new_rule_to_current.pdf)



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# AHEAD OF THE GAME

BY RON HYINK



**SINCE ITS BEGINNING, PRE-CAST  
CONCRETE PRODUCTS OF MAINE INC.  
HAS CHALLENGED THE NORM AND  
VENTURED OUT FRONT IN THE INDUSTRY  
WITH ITS ENTREPRENEURIAL SPIRIT.**



“My wife thought she married a teacher,” said Terry Gray, reminiscing how he got his start in the precast business before he founded Pre-Cast Concrete Products of Maine Inc. “I taught vocational courses for five years, and during the summer, in order to afford the luxury of teaching, I had to work.”

He and a friend of his who was teaching the same schedule would get together to build houses during the summers and remodel homes during school vacations in the winter. “It turned out that I liked doing contracting work and carpentry and so forth, so I decided that’s what I’d do,” Terry explained.

**OUT OF ONE CLASSROOM ...**

“One September, I decided I didn’t want to go back to school, and I bought a set of concrete form panels for residential foundations,” recalled Terry.

He poured these foundations on site for several years until one day, while pouring foundations for a large 100-unit housing complex, he realized the need for doorsteps for that project. He rented a garage, bought a two-bag mixer and made the steps. “So that piqued my interest in precasting,” Terry recalled.

In 1972, Terry joined the National Precast Concrete Association to learn more about the industry – two years before setting up shop as a full-time precaster. He then established Precast of Maine and started making septic tanks, but it



# TIMING, AS THEY SAY, IS EVERYTHING

Ben Gray had no intention of getting involved in his father's precast company in Maine. He had other plans that took him to other schools and other jobs in other states until he realized that Maine wasn't such a bad place after all. When he finally came back home, he went to work for his father, Terry Gray, at Pre-Cast Concrete Products of Maine Inc., located in the pastoral town of Topsham.

"I was out in the shop four years before I got an opportunity to do anything in the office," said Ben, "and the first thing I got handed was the safety program." But something new was brewing in the State of Maine at the time. It had just changed its laws to allow self-insured group trusts as an alternative to commercially available insurance for workers' compensation. It was a major turn of events in state legislation at just the right time for Precast of Maine, as the company is known.

"Dad had the opportunity to get involved with one of these groups that was forming," Ben continued, explaining how they took that first uncertain step and turned it into a mechanism that resulted in fewer injuries, healthier employees and stoked morale. "To this day, we're still members of that same group. It's been one of the more progressive things that we've done along the way and has had some tremendous benefits for us."

But the excitement didn't stop there. Just in the past year, Precast of Maine started to participate in another change to state legislation. Officially dubbed MaineSense, it allows group trusts to also participate in health care coverage for their employees.

Nick Knobil, who serves as the company's controller, is heavily involved in both programs. As is common in small companies, he wears many other hats including safety director, HR director, IT director "and chief bean counter," he said.

## WHAT'S ALL THIS GROUP TRUST BUSINESS?

The Grays are obviously very excited about the program, as it has provided them with some tangible – and maybe some intangible – advantages. Follow this interview as they discuss their experiences. For more information about group trusts, see the article "Workers' Compensation Trusts" in the March-April 2011 issue of *Precast Inc.*

### Q: How does the program work?

**Ben:** The Self-Insured Group Trust is a group of businesses that have similar hazard exposures. They band together and form their own insurance company, essentially. They take on the responsibility, but they also take away the profit motive in the commercial market. The group has to write its own rules according to the state that you're governed by. You have to make rules for

yourself to live by, and you have to fund yourself and organize your own program that you all have to live by. The good thing is you can control your exposure based on who's in the group, so you can choose who you want to get in bed with.

### Q: What has changed in the way you do business?

**Ben:** It puts a lot more responsibility on you to take care of your people when they do get hurt. You have to be a lot more proactive about avoiding injuries and plant safety. We were finding a higher frequency of soft-tissue injuries about 10 years ago – and by that I mean pulled muscles, strains, things that weren't necessarily major injuries, but they were relatively minor. And the group came to the conclusion that a stretching program would help. They started looking at employees as some form of athlete as opposed to a worker. Athletes always prepare physically for practice and competition, and looking through that view, it made sense to have our employees – who do physical work – stretch beforehand. So it was required by the group that it was up to each individual company to design a stretching program that suited their particular work style or jobs.

### Q: So the other companies in the group are doing similar programs?

**Ben:** It's mandated. They gave us a drop-dead date, and it was two years out. They said by this date, everybody in your company has to be stretching on a daily basis. That was eight years ago. We've been doing it a long time.

### Q: How do you determine which exercises are appropriate?

**Ben:** You have an outside consultant come in and spend a few days working alongside or observing your guys to find out what specific tasks they have, and they develop a stretching program. We actually had them come in and present it, and not only do they show your crew how to do the stretches, they tell them why and illustrate the importance of it. It was kind of interesting.

### Q: What was the reaction from the employees?

**Ben:** I was scared to death of putting it together, because it was such a paradigm shift from the way we've been operating. But I was amazed at how well the guys took to it. There was a little bit of resistance here and there, but we didn't have any choice – we had to do it.

