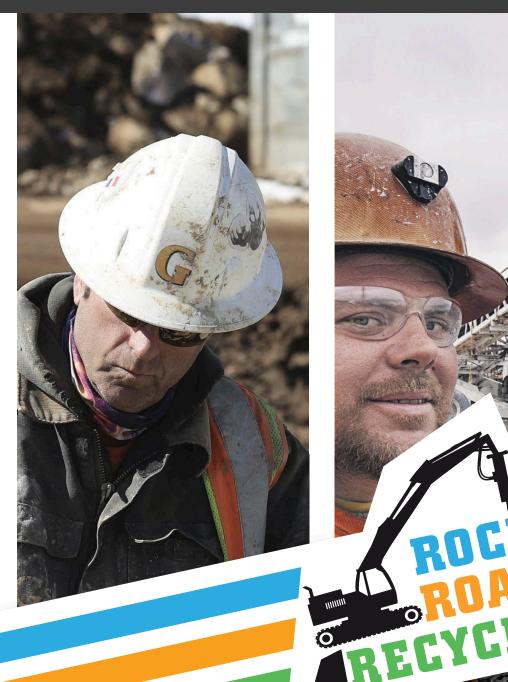


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CEMENT PLANT OVERCOMES CONVEYOR ISSUES



CGS STABILIZES SINKHOLE-PRONE SITE GETTING MATERIAL TO THE SHARP END: CONVEYING SYSTEMS



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Cement plant overcomes remote conveyor issues with unique power generation technology

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Prairie Dawg Practical

by Tim Holmberg, DEMI Equipment



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Cement plant overcomes remote conveyor issues with unique power generation technology

On the cover:

The use of multiple technologies working in tandem to control material flow and prevent fugitive particles has dramatically improved the material handlingsystem's efficiency.

Photo courtesy of Martin Engineering

PG 4

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Terex Washing Systems bring latest technological advancements to market





NATIONAL STONE, SAND & GRAVEL ASSOCIATION



10

Today's wash plants: more productive, intelligent and eco-friendly

by RRR staff writer



14

McCloskey Washing Systems first North American Open Day showcases Sandstorm 620



On the front lines with Fisher Phillips:

by Travis Vance and Pamela Williams





Pamela Williams

Travis Vance

The heat is on: OSHA petitioned to require breaks to alleviate heat stress at work

It may be fall, but it's still hot outside. This has not stopped the lobbying process however, as Public Citizen and dozens of other advocacy groups filed a petition with OSHA to initiate the rulemaking process to develop a federal heat exposure standard. Representative Judy Chu (D-CA) has stated she plans to introduce related legislation soon.

It's getting hot out there

While it's hot every summer, 2016 and 2017 were the two hottest summers on record, and 17 of the 18 hottest summers have occurred since 2001. This high heat has led to increased concern about the health of employees who labor outside or in other high-heat conditions. Currently, there is no federal occupational safety and health standard related to heat stress or heat exposure. Only three states with state OSHA plans — California, Washington and Minnesota — have adopted heat standards.

The petition for a national OSHA heat standard The Public Citizen petition seeks to change this by requiring a national heat exposure standard with which employers must comply. The petition requests that OSHA adopt the NIOSH-recommended exposure limit (REL) for acclimatized workers and the recommended alert limit for unacclimatized workers. If those limits are reached, the petition requests employers be required to provide mandatory rest breaks, personal protective equipment (e.g., weather-appropriate hats and clothing) and shade for out-

door environments.

In addition, the petition requests that OSHA require employers to monitor employee exposure to heat, institute a medical monitoring program for exposed employees, notify employees of the dangers of heat stress, train employees to prevent and mitigate heat-associated risks and develop a program related to responding to high-heat weather forecasts, among other things. Public Citizen also has requested that OSHA institute a separate whistleblower rule to protect employees who report suspected violations.

What employers should expect

The chance of Representative Chu's yet-to-be-introduced legislation becoming law is remote with Republicans controlling Congress and the White House. Additionally, with OSHA lacking a confirmed agency head, it may not be inclined to begin a major rulemaking process. Since Donald Trump became President, OSHA has delayed implementation of several recent rulemakings, including the electronic reporting rule, the beryllium rule, the silica dust rule and others. Even if the rulemaking process were to begin, employers would have ample time and opportunity to submit comments to OSHA regarding the rulemaking.

While the chance of a national heat exposure standard therefore is still well off, employers should nonetheless consider voluntary steps, which make sense for their particular businesses, to lessen their





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(203)-752-0213

employees' exposure to excessive heat. If employers have questions regarding what steps they may want to consider taking to avoid or mitigate the risk of heat stress, the authors of this article are available to discuss their concerns and recommend available options.

PG 3

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Trevor Park joins Eagle Iron Works

DES MOINES, IOWA — EIW, LLC, along with parent company McLanahan Corporation, is pleased to welcome Trevor Park to the company as regional sales manager.

Trevor has been with McLanahan Corporation since 2013 and has served in a variety of sales and product management roles, most recently as Product Manager – Waste and Recycling. Trevor has a great understanding about the equipment and processes producers need to create a profitable and reliable operation. As Regional Sales Manager, he will be working with the company's extensive dealer network to help them bring Eagle Iron Works products, service and support to customers in the western part of the United States.



EIW, LLC, along with parent company McLanahan Corporation, is pleased to welcome Trevor Park to the company as regional sales manager.

Cement plant overcomes remote conveyor issues with unique power generation technology



The 107-1 conveyor rises 20 feet (6 m) at its mid-section.

Photos courtesy of Illinois Cement

n innovative cement manufacturer in the Midwestern U.S. has implemented a unique power solution at a remote conveyor location that lacked convenient electrical access. The patent-pending design uses the kinetic energy of the moving belt to generate enough electricity to drive an automated dust suppression system, a pneumatic belt cleaner tensioner and a series of air cannons. These cannons help operators at the Illinois Cement Plant reduce fugitive dust and spillage, increase cargo flow efficiency and minimize labor costs for cleaning and maintenance.

The Martin® Roll Gen[™] System is designed to create a self-contained mini power station that allows operators to run electrical monitoring systems, safety devices and a variety of other components. With the ability to be retrofitted on existing idler support structures, the generator can be employed on virtually any steel roller. This device is considered a significant step toward eliminating power production obstacles as conveyors move into the next generation of "smart systems" that are predicted to be more sustainable and autonomous.

"Running auxiliary power can be both complicated and costly, requiring expensive labor and oversized cables to accommodate the inevitable voltage drop over



The Roll Gen System uses the movement of the belt to produce localized power.



Powered by the Roll Gen, a sensor detects material on the belt and communicates with control systems.

long runs, as well as transformers, conduit, junction boxes and other components," said Andrew Timmerman, product development engineer at Martin Engineering. "And using even a small conventional generator to provide power introduces a different set of issues, including flammable fuels."

The long ride

Conveyor #107-1 is the longest outdoor conveyor system on the Illinois Cement site, running 600 feet (182 m) and discharging either onto the #107-2 stack-out conveyor or the 250-foot-long (75 meter) belt leading directly into the plant, depending on immediate production needs. It's a 30-inch wide (762 mm) mechanically-spliced belt with a 35° trough that travels at ~400 fpm (2 mps), conveying nearly 300 st/h (272 mt/h) of limestone. Material arriving from the quarry can be wet, dry and dusty or anything in between, depending on the season and weather. The changing work environment presented challenges throughout the entire conveying system, with different weather conditions triggering various types of carryback, making cleanup labor-intensive.