### Q: What has been the result?

**Ben:** The stretching prepares the guys for work, and has had the effect that it reduces the frequency of injuries. It helps limber the guys up so that if they do experience some stress or strain in the course of the day, they bounce back from it more quickly.

**Nick:** From a practical standpoint of injury reduction, it makes good sense. But what else? We talk about safety, we talk about what we're going to do for the day, we get to see who's here or who's not here. I'm sure you've experienced a lack of communication where people don't talk to one another – you get paranoid! As George Bernard Shaw said, "The single biggest problem with communication is the illusion that it has taken place." Can I quantify it? No. Does it make a difference? Yes. People have a lot of fun, there's a lot of laughing that goes on around here.

## HEALTH INSURANCE TOO?

After the State of Maine initiated new laws to allow for group trusts to cover workers' compensation, it more recently passed laws to allow for group health insurance. Terry and Ben were excited about the work comp program when they joined a group trust, and they were even more excited about the health insurance program. Here are their thoughts:

### Q: What else is happening in the group trust program?

**Ben:** One of the most recent and most exciting things is health insurance. We got involved with something called MaineSense. The state legislature just two years ago passed a law that allowed the formation of a pretty similar style of providing health insurance that we had success with in the workers' comp arena to provide health care coverage away from work for employees and their families. So it's real exciting to have better control in the way that doctors and employees and procedures and policies get determined for your health care coverage.

### Q: That seems really outside the box. How does it work?

**Ben:** Imagine being able to set your own deductibles and decide who you go to see and how. We have input with these other businesses that we've joined in this group on how we want our health care delivered. I think that puts us in the forefront of where health insurance delivery is going to end up in this country. You'll be hearing more about it, because we're doing something here in Maine that nobody else is doing anywhere else in the country. It's experimental, it's on the edge, but it's got an excellent chance for success, especially in this volatile environment of health care delivery.

### Q: What changes do the employees see?

**Ben:** We had guys that avoided using their coverage. It's gotten so bloody expensive and so intimidating that the guys weren't using it. So we were paying all this money for a benefit that the guys weren't using. And now we've got an opportunity to have it our way. It's really exciting. We're business owners, and this is an important part of our business. In order to prosper as precasters, we've got to have happy employees – happy, healthy, motivated employees. I can't have them distracted about worrying about where their health insurance is coming from – I need them focusing on precasting.

**Nick:** Imagine I can call my health insurer, and a real person answers the phone – and they're right here in Maine. The billing is simple and easy to understand, and our employees have been encouraged to participate not only in the health benefits that we've purchased, but also in a raised awareness of the value of protecting their own well-being.

### Q: What happens if the unmentionable happens?

**Nick:** Let's say you had to have a surgical procedure (under the old system). Once you were out of the hospital, you'd get a bill from your doctor, your surgeon, the hospital, the anesthesiologist, the pathologist, etc., and then you'd get some more bills from your insurance company. None of these bills are reconcilable to one another. We decided that this kind of wasteful confusion had to stop. When you have that same surgical procedure as a member of MaineSense, you get a single bill from MaineSense. MaineSense pays all the health care professionals, and you get a single statement showing all the details.



STRETCHING IS A PART OF THE DAILY ROUTINE BEFORE BEGINNING WORK TO HELP REDUCE STRAINS AND MUSCLE INJURIES.

wasn't long before he added products such as well tiles and manholes to his lineup.

It was also the leaching chamber that helped him prosper as a precaster. "In those days, the state of Maine Division of Health Engineering was out front in leaching chamber technology," said Terry. "Our state had approved them, and next to septic tanks, precast concrete leaching chambers were the largest part of our sales."

Staying in the leaching chamber business was not so easy, though. In the mid 1980s, a plastic leaching chamber arrived in the market. "I could see right away that it had some competitive advantages over our precast concrete leaching chambers and would have worked well with our precast concrete septic tanks. The owner of that company had his own marketing plan and would not sell to precast concrete manufacturers," said Terry.

"He wouldn't have to do anything but operate from his kitchen table and arrange shipments," said Paul Beers, a salesman with Precast of Maine for the past 15 years. Paul is a certified soil scientist and licensed site evaluator with the State of Maine who came to the precast industry from a consulting business for wastewater system design. "But





this fellow decided that he wouldn't sell to precasters. So it left them without the ability to sell plastic chambers at the time."

That's when Terry once again put on his entrepreneur's hat and rolled up his sleeves. Unable to land a franchise for the leaching chamber, he started on a path to design one of his own. He took his design to two of his precast competitors in the state and offered them an interest in a new company called PSA and launched the BioDiffuser. "Among the three of us, we had enough market share, so we could afford the expense of making a mold, and we went into business," said Terry.

So the three competing precasters wound up in business together. "And it worked out well," said Terry. They finally sold the technology to ADS, which still sells the leaching chambers under the BioDiffuser brand. "That was just a really good experience for all of us."

### ... AND INTO ANOTHER

Jim Burak, a three-year employee at Precast of Maine, enjoys working in the family-oriented environment that Terry and his son Ben have created. "They care about their people," said Jim, who as production manager has a vested interest in taking care of the workforce. "We're always working forward to the next thing, and they're very good about understanding that we need to do certain things to move on in the company and move forward. If we need something and it seems like a good investment, they'll invest in it."

Ben has been sending his employees to educational courses at the NPCA annual conventions and to The Precast Show for that very reason, said Jim. It's an eye-opener, he explained, when they attend the Production and Quality School (PQS) courses and understand the concepts behind their jobs. "They finally see the reasons why we're trying to do the things that we do," said Jim.

Jim has experienced the value of the PQS classes for himself.



"Last year I took PQS III, and it totally blew my mind what I learned about management, management skills and people skills," he said. "I was able to implement a lot of it as soon as I got back – and I still am." Through these courses, he learned how to mold his crew, help improve productivity, manage their time and deal with the various attitudes. "I learned how to talk to different people in a positive way to get a better outcome than I used to. We've started employee evaluations to help grow our team and help guide our guys into roles that we want them to get into."

Nick Knobil, the controller, also places a high value on bettering oneself through education. He relates a story about two business partners contemplating the expense of sending employees to training venues. One of them asks, "What if we train them and they leave?" And the other replies, "What if we don't train them and they stay?"

For the past few years, Ben has sent entry-level employees to the PQS I course "to introduce them to other precasters and



#### ENTREPRENEURIAL SPIRIT:

LEFT: A PNEUMATIC CYLINDER REMOTELY OPENS AND CLOSES THE CONCRETE DISPENSER.

FAR LEFT: A RETRACTABLE SPLASH GUARD KEEPS CONCRETE IN ITS PLACE AS IT FLOWS FROM MIXER TO BUCKET.

BELOW: JIM BURAK DEvised A WAY TO ROLL OUT THE CONCRETE BUCKET FROM UNDERNEATH THE MIXER USING A SET OF RAILS AND AN OVERHEAD CRANE MOTOR.



other vendors so that they can see the universe of precast that we're involved in," Nick continued. "We hope these employees A, bring it back; B, stay here; and C, bring that level of excitement and raise the level of the game for everybody."

Nick is not shy about confronting employees concerning their education, whether it's a course in precast concrete or, in rare cases, to simply finish high school or even learn to read. "To make this company more attractive to our customers is to raise the level of the game," he said.

"And by pointing out to somebody that he can better himself – and that it makes the company better – it's more than a pat on the back."

As a teacher, Terry understands the importance of an education, added Nick. "It carries you through the rest of your life, regardless of whether you stay here at this company," Nick explained. "I hope they do stay, but that's a risk we're willing to take." ■

# Titan<sup>II</sup>

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# Weighing In on High-Density Concrete



BY CLAUDE GOGUEN, P.E., LEED AP

When designing a concrete mix, there is an entire smorgasbord from which to choose, depending on the application. Engineers usually need just a normal-weight product that will carry a heavy load or to stay put when it's buried, or they may prefer something quite a bit lighter for hoisting large panels into place to create an attractive building facade. There are plenty of choices in between, and some push the envelope beyond either extreme.

But what if the engineer wants something really dense and really heavy? Why would anyone want a denser, heavier concrete? As this article will show, a market does exist for high-density (HD) concrete, and there seems to be a resurgence in its popularity.

## Why use high-density concrete?

Most times, dense concrete is used for radiation shielding purposes, where the required thickness of walls made with normal concrete can be decreased and thereby provide more interior workspace. In the '60s and '70s, HD concrete was used quite a bit due to the boom in nuclear power plant construction. It is also used in nuclear weapon development facilities. Higher-density concrete costs more than normal concrete, but provides excellent shielding from harmful radiation due to its mass. Add to that concrete's structural superiority, durability and lower cost than the alternatives (composite lead or steel shields), and the decision to use HD concrete becomes simple. The nuclear power plant construction industry may not be as robust as it once was, but a need for storage of radioactive waste or materials still exists, and precast concrete may be able to fill that need.

There are also many other uses for HD concrete, as in situations where a lot of weight is needed in smaller volumes such as ballasts for offshore pipelines, breakwater structures or in counterweights. Other uses include sound or vibration attenuation, linear accelerators, and increased resistance to buoyancy.

Typical concrete density is around 150 lbs/cu ft. Lightweight concrete can weigh as little as 95 lbs/cu ft. High-density concretes range from 190 to 260 lbs/cu ft. Even higher densities ( $\geq 350$  lbs/cu ft) can be attained but are rare.

## Aggregates: the most critical component

The key to high-density concrete is the aggregates. Therefore, the quality and types of aggregates are the most important factors in the selection process. No matter what types of heavy aggregates are chosen, they should first meet the same standard of quality as normal aggregates such as ASTM C33, "Standard Specification for Concrete Aggregates." However, they must be clean, inert, free from deleterious substances, and not be contaminated with normal-density aggregates.

Particle shape and grading should also be similar to that of normal-density aggregates. But the relative density of the aggregates should be suitable to produce the desired concrete density. Normal weight aggregate densities are around 160 lbs/cu ft. High-density aggregates are in the 270 lbs/cu ft range. Aggregates such as magnetite, ilmenite, hematite and barite have been used for low- to medium-weight ranges in the past.<sup>1</sup> For densities  $\geq 250$  lbs/cu ft, iron punchings or ferrophosphorous can be added.