"The primary cleaner blades we had in place wore quickly, causing spillage that required us to take personnel from other areas to clean the buildup," explained Illinois Cement Maintenance Planner Brian Brandner. "We were out there cleaning or adjusting the tension to minimize spillage a few times a week. When it got really cold, we wouldn't have as many issues with dust or carryback, but the frost accumulation required us to keep the belt running at all October 2018

PG 5

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times, which lowered the blade life and caused undue wear on the belt."

Phase one of the Martin Engineering solution involved placing a "smart" dust suppression system at the transfer point between the 153 and 107-1 conveyors. Phase two included an automated, pneumatically-tensioned belt cleaner and air cannon system at 107-1's discharge zone. Both components are powered by the Roll Gen System.

To manage the dust, technicians installed a Martin® Surfactant Dust System at the transfer point between 153 and 170-1 to deliver a chemically-enhanced water spray as a topical treatment for material at the point of emission. Triggered by a sensor as soon as the load enters the transfer point, the system supports dust mitigation measures already in place to minimize the labor needed for maintenance and replacement of the dust collector cartridges.

Cleaning the belt

Close to the mid-point of the system, conveyor 107-1 begins a gradual 20-foot (6 m) rise and discharges into the transfer chute leading either to the stack-out conveyor feeding the storage area or the main conveyor entering the plant. At that transfer point, technicians installed a Martin® $QC1^{TM}$ Primary Cleaner XHD (extra heavy duty) tensioned with an Automated Blade System (ABS).

Connected to a small 24V DC air compressor and a control panel powered by the Roll Gen, the ABS pneumatic tensioner delivers precise monitoring and tensioning to reduce the labor typically required to maintain optimum blade pressure through manual adjustment. Equipped with sensors to confirm when the belt is running empty, the system automatically backs the blade away, minimizing unnecessary wear to both the belt and cleaner. Upon detection of an empty belt, the system is set to run for one full belt rotation to clean the surface thoroughly before pulling away. The result is consistently correct blade tension with reduced power demand on start-up, all managed without operator intervention.

"The new cleaner has been a game changer when it comes to the amount of maintenance, equipment wear and manpower for cleanup," Brandner pointed out. "The blade is no longer just scraping an empty belt, which has extended its operational life and minimized wear to the belt face and splice."

Transfer chute flow

While monitoring the results of the installation, Martin Engineering technicians observed that the decreased spillage resulted in a proportional increase in fines discharged down the transfer chute. Exposed to the outside environment, the chute began to form significant buildup along the sides, at the diverter gate and on the internal shelf meant to slow the flow of material. The technicians had a solution to this unexpected result, and to mitigate the buildup they installed a Martin® Hurricane Air Cannon.

"When there's cargo flowing, the cannon fires about every ten minutes, which keeps fines from clinging to the walls and promotes proper flow," Brandner said. "If the material is extra wet and building up faster than usual, we can just go over and fire it manually at any time."

Results

The use of multiple technologies working in tandem to control material flow and prevent fugitive particles has dramatically improved the material handling system's efficiency. The modifications have helped Illinois Cement reduce labor

Left: To control fugitive emissions, the Martin Surfactant Dust System treats the cargo at the transfer point.



Right: The 70-L Hurricane Air Cannon features a fan jet nozzle for wide coverage.



and equipment expenses, considerably cutting the manpower needed to clean spillage along the conveyor path. The result is a cleaner, safer and more productive operation.

"The entire project has been a success, particularly in how many man-hours we save in maintenance and upkeep," Brandner concluded. "The tensioning system does a great job, and the Roll Gen puts out enough power that we're considering adding an automated secondary cleaner and a vibrating dribble chute to capture even more carryback."

Martin Engineering is a global innovator in the bulk material handling industry, developing new solutions to common problems and participating in industry organizations to improve safety and productivity. The company's series of Foundations reference books is an internationally-recognized resource for safety, maintenance and operations training — with more than 20,000 print copies in circulation around the world. The entire 500+ page volumes can also be downloaded as free PDFs from the Martin website.

Martin employees take an active part in ASME, SME, VDI, CMA and CEMA, and the firm played a pivotal role in writing and producing the 7th edition of the CEMA reference book, "Belt Conveyors for Bulk Materials."

For more information, contact us at <u>info@martin-eng.com</u> or visit <u>www.martin-eng.com</u> or call 800•544•2947.



The Automated Blade System eliminates the need for manual blade tensioning.

Performance in every detail



PG 6

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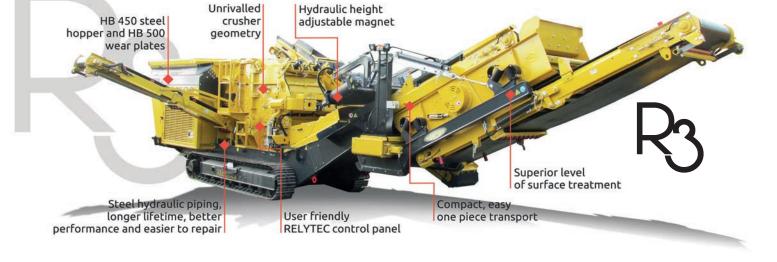




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Prairie Dawg Practical by Tim Holmberg, DEMI Equipment Hey Prairie Dawg, "What type of scalping & screening media works best?"

Will there ever be the perfect solution to maximize crushing and screening operation productivity and be consistent throughout the year as far as scalping and screening media plays its major part?

Some would lead you to believe there is, while others just assume it's pretty much impossible to get the media dialed in for optimal results so they often just try to push harder — to no avail. There are specialty aftermarket products along with tricks-of-thetrade secrets either passed down through generations or discovered by remaining persistent in the search, maintaining that "neverquit" determination it takes to run one of these ever-changing beasts.

Some manufacturers like to think they control their own destiny by requiring customers to utilize genuine OEM parts for warranty reasons. Instead, this may be the only leg they have to stand on during a warranty period until what they are offering doesn't work out. What happens when customers begin to realize that secondary manufacturers are providing what may be considered to be the real "performance parts" and that these parts are proving to be much improved or even better-performing in the tough working conditions after the research and preliminary testing has been done? Many aftermarket parts are not inferior but rather the complete opposite, especially when the aftermarket groups specialize in one offering and it's all they watch over and make improvements on. Many times, aftermarket products and parts will keep a customer from having to take a major leap up to the next sized piece of equipment benefitting themselves in many ways.

• Why would somebody believe they can get their plant set up with the correct screening media practically every time? Are they some kind of genius or maybe a "Rain Man" type where they can simply remember just about everything or calculate almost anything? I'm guessing some of these guys who often get it right, have probably been at it for a while



and most likely got started doing what they do with minimal outside help and endured hard knocks while on the job. They also have most likely documented locations and what combinations of media they used the last time at this specific area. Even remembering previous jobs or having taken notes doesn't mean the gradation or the now-increased moisture conditions (creating one of the quickest variations) won't throw the entire scalping and screening process into complete chaos. At this point the best step is to seek assistance within your support system, which is often online. Maybe there's a willing group of peers around you, or lastly, contact your local equipment dealer to see if they can help you with this stickier-than-usual predicament. Luckily, there are various creative media solutions, so when faced with extra moisture it won't easily affect the entire screening or scalping processes anymore. Yes, certain companies out there make specialty products, such as Grizzly Spring Fingers, a heavy-duty scalping media specifically designed to work through sticky claylike material encountered in the wet, early start of a season as well in the later part of a season just before some locations have to shut down.

Utilizing products such as Grizzly Spring Fingers in the primary and secondary scalping circuits has proven to not only help fight these high moisture conditions, but they are also capable of increasing productivity by large gains - as much as 30-40 percent conservatively. The Grizzly Spring Fingers product has other applications that are just being realized within the market and are making differences in many other areas of production not considered before

Another simple change would be to consider purchasing their existing wire mesh screening media constructed in stainless, which is quite better in staying clean and less likely to plug because of its unique ability to remain smooth and shiny, which are both good characteristics for remaining clear of plugging while lasting longer in the life cycle due to stronger metallurgical characteristics. Combine the best qualities of stainless - being stronger, with better memory-holding characteristics, and then create a new weave or square opening pattern that doesn't cross over itself so it remains flexible — and you have an amazing screening media that works best in wet and stickier applications, but also in traditional dry ones too, because of its uniquely designed ability to remain flexible while in motion, similar to what makes the Grizzly Spring Fingers product such a huge success in these unfavorable and demanding conditions.

These couple of product designed concepts are some of those "tricks of the trade" items that are being passed down or discovered through product marketing recognition and word of mouth sharing from plant operations and production foremen. Maintenance and equipment managers appreciate these products as they provide them with more production uptime and lengthened operation cycles. They can reduce overall workloads and labor costs by not having to change the better scalping and screening media as frequently - sometimes by half. If you can nearly double the life cycle of screen media for less than double the price, you have a strong chance of making new friends - especially when

Rapat Corporation offers full line of enclosed conveyors to address OSHA regulations

HAWLEY, MN — Rapat Corporation's complete line of enclosed conveyors helps eliminate dust emissions, providing a solution for industries looking to meet OSHA's updated silica-related regulations that went into effect in June 2018.

PG 8

Perfect for silica sand, the Rapat Series ECTR is an industrial-duty, enclosed-frame conveyor with CEMA troughing and return idlers, which provide increased employee safety in the toughest environments. Features include tool-



Rapat Corporation's complete line of enclosed conveyors helps eliminate dust emissions. Photos courtesy of Rapat Corp.



less top covers, which can easily be removed and bolt-on bottom covers for a totally enclosed system and a greater ability to control dust.

The Rapat Series ETR is a totally enclosed frame conveyor with CEMA troughing idlers and a self-cleaning UHMW slide belt return. The ETR performs in extreme environments to ensure the capture of dust emissions. Also ideal for silica sand and other construction materials, the ETR Series features tool-less top covers and inspection doors, which make for easy maintenance.

With its self-cleaning UHMW slide belt return and external bearing spool idlers, the Rapat Series RR is the optimal solution for moving a wide range of products. Designed to perform in tough environments, the RR series protects the product from weather conditions while capturing dust emissions.

Each system is easily custom built to meet the needs of each specific application. Whether it's limestone, cement or silica sand, Rapat will design and build the exact equipment required for the bulk material being handled to ensure that the job gets done right.

"For several years, we've produced enclosed-frame conveyor systems for those companies with a vested interest in being good neighbors in their communities or to provide a better work environment for their employees," said Justin Koenig, Industrial Sales Manager for Rapat. "But now with the new OSHA regulations, companies that need to handle bulk materials must find ways to comply. And we're working to provide the right systems to match any operation."

Rapat Corporation provides engineered solutions for industrial and agricultural material handling needs. For more information visit their website at $\underline{www.rapat.com}$.



The Rapat Series ETR is a totally enclosed-frame conveyor with CEMA troughing idlers and a self-cleaning UHMW slide belt return.

Prairie Dawg from 7 -

performing maintenance half as much. You now have benefitted your safety program exponentially as well.

• The other solution is to simply try and push harder with the basics at their minimal dollar introductory price. We all know the saying "you often get what you pay for," so don't be surprised if this path leads nowhere and leaves you angry when you later find out there is an easier way. Sometimes we have to learn the hard way before we can accept the path of least resistance. The question is, do we realize this before it's too late?

Aftermarket product technology is nothing to be afraid of so long as you do your research and find the products that when interviewed have a reference portfolio of previous customers available, or you can find them in some featured products article write-ups from resources you trust or have recognized before as reputable in the industry. If you enjoy these random aggregates and quarrying equipment-based subjects, tune back in for more topics to come. Send me a subject or topic you would like brought to light and any associated questions you would like to have discussed and I will gladly provide my best answer based upon my specific point of view and personal experience.

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Questions or comments? Email Tim Holmberg at <u>prairiedawg@pdpractical.</u> <u>com</u>. Simply write me a letter and we will send you a T-shirt or ball cap:

Tim Holmberg / 2915 Idea Ave. / Aberdeen, SD 57401

Alan Bennetts joins McLanahan as global product manager

HOLLIDAYSBURG, PA — McLanahan Corporation is pleased to welcome Alan Bennetts as Global Product Manager for Washing and Classifying. As a global product manager Bennetts will provide leadership, direction, and oversight to the evaluation, design, development, engineering, training and support for McLanahan's extensive washing and classifying equipment line.

Bennetts brings nearly 25 years of experience in the mineral and aggregate industry, having served in a wide array of roles with equipment manufacturers and mining companies throughout the United States.

Alan began his career as a metallurgist, responsible for planning and laboratory procedural development and analysis. He then moved to the process side of things, over-seeing daily operations of a plant and its personnel. During this time, he was responsible for control system design and upgrade, trouble-shooting existing control systems, and management of site-wide projects. Most recently, he was a product manager for Weir Minerals. Bennetts is a 1996 graduate of the University of Montana where he received his Bachelor of Science in metallurgical engineering. "We are very excited to have Alan join us; as a qual-

we are very excited to have Alan Join us, as a qualified metallurgist with years of in-plant experience in multiple minerals, plus his depth of understanding of the aggregates market, Alan brings a wealth of knowledge" said John Best, product group manager. "Alan's long experience in cyclones, Hydrosizers™, FB classifiers, attrition cells and dewatering screens is an ideal fit as one of our global product management team helping to better serve our global customers."

For more information, visit $\underline{www.mclanahan.com}$ or contact $\underline{sales@mclanahan.com}$.

People in the industry



McLanahan Corporation is pleased to welcome Alan Bennetts as Global Product Manager for Washing and Classifying. Photo courtesy of McLanahan Corp.





Clean, washed aggregates often provide a higher specification solution.

round the globe, the mining, minerals, recycling and construction industries are encountering a variety of challenges based on ever changing customer requirements. This has meant that there is now a growing need to meet today's stringent specifications for cleaner and higher quality aggregates — whether virgin or recycled — while using more effective water recycling processes. Based on industry requirements there is a need for material processing companies to invest in the latest washing plants that are more productive and intelligent than ever before.

Major reasons for this are stricter aggregates specifications as well as a need to make the best use of `extracted material, driving the greater use of washing equipment. However, the latest technology means that this growth does not have to significantly impact energy consumption or water usage. The washing of aggregate is also enabling quarries (and recycling centers to a lesser extent) to meet the demand for sand, as naturally occurring sand reserves are declining and are protected in many countries. Modern washing techniques mean that with the aid of advanced crushing and screening technology sand can be manufactured — with advanced washing plants being essential to the process.