## Special production concerns

The procedures for measuring, mixing, transporting and placing high-density or heavyweight concrete are somewhat similar to those used in conventional concrete construction, yet special expertise and thorough planning are essential to avoid any problems. Batching and mix proportion recommendations for HD concrete can be found in ACI 211.1-91.<sup>2</sup> All cements conforming to ASTM C150 or ASTM C595,<sup>3</sup> which are suitable for conventional concrete, should also be suitable for use in HD concrete. Low-alkali cement should be used when alkali-reactive constituents are present in the aggregates.

As a heavyweight concrete, HD concrete design is similar to that of normal-weight concretes, but the additional self-weight must be taken into account. Conventionally placed high-density concrete may contain a water-reducing admixture meeting ASTM C494<sup>4</sup> requirements. Air-entraining admixtures are not generally used in HD concrete, which is not exposed to freezing and thawing, because their use would tend to decrease the density of the concrete. However, if the concrete mixtures have sufficient density to allow some amount of entrained air, there are definite

advantages to be realized, including reduced bleeding, greater workability and a more homogeneous concrete. Keep in mind that HD concrete with a high cement content and a low water-cementitious ratio may exhibit increased creep and shrinkage.

There are two basic methods of HD concrete placement. The first is commonly referred to as the pre-placed aggregate method. In this method, the high-density aggregates are placed in the form, and a grout is poured into the aggregates, filling the voids. For the purposes of this article, we will deal with conventionally placed HD concrete.

Standard mixing equipment can be used to mix HD concrete, although the mixer manufacturer should be consulted first. Take special care to not overload the mixing and placing equipment, including conveyor belts. In general, the allowable volume of HD concrete mixed should be equivalent to the mix weight of normal density concrete rather than the volume capacity of the mixing equipment.

The formwork for conventionally placed high-density concrete must be carefully selected and inspected, as it will be subjected to considerably higher stresses than comparable forms for ordinary concrete.

Transportation and placement of HD precast concrete is also similar to that of normal-weight concrete, but its higher weight must be considered with respect to the load-rated capacities of transport vehicles, roadways and installation cranes. Transporting high-density concrete for extended periods of time can result in excessive consolidation or packing.

### Prone to segregation

Placement of conventionally mixed HD concrete is subject to the same considerations of quality control as normal-density concrete, except that it is far more susceptible to variations in quality due to improper handling. Heavyweight aggregates are particularly subject to segregation during placement. Segregation of HD concrete results not only in variation of strength but, more importantly, segregation affects concrete density. Inconsistent density is not acceptable for radiation-shield enclosures, because density is directly related to the effectiveness of concrete's shielding properties.

Uniform consolidation is key to achieving uniform and optimum density. In HD concrete, vibrators have a smaller effective area, or radius of action; therefore, greater care must be exercised to ensure that the concrete is properly consolidated. If stinger-type vibrators are used, they should be inserted at closely spaced intervals and only to a depth sufficient to cause complete intermixing of adjacent layers.

Quality control tests of freshly mixed concrete are very similar to conventional concrete and should include tests of unit weight, temperature, slump and air content made in accordance with appropriate ASTM test methods. Testing for compressive strength may be carried out according to ASTM C39.<sup>5</sup> The tolerances for rejection of HD concrete should be established in the construction specifications to conform to the design parameters of the structures involved.

The use of long, rigid chutes or drop pipes should be avoided,

because high drop lengths can cause mix segregation. Where concrete must be placed in narrow forms or through restricted areas, a short, flexible-type drop chute that tends to collapse and restrain the fall of high-density concrete should be used.

In the event you find yourself with an opportunity to bid on a project involving high-density precast concrete, make sure you are properly equipped to handle this material prior to bidding and that you understand related production issues. HD concrete could become a niche market for precast producers who are ready and able to adapt. ■

*Claude Goguen, P.E., LEED AP, is NPCA's director of Technical Services.*

<sup>1</sup> See also ASTM C637-09, "Standard Specification for Aggregates for Radiation-Shielding Concrete"

<sup>2</sup> See Appendix 4 of ACI 211.1-91, "Standard Practice for Selecting Proportions for Normal, Heavyweight and Mass Concrete (Reapproved 2009)."

<sup>3</sup> ASTM C150-12, "Standard Specification for Portland Cement," and ASTM C595-12e1, "Standard Specification for Blended Hydraulic Cements"


<sup>4</sup> ASTM C494-12, "Standard Specification for Chemical Admixtures for Concrete"

<sup>5</sup> ASTM C39, "Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens"

### References:

<http://www.concrete.org/BookstoreNet/ProductDetail.aspx?itemid=211191>

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# Sustainability Can Be Simple

BY CLAUDE GOGUEN, P.E., LEED AP

Some precasters cringe at the mere mention of the word “sustainable.” Their fear is related to a lack of understanding of what sustainability means, or they may know what it means but feel they do not have the time and money to invest in implementing it.

Adopting sustainable practices in your plant may be much easier than you think. To illustrate this, let’s take a look at the sustainability practices of a small precast concrete operation in Indianapolis. The owners were looking to save money on utility bills, but their cost-saving strategies also go hand in hand with sustainability practices.