Furthermore, as quarries develop through usage, the more easily extracted material has generally been used. As demand for construction materials increases globally, quarries are having to process material with a higher level of contaminant. This is incentivizing construction companies (as well as legislation) to recycle inert construction materials resulting from demolition or excavations, etc. Many in the industry believe that wet and dry classifying is likely to be a big growth area in the coming years, with many manufacturers, quarries and contractors looking to expand their washing capabilities to meet

the demand.

The decision on what equipment a quarry or recycling center needs has to be considered in the context of both the feed material and the final product. This has to take into account normal production volumes and a realistic appraisal of future targets. In effect there is no "one size fits all" when it comes to a wash plant and companies need to carefully match their requirements with those of their customers in order to recommend the right equipment.

Minimizing water usage

Other developments have seen dewatering screens become more popular in recent years. Quarries and recyclers recognized that a drier product is more profitable and allows more water to be recycled. This matches the trend towards considering the environmental impact of material treatment, including reducing run off, which has driven wider use of dewatering screens and water reclamation techniques. There is also a focus on more energy efficient techniques, so many companies now use a standard dewatering screen to discharge onto a dewatering screen which reduces the moisture content and returns any material that falls through the screen back onto the screen. This removes the need for a cyclone, thereby using less energy.

Manufacturers of all shapes and sizes

Fortunately, there are many manufacturers of equipment who are able to supply a wide variety of washing plant. A typical washing set-up will be used when the material does not require scrubbing only rinsing — to remove small particles of silt and fines to produce a clean end product. The scrubbing process is required when dry and other deleterious materials are present. The process of high speed scrubbing has become an accepted method. Scrubbing works on the principle of working material against material to remove clay and other elements from stone, before moving on to the next stage of the process. With this in mind, and noting the variety of washing plant solutions available, we outline a selection of manufacturers and their offerings.

Superior

Some manufacturers have many years of experience in the industry, being in effect washing plant specialists, but some are relatively new entrants into the market, developing advanced systems based on customer demand. As demand for more stringent material specifications grows and quarries progress further into their reserves, the need to wash aggregate materials increases. This saw Superior acquire Greystone Inc. in 2014. Since then, the company has been supplying wet processing solutions from its Columbus, NE, plant. Superior inherited an experienced team of engineers and manufacturing personnel along with a wide range of equipment purpose-designed for washing and classifying bulk materials to a high specification.

Superior's range now includes classifying systems and tanks, stationary, skid or portable mounted; density separators, fine material washing and dewatering equipment. This includes its patented AggredryTM washer, fine washing screws, dewatering screens, coarse material washer and so forth. All are designed to provide an offset feed, which eliminates turbulence, with surfaces lined with cast polyurethane. Of particular note is the company's HelixTM cyclone, designed to remove unwanted fines and recapture fines lost during washing

A recent development from Superior is its new AllianceTM low water washer. This is said to be a first of its kind for aggregate producers, with a unique low water washer being capable of accepting a dry feed directly within a crushing circuit. These fines are



McCloskey has launched its own washing plant in response to customer requirements.

then pressure washed and dewatered for production of sellable manufactured sands. "Historically, all of the machinery used to wash crusher fines has been traditional sand screws," said John Bennington, director of wet processing technology at Superior. "That typically means material producers are handling and hauling the material to a separate wash site, which adds cost quickly."

During operation, an agitator section accepts the feed where it is mixed with water to produce thick slurry. This slurry is then dumped onto a dewatering screen with a series of spray bars to help clean and wash out the fines. The end result is saleable manufactured sand with just 8 percent moisture content. "The Alliance low water washer is designed specifically for washing crusher fines and uses 80 percent less water than the traditional screw/screen combination," Bennington says.

McCloskey

A relatively new entrant into the market, McCloskey Washing Systems' (MWS) AggStormTM range provides robust and reliable equipment for the most challenging applications. The AggStormTM150 is a modular-design plant designed to remove harsh clay contaminants from natural and crushed gravel, stone and ore feeds that cannot be removed by rinsing or screening alone. This makes it an effective solution for the aggregate and mining industries. The log shafts rotate in opposite directions and are timed to obtain an overlap of the paddle shoes for maximum scrubbing action. The AggStorm'sTM design features ensure smart performance in the harshest environments as well as transforming material into a premium end product.

Haver & Boecker

The company acquired the Tyler range of equipment with its hydro-clean washing plants being designed to minimize water consumption with lower electricity costs for aggregate operations. These units may be incorporated in a plant or can be used as a mobile washing plant. The equipment has been developed to reduce water consumption by as much as 75 percent when compared to traditional washing systems, such as log washers and other aggregate washing systems. Modular components save energy costs by as much as 15 percent, minimizing the effect on the environment. The innovative cleaning capability allows operators to produce higher quality products and create new products from previously unsellable material.

The company's Hydro-Clean 1000 washing plant features the Hydro-Clean together with a Tyler L-Class 6x16 horizontal rinse screen mounted on a semi portable skid structure, delivering up to 200tph of sellable, washed aggregates. During the cleaning process, the washed material works its way down the HC1000's drum and exits onto a discharge conveyor that leads to the rinse screen. The screen removes any remaining dirt or clay still on the stone as it classifies the material.

Kolberg Pioneer and Johnson Crushing

KPI-JCI has a wide range of product lines, including crushing, screening, material handling, washing and classifying, track mounted, stationary and portable

equipment. They offer comprehensive solutions for a variety of markets. KPI-JCI and Astec Mobile Screens is part of Astec Industries' Aggregate and Mining Group, having developed expertise in the area of washing plants designed to deal with even the most agglomerated deposits. Its innovative log washers include an exclusive reverse involution design that has paddles arranged in a spiral pattern along the shaft, producing a much more effective scrubbing action to remove tough, plastic-soluble clays and other unwanted coatings. This unique motion ensures that some portion of material is constantly moving, leveling power demand while reducing power consumption.

Its coarse material washers are engineered to quickly adapt to producers' ever-changing needs. Both single and twin spiral designs can be easily reconfigured, with numerous bolt-on paddle and flight arrangements to satisfy even the most precise specifications. Coarse material washers are equipped with a high-efficiency drive and offer a throughput of 500TPH for increased productivity. The company's blademills are designed for seamless compatibility with producers' existing processing plants. An innovative double-pitch flights and ribbed paddle design efficiently convey material through the blademill to break up sticky clay and muddy clumps. Fine material washers deliver productivity and are engineered with high efficiency drives, and a resulting low horsepower requirement reduces operating costs while increasing throughput.

Efficient aggregate processing is delivered through the company's portable Series 1800 screening and washing plants. These offer leading fine material washers an array of configurations including inclined or horizontal wet single, double or triple shaft screens with two or three decks and a blademill — all on a single



A KPI-JCI dewatering screen at a sand and gravel plant.



Close up of a blade mill.

chassis. Standard and custom-built skid mounted or stationary plants are available with a wide variety of configurations and options.

Adding to the company's offering is its dewatering screens, which are designed to dewater sand products to a level typically not possible with fine material washers. Depending on product gradation and other material characteristics, the dewatering screens will produce material with a moisture content as low as 8 percent. Single deck, adjustable incline linear motion screens are available in sizes ranging from $2 \ge 7$ feet to $8 \ge 16$ feet with processing rates up to 400TPH on a single unit.

The company also provides full plants — the Series 9000 products — which are custom engineered and built for each application. Products include classifying cyclones, dewatering screens, dewatering cyclones, pumps, attrition cells, density classifiers and sieve bend screens. The complete systems incorporate products into a single, custom engineered system created to match customer specifications.

Terex Washing Systems

Terex Washing Systems (TWS) recently launched the AggWashTM 300, a screening, scrubbing, sizing and sand recovery for recyclable aggregates, all on one modular chassis. Terex AquaClearTM is the first water management treatment system from Terex. TWS Director Oliver Donnelly commented, "Terex Washing Systems is focused on bringing to market products that deliver value to our customers and offer solutions that serve their needs. The AggWashTM 300 and AquaClearTM do just that."

The AggWashTM was designed to address higher production requirements for recycling customers and quarry owners, particularly in the construction, demolition and excavation waste recycling market. The high performance solution brings together rinsing, screening, scrubbing and sand washing capabilities on

a single plant. While its readily portable format makes it particularly suitable for green field applications, contractor use and temporary planning permission sites, operators more used to static installations will still appreciate the small footprint and minimal site preparations required.

The AggWashTM incorporates two 4.9m x 1.5m (16' x 5') triple deck Terex Cedarapids LJ-TS Series horizontal screens, incorporating a triple shaft vibrator mechanism that provides high G-force along with efficient oval motion. The compact installation height of horizontal screens compared to conventional inclined circular motion screens is conducive to the condensed working envelope of the AggWash 300. The "rolling chutes" feature provides easy access for screen maintenance. The machine boasts a high capacity log washer with twin shaft angle adjustment to scrub gravel fraction and float out organics and adhered contaminants. Additionally, there is a $1.8m \times 1.2m$ (6' x 4') trash screen for dewatering of lightweight contaminants from the log washer and the plant has an integrated sand plant incorporating rubber lined pumps and hydro cyclones, available in various configurations and capacities.

The AquaClear TM further enables TWS to offer end-to-end solutions for washing and water management from a single supplier. The range includes clarifying tanks, flocculent dosing systems, filter presses and all associated equipment. Donnelly commented, "TWS is due to begin manufacturing the Terex AquaClear water management solution in Dungannon, Northern Ireland, later this year, working alongside strategic alliance partners in the U.S. We are already handling enquiries for AquaClear from Europe and North America markets. Through our strategic alliance [for North American customers], we can send a filter press fully built up rather than in its component parts in containers. Working with partners who have been in the industry for many years, we are confident that we have the technical capability to devise optimized solutions which present customers with a unique opportunity to maximize their return on investment."

Various solutions

As can be seen from the brief overview of manufacturer offerings, there is no one definite solution to aggregate and material washing. What is common to all the companies looked at is a drive to produce efficient, effective, economical and environmentally friendly equipment. As the latest developments show, the processing of sand is noted, as is the drive to produce modular solutions to meet the very specific requirements of individual customers.





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Daryl Houle +1 603.856.1689 Steve Watson +1 678.414.4110 McCloskey Washing Systems first North American Open Day showcases Sandstorm 620

Attendees had the opportunity to inspect the machines after the demonstrations and learn more about the features and benefits.

cCloskey Washing Systems (MWS) held their first North American Open Day at H&H Stone LLC in Bolingbrook, IL, from June 20 to 21, 2018. The event highlighted new washing and classifying equipment for both quarrying and recycling applications.

H&H Stone was established in 2013 when owner Dave Hamman and a partner purchased the limestone quarry in Bolingbrook and a sand and gravel pit in Boone County, IL. They took delivery of the first Sandstorm® 620 wash plant in the USA following its debut at CONEXPO/CON-AGG 2017 in Las Vegas.

McCloskey Washing Systems hosted a live working demonstration of the Sandstorm 620, processing limestone secondary crusher screenings to produce three spec concrete/asphalt aggregates and one spec concrete sand product.

The product from the Bolingbrook plant is sold to ready mix companies and precast companies. The ready mix companies use it for foundations in homes and driveways while the precast companies use it to manufacture precast panels for distribution building and concrete precast buildings. The sand plant also has the capability to blend all or some of the fine sand into the coarse sand to maximize the required grading.

Sean Loughran, director,MWS noted, "The initial interest in the open day was phenomenal, and we quickly realized that we were going to have to spread the event over two days to accommodate all those who wanted to attend."

As the first wash plant from MWS in the USA, the Sandstorm's installation was managed and closely monitored by US Equipment, the MWS dealer for the state of Illinois. US Equipment is a leading provider of material processing and handling equipment in the area, specializing in the construction and aggregates industries.

Simon Bradley, owner of US Equipment, added,

"H&H Stone's Sandstorm 620 received lots of positive feedback, with visitors impressed by its innovative compact size, while providing maximum access to serviceable areas and producing high quality product. The tours impressed upon the visitors the attention to detail and pride that everyone at McCloskey takes in what they do."

Technical Sales & Applications Manager-North America for MWS Craig Rautiola noted, "The Sandstorm modular range is revolutionizing the wash



The plant processes limestone secondary crusher screenings to produce three spec concrete/asphalt aggregates and one spec concrete sand product.



McCloskey Washing Systems hosted a live working demonstration of the Sandstorm 620.





Left: The two-day event was a huge success, with a strong turnout of dealers and customers attending from across North America.

Below:

The product from the Bolingbrook plant is sold to ready mix companies and precast companies.

plant market by introducing innovative solutions. The team at MWS invest a significant amount of time on product development and have teamed up with key suppliers to bring new technologies to the washing industry."

The two-day event was a huge success, with a strong turnout of dealers and customers attending from across North America. Throughout the open day, a highly knowledgeable team of McCloskey engineers, sales and applications managers was on hand to give informative guided machine tours and application discussions. Attendees had the opportunity to inspect the machines after the demonstrations and learn more about the features and benefits.

Sean Loughran expressed his delight for the numbers that attended. "It is great to see so many people taking time out of their schedules during the busiest time of year to see what MWS can offer. We have invested heavily in our new washing equipment over the past year and it is exciting to show this equipment working efficiently in its true working environment. We extend our sincere thanks to all at H&H Stone and to everyone who joined us."





The sand plant also has the capability to blend all or some of the fine sand into the coarse sand to maximize the required grading.



Throughout the open day, a highly knowledgeable team of McCloskey engineers, sales and applications managers was on hand to give informative guided machine tours and application discussions.





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From 'beep-beep' to 'ssh-ssh' – how back-up alarms have evolved to stay safe and sound

Corey Heniser at Brigade Electronics – a global leader in road safety technology – discusses how back-up alarms have paved the way for improving road safety across the world, and looks at what the future holds in the continuing quest to save lives.

When back-up beeper alarms were first introduced in the US, they heralded a new age in road safety one where technology was starting to play its part in reducing collisions and keeping pedestrians and other vulnerable road users safe from harm.

In 1979, OSHA regulations made back-up alarms compulsory on large construction vehicles. However, over the years, back-up beepers have faced criticism. As well as the problems caused by noise pollution, research by NIOSH has also questioned their efficacy.

It found that pedestrians have become so used to the 'beep-beep' sound of traditional back-up alarms that they are often ignored. It also discovered that drivers tended to lose the perception of responsibility for being vigilant behind the wheel, relying too heavily on their alarms for avoiding collisions. A quieter and safer alternative

These findings resulted in a reassessment of how pedestrians perceive sound and threw a spotlight on the problems caused by environmental disturbances, particularly in urban areas.