CGM Precast has been in business since the 1980s, starting out in Florida and relocating to Indianapolis in 1998. Owners Chuck, Fred and Susan Machledt are fully invested in the day-to-day operations of their plant, and they each perform any required task such as running the mixer or acid-washing panels. CGM manufactures a wide variety of products ranging from architectural to utility structures. Since the Machledts bought the existing buildings, they’ve had to expand to keep up with demand, including an entirely new 7,000-sq-ft building in 2008.

When designing the new building, the Machledts considered the best layout to enhance production. They also took the time to add a few simple features to help them manage their energy costs. The first was to add large, high windows to the walls facing south, east and west.

The natural light that floods this building is more than adequate on most days to enable all-day operations without turning on the lights. When overhead lighting is required, the owners had installed energy-efficient T5 fluorescent lamps. Putting out almost 3,000 lumens per lamp, these fixtures use highly reflective backing to distribute the output very effectively. The lamps were wired to four separate circuits so that lighting can be switched on only where it’s needed.

They also installed radiant heating, which supplies heat to the floor, objects and workers through infrared radiation. This is a



LARGE, HIGH WINDOWS ON THE SOUTH SIDE OF THE BUILDING USUALLY GIVE WORKERS ENOUGH NATURAL LIGHT WITHOUT USING OVERHEAD LIGHTING.

very efficient means of heating the plant, but it is rarely used because of the sunlight coming in through the south and east windows, the R-14 batting on the walls and R-19 batting on the ceilings. Fred said that on a recent morning, although it was 39 degrees outside, it was 70 degrees inside with no radiant heat used. The heaters are also wired to four separate circuits, so heat can be applied only where it’s needed.

Recently, the owners added a 1,500-gallon rain harvesting tank to the northeast corner of the building. This reservoir captures rainwater from gutters on the north side of the roof via two downspouts that can be opened and closed with a valve. The tank also includes an overflow pipe. Water from the harvesting tank is used to wash out equipment and provides a sizeable savings over using city water.<sup>1</sup>

The Machledts also recycle all scrap steel including straps and rebar pieces. They recycle office refuse and aluminum cans as well.

Fred and Susan are not what we would characterize as “tree-hugging, Birkenstock-wearing environmentalists.” They implemented most of these common-sense practices to save on energy costs. None of this is rocket science: no solar panels



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NPCA file photos

A 1,500-GALLON TANK HARVESTS RAINWATER FROM DOWNSPOUTS OUTSIDE THE BUILDING THAT CAN BE SHUT OFF MANUALLY.

on the roof, no windmills in the parking lot – just simple modifications to a new addition that contribute to significant energy efficiency.

Do these sustainable practices help CGM obtain projects? Fred would say no, although he does add that when architects and engineers tour his plant, they are impressed with the sustainable measures in place. But the future points toward a rising tide of green development when buyers will expect not only sustainable products and practices, but sustainability throughout the supply chain as well. Vendors will be chosen based on practices discussed in this article. It's not a matter of if, but rather a matter of when, and CGM is well-prepared.

It all begins with just one step. What could you do right now in your operation to help lower your energy costs? Is there one switch in the plant that turns on all the lights? Do you need all the lights all the time? Could your water bill be reduced by harvesting rain water from the roof of your plant? Just one simple step could begin the walk toward a more sustainable operation. ■

*Claude Goguen, P.E., LEED AP, is NPCA's director of Technical Services.*

<sup>1</sup> See the article "Process Water: Recycle the Blue, Save Some Green" on page 12 in this issue for a discussion on water recycling.

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# The 10<sup>th</sup> Edition NPCA QC Manual

## PART 2

BY PHILLIP CUTLER, P.E.



Once again, the NPCA Quality Assurance Committee has chosen to raise the bar on quality by making improvements and clarifying existing language in the NPCA Quality Control Manual for Precast and Prestressed Plants. The committee met during the NPCA 47<sup>th</sup> Annual Convention in New Orleans.

The 10th Edition of the manual will be effective Feb. 1, 2013, giving plants an additional 30 days to make the necessary changes to their processes and be prepared for the 2013 inspection season.

### New in Chapter 1

As mentioned in my previous article (see *Precast Inc.* Nov-Dec 2012) and published in emails to NPCA members since August 2012, primary and backup Quality Control personnel of certified plants will be required to hold a current certificate for PQS next year. The language under Section 1.1.3, “QC Personnel Training,” will be modified to read, “Plant QC inspectors and assigned backup inspectors shall hold current certificates of completion for NPCA PQS and ACI Concrete Field Testing Technician – Grade 1.” This change in language stipulates that recertification for both PQS and ACI Concrete Field Technician – Grade 1 will occur every five years. Applicable PQS courses meeting the five-year renewal will be noted in the commentary of this section. Plant QC personnel with expired PQS certificates will have until Feb. 1, 2013, to take the PQS - Refresher course, which is now available online at [precast.org](http://precast.org).

### New in Chapter 2

NPCA certified plants can expect to see a brand-new section 2.0, “Buy America,” in the 10th Edition. This new section will outline the requirements of Buy America, which will stipulate that all raw materials for federal and other projects as specified must have a certificate of origin or contain such information in the material certificate of compliance. In addition, all domestically produced materials must be stored in a separate physical location at the plant or completely segregated from non-domestically produced goods.