Research carried out by Brigade Electronics led to a revolutionary advancement for road safety technology in the form of white sound. Created using broadband technology, it creates a 'ssh-ssh' sound, similar to breaking waves, that's highly directional, gentler on the ear and easier for pedestrians to pinpoint. It's estimated that this innovation, which is used on its 'bbs-tek' white sound warning alarm, has helped to save thousands of lives since being introduced. It is also currently the only back-up alarm to receive a coveted Quiet Mark award from The Noise Abatement Society – the only international mark of approval for low-noise technology.

However, for drivers, back-up alarms are only part of the road safety story. Alongside training, which is crucial to maintaining and improving safety, drivers have benefited from the help of additional technology that complements back-up alarms by eliminating blind spots and providing drivers with both visual and audible alerts.

Eliminating blind spots, saving lives

Vehicle blind spots are a major cause of collisions for all industries. The complex shape and size of many commercial vehicles and machines greatly limits the driver's visibility, making accidents much more likely.

Mirrors and single-view cameras certainly help drivers see into blind spots, but even with this extra assistance, the driver still may not see everything in the vehicle's path. After all he or she can only be watching the road or looking in one monitor or mirror at any given time. Even more worryingly, research into blind spots has revealed that in the time it takes to scan four mirrors, assess and then react

EQUIPMENT OPERATOR RESPONSIBILITIES

SPECIFIC GUIDELINES:

Most dangerous movement is backing up!
 Know where your blind spots are located.

>Look for people on foot around you.

STOPI When signaled, when ground personnel wave to get attention or if you are in doubt....
Maintain a safe and consistent operating speed.

to hazards, even at speeds of 3mph a vehicle could travel as far as 33 feet.

PG 17

For drivers, the installation of 360° camera systems has provided much needed support to eliminate blind spots by providing a real-time surround view of the vehicle in one single image. This all-round visibility saves the driver having to process information from several mirrors or monitors in quick succession, making it much easier to spot and assess possible hazards.

Meanwhile, radar has provided an additional layer of safety - particularly on large commercial vehicles and construction machinery - and is one of the most effective ways to prevent collisions in even the most difficult conditions. Rough terrain or bad weather can cause major issues for drivers – even when back-up alarms and cameras are in use. Radar can detect both stationary objects and people from up to 98 feet away within less than half a second, sending an immediate audible alert to the driver. The flexibility and capabilities of radar make it ideal for dealing with tough road conditions and perfect for vehicles with difficult or numerous blind spots.

Road safety technology is set to continue to evolve well into the future. With the proliferation of electric vehicles and the possibility of changes to legislation, new solutions will always be required to address these changes, so we can ensure that roads remain safe for all.



For drivers, the installation of 360° camera systems has provided much needed support to eliminate blind spots by providing a real-time surround view of the vehicle in one single image.



For drivers, back-up alarms are only part of the road safety story.

Busy port uses dust control cannon for handling and storage of commodities

COEYMANS, NY — A leader in dust control solutions has helped a port located along the Hudson River control fugitive particle emissions at the dock and in the industrial park using atomized mist technology. The Port of Coeymans employs two DustBoss® DB-60[™] atomized mist cannons from BossTek® for dust suppression in a variety of activities and applications. One machine is mobile, used to control particle emissions during the unloading and storage of bulk materials. The other is tower-mounted to suppress particulates at the metal scrap yard. This provides operators the versatility to address surface suppression and airborne control at different areas of the port, resulting in a drastic reduction in fugitive dust. About 40-50 vessels per year arrive from Greece, Turkey, Egypt and Spain, delivering nearly 33,000 tons (30,000 metric tons) per week of clinker, a dry chalky substance used as a binder in cement products. When the ship arrives, large clamshell shovels controlled by tower cranes unload the material from the ship's cargo hold, over the ship's deck — from 25 (7.5 meters) to as high as 120 feet (to 36.5 meters) in the air — to a 20-foot-tall (6 meter) hopper, which discharges into a 40-ton (36 metric ton) haul truck. The truck drives the material the short distance to the adjacent industrial park, where it is stored for further transport.

"The most dust was produced when the substance was dropped into the hopper, and although it has a bag house attached, a percentage would still escape," explained Stephen Kelly, Vice President of Sales and Business Development at the Port of Coeymans. "We realized that we also needed dust suppression for scrap metal storage and other operations in the industrial park. Our goal was to improve air quality for the safety of our employees and the surrounding community."

The 300-foot (91.4 m) wide dock receives vessels of up to 750 feet (228.6 m) in length overall (LOA). With no beam restrictions, it accepts ships with a draft (depth) of 31 feet (9.4 m). In addition, a 300-foot (91.4m) by 60-foot (18.3 m) inlet channel with a 15-foot (4.5 m) draft allows loading/unloading from both sides.

Like many other facilities handling bulk materials, the Port of Coeymans limits fugitive dust emissions



A clamshell shovel suspended from a crane slowly unloads the material into a tall portable hopper with a baghouse dust

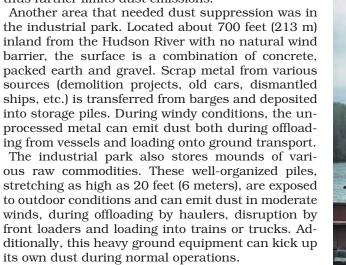
by employing a couple of simple methods. One is limiting the distance the dust-emitting cargo travels from the ship's hold to the dock. This is done by using a clamshell shovel suspended from a crane to slowly unload the material into a tall portable hopper with a baghouse dust collection system.

To further mitigate dust, crane operators reduce the amount of material collected by the shovel. Although this extends the unloading time, it curbs the amount of material escaping from the top or sides of the shovel and thus further limits dust e

thus further limits dust emissions.

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Mounted on a tower, the DB-60 suppresses dust over metal scrap recycling piles. Photos courtesy of Port of Coeymans



Kelly contacted BossTek, manufacturer of the Dust-Boss series of industrial atomized mist cannons and decided to rent two of the mid-sized DB-60 units to test them out. Mounted on a heavy-duty wheeled carriage with a pintle hitch, the DB-60 has a specially designed barrel with a powerful fan on the back end and a circular manifold with 30 atomizing spray nozzles on the front. The fan forces air through the cannon and past the manifold, launching millions of tiny atomized mist droplets 50 to 200 microns in size. By introducing droplets roughly the same size as the dust particles, the droplets are able to travel with the particles, collide with them and drag them to the ground before they drift onto the dock area or across

ground before they drift onto the dock area or across the site line. A 25 HP fan producing 30,000 CFM (849.50 CMM)

of air flow propels the engineered mist in a 200-foot (60 meter) long cone that reaches high over the deck of the ship. This type of coverage offers simultaneous surface suppression to material in the cargo hold and airborne suppression through the shovel's path from the hold to the hopper.

Approximately the height and length of a standard golf cart and weighing around 1,800 lbs. (816 k), the unit is easily moved on its wheeled carriage by a pickup truck or fork lift from the port to the industrial park. There, operators can cover more than 125,000 square feet (11,613 square meters) of the storage and traffic area using the 359° degree oscillation. The Port of Coeymans uses municipal water through a hose with a cam-and-groove quick disconnect coupling leading to a booster pump that raises the pressure up to 160 PSI (11.03 BAR), with a maximum of 250 PSI (17.23 BAR). The unit only



The cannons are easily positioned on the dock, taking up little room and covering a large area.

requires a constant supply pressure of 10 PSI (.069 BAR), and when a non-potable water source is used the DB-60 can be equipped with an in-line 30 mesh, 595-micron filter system.

There are some clear benefits over the use of hoses, which are required to be manned and can use up to 100 gpm (378 lpm). The DB-60 uses far less water (only 26.7 gpm /101.1 lpm), delivering a much larger coverage area and requiring no labor for ongoing operation. Workers at the port simply place it in the desired location, point it in the right direction, hook up the hose and power, turn it on and walk away.

Operators report that air quality at the port has significantly improved during the unloading of clinker and other dusty materials, and that fugitive dust emissions have not been seen leaving the site since adding the units to the facility's dust management plan. The cannons are easily positioned on the dock, taking up little room and covering a large area, allowing crane operators to transfer material from hold to hopper more efficiently. The industrial park has experienced a noticeable improvement in air quality, especially when a DB-60 is in operation during dry and windy periods.

"We are very happy with how the DustBoss controls the dust, how heavy-duty it is and how it works every time we turn it on," Kelly concluded. "BossTek has been very responsive and great to work with. I would recommend their atomized mist machines to any of my colleagues."

State-of-the-art operation in Florida to provide unique products for specialty concrete

HOUSTON, TEXAS — CEMEX, a global building materials company, recently announced the opening of the company's first admixture blending plant in the United States to provide CEMEX's nearby ready-mix plants with up to 16 different products for regular as well as high performance concrete applications.

CEMEX USA President Ignacio Madridejos and other company representatives were at the new 21,000 square-foot facility in Brooksville, FL, recently to celebrate the opening of the plant. When fully operational, the plant will service CEMEX's nearly 160 ready mix facilities throughout its Florida and midsouth regions.

"This blending plant produces specialized admixtures developed by CEMEX, and therefore, enables us to create concrete mixtures that differentiate us in the marketplace," said CEMEX USA President Ignacio Madridejos. "The centralized location of the facility ensures we can deliver those unique admixtures to the facilities that need it, providing our ready-mix customers with exceptional value-added products and allowing our plants to be ready for any request." Admixtures developed and produced include a full family of products, such as normal and high range water reducers, setting accelerators and retarders, air-entraining agents and specialty products all blended using a state-of-the-art automated system. The products leaving the facility are loaded into totes, enabling trucks to carry up to 16 different admixtures to CEMEX ready-mix plants.

The Brooksville blending plant is the first of three CEMEX admixture plants scheduled to open in the U.S. CEMEX plans to open additional plants in Texas and California at existing sites in the coming months.



Industry news

CEMEX USA President Ignacio Madridejos (third from left) and other company representatives were at the new facility to celebrate the opening of the plant.



The Brooksville blending plant is the first of three CEMEX admixture plants scheduled to open in the U.S.

Photos courtesy of CEMEX

Maptek and LlamaZOO bring the mine to brilliant life

A collaborative partnership with LlamaZOO will deliver advanced data visualization in 3D and VR to mining customers.

Mining technology developer Maptek and augmented reality experts LlamaZOO are teaming together to bring digital twinning and advanced 3D data visualization to the mining industry.

"At Maptek we're all about building on our legacy of innovative approaches to how customers interact with their technical and operational mine models," said Maptek Core Technologies Product Manager Chris Green.

"The collaboration with LlamaZOO exemplifies our support of initiatives that really make a difference to industry."

LlamaZOO Interactive is an award-winning software studio developing 3D interactive data visualization solutions for enterprise and industry 4.0. LlamaZOO specializes in centralizing disparate spatial datasets and making the information actionable for all stakeholders through real-time engaging 3D and VR/AR.

Maptek stakeholders within customer networks will be able to interact with

their spatial data in high-resolution 3D, in a format typically only seen with high-end video games, but with actionable real-world data.

"Imagine viewing live data, such as trucks and shovels, loaded train cars and material stockpiles, in real-time. Displaying real-time grade control data over scheduling activities provides critical information in context," added Green.

"Live and interactive simulation of scenarios via a digital twin of the real mining environment can provide surprising insights. Virtually a risk-free mode for decision-making."

LlamaZOO leverages developing and creating compelling, interactive 3D experiences from the gaming industry to solve real-world problems for innovative companies. LlamaZOO MineLife VR fuses complex geospatial and mine planning data with IoT data into an interactive, life-sized virtual replica of the planned, current, and future states of a mine site.

"Users can explore an entire operation from source to port or facility, see hypothetical scenarios and real-time data, create a variety of presentation media such as 360-degree images, flight paths and export these to other more traditional media access points such as web," said LlamaZOO CEO, Charles Lavigne. "Integrating this capability with the artificial intelligence and machine learning development [that] Maptek is already undertaking, synthesizes digital data into a powerful, enterprise level solution," Green concluded.



Mining technology developer Maptek and augmented reality experts LlamaZOO are teaming together to bring digital twinning and advanced 3D data visualization to the mining industry. Graphics courtesy of Maptek



The spotlight was firmly on Terex Washing Systems (TWS) at the recent Hillhead Show, Buxton, UK, with two new products on display.

Photos courtesy of TWS

he spotlight was firmly on Terex Washing Systems (TWS) at the recent Hillhead Show, Buxton, UK, with two new products on display — the impressive AggWashTM 300, a screening, scrubbing, sizing and sand recovery for recyclable aggregates all on one modular chassis, and Terex AquaClearTM, the first water management treatment system from Terex.

TWS Director Oliver Donnelly commented, "Terex Washing Systems is focused on bringing to market products that deliver value to our customers and offer solutions that serve their needs. The AggWashTM 300 and AquaClearTM we brought to Hillhead do just that. Customers to the stand were excited to see up close these latest innovations and had the opportunity to speak to our technical experts to discuss bespoke solutions for their specific needs."

AggWash [™] 300 – a game changer in wash recycling

The AggWashTM was designed to address higher production requirements for recycling customers and quarry owners, particularly in the construction, demolition and excavation waste recycling market. The high performance solution brings together rinsing, screening, scrubbing and sand washing capabilities on a single plant. While it's readily portable format makes it particularly suitable for green-field applications, contractor use and temporary planning permission

sites, operators more used to static installations will still appreciate the small footprint and minimal site preparations required. Paul McWilliams, TWS engineer manager, commented on the design, "In all cases, installation time is significantly less than conventional builds thanks to the high level of factory pre-fitting and connections. The no-compromise design ethos ensures maximum serviceability and performance despite numerous innovative features, including easily removed pumps, ready access to screening media and intuitive controls."

AggWash [™] 300 highlights

The AggWashTM incorporates two 4.9m x 1.5m (16' x 5') triple deck Terex Cedarapids L J-TS Series horizontal screens, incorporating a triple shaft vibrator mechanism that provides high G-force along with efficient oval motion. The compact installation height of horizontal screens compared to conventional inclined circular motion screens is conducive to the condensed working envelope of the AggWash 300. The "rolling chutes" feature provides easy access for maintenance of the screen. The machine boasts a high capacity logwasher with twin shaft angle adjustment to scrub gravel fraction and float out organics and adhered contaminants. There is a $1.8m \times 1.2m$ (6' x 4') trash screen for dewatering of lightweight contaminants from the logwasher and the plant has an integrated sand plant incorporating rubber lined pumps and hydrocyclones, available in



The AggWash[™] was designed to address higher production requirements for recycling customers and quarry owners.

various configurations and capacities. Critical for ease of servicing and maintenance, the AggWash 300 also features class leading walk-around access for maintenance.