### Clarifications in Chapter 3

Requirements under sections 3.1.1.1, 3.1.1.2 and 3.1.1.3 have been clarified for detailed and documented mix qualifications. These requirements are not new, but have been clarified by giving plants clearer language and a new form in Appendix B for

mix design qualifications and testing. A new section for those plants using ultra high-performance concrete (UHPC) has also been created in section 3.1.1.3.

### Clarifications in Chapter 4

As noted in my previous article, in Critical Section 4.3.3, “Positioning of Reinforcement,” the committee felt that clarification was necessary to assist plants in adapting the requirements. The section was rewritten as follows: “Verification of the reinforcing steel for conformance with the design shall be performed and documented on a minimum of one (1) reinforcing steel cage or 3% of each production run daily, whichever is greater, chosen on a random basis by QC personnel for each product category produced in the plant. At least one cage shall be checked when a shift change occurs during the course of a production run. These reinforcing steel checks shall be maintained in the plant records for a minimum of three (3) years.” In addition, the committee decided to modify all of the reinforcing steel checks throughout the manual from a frequency of “3 pieces or 3%” to “1 piece or 3%, whichever is greater.” This change was proposed to streamline all inspection criteria for certified plants.

### Plant terms and conditions

The “Plant Terms and Conditions” language was also modified to state that any actions, probations, appeals and issues with inspections begin from the date of the inspection within the given calendar year of the program. More specifically, Section 6.2 will read “45 calendar days from the date of inspection.” This change was also implemented to streamline certification program management processes.

In addition, section 7.2.13.1, 7.2.13.2 and 7.2.13.3 have been changed to state that plants must notify NPCA in writing of any production shutdowns.

There were a number of editorial changes proposed in other chapters and sections of the manual such as the provision to accommodate ASTM, AASHTO and CSA standards for product-specific requirements.

For more information, contact Phillip Cutler, P.E., at [pcutler@precast.org](mailto:pcutler@precast.org), (317) 571-9500 or toll-free at (800) 366-7731. ■

*Phillip Cutler, P.E., is director of Technical Services and the NPCA Plant Certification Program. The NPCA Plant Certification Program is accredited by the American National Standards Institute (ANSI).*





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**CERATECH hires vice president of sales**

CERATECH Inc., a manufacturer of green cements based in Alexandria, Va., has announced that Vance Pool recently joined CERATECH USA as vice president of sales to focus on expansion of the company's U.S. sales operations.



VANCE POOL

Pool most recently managed south-central business development and field operations for the National Ready Mixed Concrete Association (NRMCA), and has held previous leadership roles at Blue Circle Cement, Fibermesh and W.R. Grace, serving the cement, concrete and admixtures markets.

If you would like to discuss your new construction or repair project, contact Pool at (281) 836-1276 or [Vance.Pool@ceratechinc.com](mailto:Vance.Pool@ceratechinc.com).

**CERATECH launches new green cement website**

CERATECH has launched a new website ([www.ceratechinc.com](http://www.ceratechinc.com)) that provides owners, architects, engineering/design firms, concrete contractors and precast producers with the latest educational information on sustainable concrete utilizing CERATECH's cements, including ekkomaxx, KEMROK, FIREROK and PAVEMEND. The website includes video tutorials on uses and applications, performance specification guides, case studies and many additional resources for industry professionals.

CERATECH's cements are made of recycled and renewable materials, and provide a dramatically longer life cycle than portland cement, says the company,

adding that the enhanced website showcases its zero carbon cement.

**Delta Engineers announces two events**

Delta Engineers, Architects & Land Surveyors P.C., based in Endwell, N.Y., has announced a new engineer to its staff and an ASTM conference at which it presented in Columbia.



KRISTY SCALES

Kristy Scales, EIT, has joined Delta Engineers as an engineer in the precast department. She is responsible for designing and detailing reinforced concrete box culverts, manholes, utility vaults, bridge beams, wing walls, retaining



RON THORNTON

walls, septic tanks and other specialty concrete structures.

Ron Thornton, P.E., represented the American Society for Testing and Materials International (ASTM) at this year's Reunion Del Concreto Conference held in Cartagena, Columbia, in September. Thornton delivered two presentations at the conference.

Thornton's first presentation, "Standards for Precast Concrete Products," provided a high-level overview of the ASTM mission and organizational structure and discussed the benefits of industry standards and how those standards are established.

The second presentation, "Super Bowl

Pedestrian Promenade Precast Concrete Alternate," described a project that used precast concrete as a design solution for a high-profile and time-constrained project. Georgia Street, adjacent to Lucas Oil Stadium in Indianapolis, was being reconstructed in anticipation of the 2012 National Football League Super Bowl. Delta's role in the project related to the conversion of the underground sluiceway design from a cast-in-place structure to a design solution that employed precast concrete, which reduced construction time and helped minimize disruption to local businesses.

For more information about Delta Engineers, visit [www.deltaengineers.com](http://www.deltaengineers.com).

**BASF appoints new manager of technology for admixture systems business**

The North American Admixture Systems business of BASF's Construction Chemicals division has announced that Paul Seiler was named manager of technology, responsible for the development of admixture and concrete



PAUL SEILER

technologies and customer support. Seiler will be based in the business' Beachwood, Ohio, headquarters.

In his new role, Seiler will manage the technology

department of the admixture systems business, which formulates innovative products, develops new technologies and serves as a testing and support resource for concrete producer customers.

Seiler comes to BASF from Votorantim in Brazil, where he served as technology and process manager and directed the firm's research and development efforts

for mortars, tile adhesives, grouts, hydrated lime, gypsum and white cement. Prior to that, he was technology and product manager for Viapol, now part of Euclid Chemical, in its Construction Chemicals division. He also spent 10 years as technology and production manager for BASF Construction Chemicals in South America.

Seiler received his chemical and industrial engineering degrees from Centro Universitário da FEI, Sao Bernardo, Brazil, and his Executive MBA in industrial management from Fundação Getúlio Vargas in Sao Paulo, Brazil.

### Hamilton Kent's Sharma receives ASTM C13 award

ASTM International Committee C13 on Concrete Pipe presented the Robert



PARDEEP SHARMA

R. Litehiser Memorial Award to Pardeep Sharma, P.Eng., director of quality and technical services at Hamilton Kent based in Toronto. The award is given to "a member

or former member of Committee C13 on Concrete Pipe who has performed outstanding work in the field of the committee's activity" and to an individual who "has been an active, working and dedicated C13 member for many years," according to ASTM International.

Since becoming a member of ASTM International in 2000, Sharma has been actively involved with the committee and with several C13 subcommittees. Currently he is in the midst of four years of service as vice chairman for subcommittee C13.04. Sharma is also a member of ASTM Committees C27, F17 and F36, and is actively involved with the Canadian Standards Association (CSA International), the American Concrete Pipe Association, and the National Precast Concrete Association.

Sharma joined Hamilton Kent in 1983 after receiving his degree in industrial engineering from the University of

Toronto. After starting as a machine operator, he became a professional engineer in Ontario and took over responsibility for all technical and quality service for Hamilton Kent.

Hamilton Kent is an international manufacturer of gaskets, flexible connectors, the Lifespan System manhole with locking cover, and many other products for watertight connections in water, sanitary sewer and stormwater conveyance systems. For more information, visit [www.hamiltonkent.com](http://www.hamiltonkent.com).


### MBK and HawkeyePedershaab renew partnership

MBK, a global manufacturer of reinforcement cage machinery, arrived at an agreement with HawkeyePedershaab, a global manufacturer of concrete pipe machinery, to renew their former partnership in the North American marketplace. MBK will purchase the rights to the HawkeyePedershaab Cageflex product line and its associated technologies, and HawkeyePedershaab will exclusively sell MBK cage machinery.


From 1990 to 2008, HawkeyePedershaab served as the sales agent for MBK in the U.S. marketplace, providing service and support to all MBK cage machinery in North America. HawkeyePedershaab will return to its role as principal sales agent for MBK cage machinery in North America. In addition, as part of the Cageflex purchase agreement, HawkeyePedershaab and MBK will operate the U.S.-based service and parts subsidiary, MBK USA, based in Burlington, Iowa, as a joint venture between the two companies.

Initially, all customer service calls and parts requests for the Cageflex machinery will be routed and handled through HawkeyePedershaab at its U.S. and Danish headquarters until a yet-to-be-determined date when those responsibilities will be switched over to MBK USA. Likewise, all MBK customers will continue to work directly with MBK USA for parts and service.


For more information about MBK, visit [mbk-kisslegg.de](http://mbk-kisslegg.de). For more information about HawkeyePedershaab, visit [www.hawkeyepedershaab.com](http://www.hawkeyepedershaab.com).




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### HawkeyePedershaab hires executive vice president of sales

HawkeyePedershaab, a global manufacturer of concrete pipe and manhole machinery, has announced that Giel Janssen has joined the company as executive vice president of sales. Janssen will be leading the company's efforts to



GIEL JANSSEN

grow top-line revenue, and several senior executives and their respective sales teams responsible for sales in key global markets will report directly to him. Previously head of sales with MBK Maschinenbau GmbH, Janssen has 15 years of experience in the concrete reinforcement machinery business and related industries. He has a vast background providing solutions to producers across the globe. He will be based in Germany and can be contacted at +001-515-770-2120 or at gjanssen@hawkeyepedershaab.com.

### Grace announces price increases

Grace Construction Products, an operating segment of W. R. Grace & Co., has announced price increases ranging from 5% to 15% across North American concrete and masonry product lines effective Jan. 1.

These price increases are required due to supply/demand imbalances for certain chemical streams, which have put pressure on the cost and availability of raw materials used in these product lines.

For more information about Grace, visit [www.graceconstruction.com](http://www.graceconstruction.com).

### Roanoke recognized by Wildlife Habitat Council

The Wildlife Habitat Council has certified Roanoke Cement Co., near Roanoke, Va., for its "Wildlife at Work" program. The prestigious distinction was awarded as a result of the plant's demonstrated commitment to long-term wildlife habitat enhancement efforts.

The council cited Roanoke for its

dedication to Catawba Creek through voluntary cleanups and water quality monitoring; frequent newsletters for employees and the community; creation of an important wetland habitat for migratory birds; and partnerships with Trout Unlimited and Virginia Save Our Streams to educate students and the community.

For more information about Roanoke Cement Co., visit [www.titanamerica.com](http://www.titanamerica.com).

### New Gateway website features interactive, product-centric design

In coordination with the 100th anniversary of the National Safety Council, Gateway Safety has launched a new website at [www.GatewaySafety.com](http://www.GatewaySafety.com). The site is heavily focused on the company's products, presenting them in a clear, easy-to-navigate format. Visitors will enjoy a personal, interactive experience that offers several different paths and options to obtain information on safety products in the eye, head and face, hearing, and respiratory protection categories, says the company. Each individual product page displays the unique features and benefits of Gateway Safety's products in a hands-on, rollover format.

The new website still incorporates the popular "Distributor Center," a section tailored specifically to the needs of Gateway Safety distribution partners. Here, distributors will find helpful support tools, such as product images, literature and sales rep contact information. Brand new to the site is the "Real Life Stories" section, which hosts testimonials and striking photos from Gateway Safety product users.

Gateway Safety, based in Cleveland, has been designing and manufacturing safety products for more than 65 years.



GATEWAY SAFETY WEBSITE PAGE

### Hyster looking for a few good men, women

Hyster Co., a worldwide lift truck designer and manufacturer based in Greenville, N.C., continues to look to veterans of the U.S. armed forces for its dealers to grow its sales force. The company and its dealer network have been working with Snelling Search's Military Division since November 2011, and to date, Hyster dealers have hired 32 veterans through the program.

Hyster is actively pursuing veterans to deliver the very best in materials handling equipment and service to the industry through its expansive dealer network, says the company, adding that the pool of skilled veterans is an ideal labor force for its dealers.

Snelling Search was selected because of the military recruiting team's ability to match skill sets to company culture for a long-term fit. Multiple rounds of candidates and hiring have resulted in dozens of filled positions at several levels throughout the Hyster dealer network.

For more information about Hyster, visit [www.hyster.com](http://www.hyster.com).

### Smooth-On purchases Ball Consulting

Smooth-On Inc., a liquid rubber molds and admixture manufacturer based in Easton, Pa., purchased Ball Consulting Ltd., a specialty materials manufacturer based in Ambridge, Pa., with a second office in Tempe, Ariz.

For more than 30 years, Ball Consulting has been supplying manufacturers around the world with glass fiber and equipment to fabricate glass fiber-reinforced concrete (GFRC) and architectural precast concrete. Ball Consulting has also had success with a line of custom blended cements and in advising customers on design and production setup of glass fiber-reinforced gypsum (GRG) applications.

For more information about Smooth-On, visit [www.smooth-on.com](http://www.smooth-on.com), or call (800) 762-0744 or (610) 252-5800.

### SJE-Rhombus appoints new CEO

SJE-Rhombus, an industry control solutions provider for nearly 40 years, has announced the retirement of its




LAURIE LEWANDOWSKI



DAVID THOMAS

CEO, Laurie Lewandowski, and the succession of David Thomas. Thomas assumed the role of CEO in early December, having previously held the position of president/director of Standard Products for SJE-Rhombus.

Lewandowski joined SJE-Rhombus more than 31 years ago and held a variety of positions while driving company growth and implementing the Employee Stock Ownership Plan. She grew within the organization, serving in many different roles including president, vice president of marketing, purchasing director, IT director and working in production. She began her career at SJE-Rhombus in a manufacturing assembly role. Lewandowski has seen the business grow from a garage assembly operation to a global business with six locations and become a 100% employee-owned, privately held company.

For more information about SJE-Rhombus, visit [www.sjerrhombus.com](http://www.sjerrhombus.com). 

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Meeting	Location	Date
<b>NPCA 48<sup>th</sup> Annual Convention</b>	The Homestead – <i>Hot Springs, Va.</i>	Oct. 9-12, 2013
<b>The Precast Show 2014</b>	George R. Brown Convention Center – <i>Houston</i>	Feb. 13-15, 2014
<b>The Precast Show 2015</b>	Orange County Convention Center – <i>Orlando, Fla.</i>	March 5-7, 2015

For the most up-to-date information about NPCA events, visit [precast.org](http://precast.org).

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Proposed 2013 Webinar Dates			
Course	Date (2013)	Time (Eastern)	Length
OSHA Inspections	Feb 13	Noon	1 hour
PQS II QA/QC	March 6, 13, 20	Noon	12 hours (4 hrs each session)
What Type of Lifting Device	April 17	Noon	1 hour
Employment Liability	June 19	Noon	1 hour
Form Care	Aug 21	Noon	1 hour
Precast Repair	Sept 11	Noon	1 hour
PQS II Technical	Oct 23, 30, Nov 6, 13	Noon	16 hours (4 hrs each session)
The Physics of Lifting	Nov 20	Noon	1 hour

Get all the details and enroll at [precast.org/2013webinars](http://precast.org/2013webinars).



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