AquaClear TM - the icing on the cake

In addition, TWS showcased their new water management offering — Aqua-ClearTM — enabling TWS to offer end-to-end solutions for washing and water management from a single supplier. The range includes clarifying tanks, flocculent dosing systems, filter presses and all associated equipment. The first-ever installation is currently being fitted in New England, USA. A new dedicated team is in place to lead this aspect of the business, which will ensure optimum equipment selection and specification for its customers.

Efficient water solutions

Water management solutions are typically comprised of three main components; a floc dosing plant and thickener tank can be used to recycle up to 80 percent of the water used in the washing process. This basic method still involves the use of ponds but on a smaller scale as the sludge sent to the ponds is of a much higher specific gravity (1.5sg). The next stage is to incorporate a filter press, which hydrates this thickened sludge even further, typically down to 25 percent moisture. The filter press eliminates the need for ponds as the sludge is hydrated to a material/cake that can be handled by a loading shovel. This cake can be used as a lining or capping material.

Raising the bar

TWS Director, Oliver Donnelly commented, "TWS are due to begin manufacturing the Terex AquaClear Water Management Solutions in Dungannon, Northern Ireland, later this year, working alongside strategic alliance partners in the U.S. We are already handling enquiries for AquaClear from Europe and North American markets. Through our strategic alliance [for North American customers], we can send a filter press fully built up, rather than in its component parts in containers. Working with partners who have been in the industry for many years, we are confident that we have the technical capability to devise optimized solutions which present customers with a unique opportunity to maximise their return on investment."

Speaking on the Hillhead show, Donnelly commented, "The reaction and interest to TWS new products and our stand presence was simply overwhelming. The flow of traffic onto the stand was incredible throughout the three days. We had the opportunity to meet with existing satisfied customers [and] prospective new customers as well as many of our distributors from around the world. We were delighted to receive a large number of orders throughout the show, which is testament to our commitment to providing enhanced and unique washing solutions to meet customers' needs and demands."



According to Donnelly, Terex representatives had the opportunity to meet with existing satisfied customers, prospective new customers, and many distributors from around the world.





Above:

AggWash 300's high performance solution brings together rinsing, screening, scrubbing and sand washing capabilities on a single plant.

Left:

TWS showcased their new water management offering, AquaClear™, enabling them to offer end-to-end solutions for washing and water management from a single supplier.

RockRoadRecycle.com

PG 22



For employers who are obligated to keep their employees safe during working hours, disaster preparedness is critical.

uthorities are closely monitoring the ongoing hurricane season in the wake of Hurricane Florence. For employers who are obligated to keep their employees safe during working hours, disaster preparedness is critical. What follows is an updated primer on preparing for an emergency; taking action during an emergency; and cleaning up and resuming business after an emergency.

Preparing for an emergency

<u>29 C.F.R.</u> <u>1910.38</u> requires all workplaces with more than 10 employees to develop a written Emergency Action Plan (EAP), when required by an OSHA standard, to identify and coordinate necessary employer and employee actions during an emergency. At a minimum, the EAP must include the following elements:

• Means of reporting emergencies (fires, floods, etc.)

Evacuation procedures and assigned exit routes
Procedures to account for all employees following an evacuation

• Procedures to be followed by employees who must remain behind to attend to critical plant operations before evacuating

• Rescue and/or medical duties for employees who are assigned and trained to perform them

• Names or job titles of people who can be contacted for more information about the plan.

In addition to these required elements, it is recommended that employers also consider including the following in the EAP:

• The location of the nearest hospital or emergency medical center

• The type of alarm system used to notify employees of an emergency

• Procedures for protecting information, including procedures for storing or maintaining critical documents and records

• The location and permissible uses of protective equipment such as portable defibrillators, first aid kits, dust masks, fire extinguishers, etc.

• The location of televisions or radios for further information during a disaster.

Ensuring the development of an effective EAP also requires the employer to train employees to understand their roles and responsibilities under the plan. When conducting this training, the employer must address literacy, language and cultural barriers to ensure that the training is effective. Employers also must document the training.

OSHA has posted links and recommendations on its website to help employers prepare for hurricanes. The website includes tips regarding how to create evacuation plans and assemble emergency supply kits. The Environmental Protection Agency also has provided tips related to hurricane preparedness on its website.

It is important to note that even employers who hire outside contractors to clean up after a disaster must recognize their obligations for worker safety.

Responding to an emergency

Communication during an emergency is critical to maintain organization and prevent panic and injuries. For example, not all emergencies require an evacuation of the workplace. In some cases, such as flooding, storms or the release of biological or chemical agents, staying indoors is safer for employees. The first question most people ask during an emergency is "Should I stay or should I go?" Employers can guide employees to the appropriate course of action by having an alarm system that emits a different signal for "evacuate" emergencies than for "stay put" emergencies. Alternatively, the alarm system could be programmed to give specific verbal instructions following the initial alert. Employers must consider the needs of disabled employees (e.g., those who are hearing or visually impaired) in selecting any alarm system.

Employers should have an effective means of communicating with employees about the following during an emergency:

• Whether to evacuate or stay put

• How and where to get information about the emergency itself;

• What areas of the building to avoid

• How and when it is safe to return to the work area

• How and when it is acceptable to contact family members and loved ones.

Picking up the pieces

Once the proverbial dust settles after an emergency, hazards to employees can still remain. For example, downed power lines in a flooded parking lot can injure or kill employees leaving the building after the storm passes. Hazards are even greater for employees who are tasked with cleaning up after an emergency. Employees who are actually performing cleanup work after a flood, storm, earthquake or other disaster may be exposed to one or more of the following hazards:

• Exposure to hazardous materials such as asbestos, mold, lead or chemicals

- Downed power lines and trees
- Heat illness
 - Confined spaces
 - Blood-borne diseases or other contagions
 - Mosquito-borne diseases such as Zika virus or
- Structural destabilization.

Industry news

Infrastructure resource in south Florida

RESERVE, LA — Florida Superior Sand, Inc. with offices located in Greenacres, FL recently purchased a DSC Wolverine Class dredge for their sand mine site in Palm City. Florida Superior Sand acquired a DSC Wolverine 10-inch dredge to meet the challenges of their new sand mining operations.

Florida Superior Sand, Inc., a privately owned company established in 1988, chose the DSC Wolverine Class dredge for their location due to its compact size and large pumping volume. DSC Dredge, LLC provided on-site field technician services April 19th to assist in off-loading the Wolverine Class dredge and perform commissioning and training in dredge operations.

DSC's Wolverine Class dredge is manufactured in its entirety at the company's W&S division located in Greenbush, MI. The dredge, which is known for its highly portable economical design, features a 25-foot digging depth, and is powered by a CAT C-13 diesel engine. The Wolverine has been the preferred dredge among companies looking for an affordable option with mechanical controls, reliability and ease of operation.

DSC designs and manufactures high quality, durable cutter suction and underwater pump mining dredges.

DSC Dredge operates from three manufacturing facilities located in Reserve, LA, Poplarville, MS, and Greenbush, MI. For more information about the company and its products, services and customized solutions, please visit <u>www.dsc-dredge.com</u>.



Florida Superior Sand, Inc. recently purchased this DSC Wolverine 10-inch dredge for their sand mine site. Photo courtesy of DSC Dredge

Disaster from 22 -

OSHA's website provides a Hazard Exposure and Risk Assessment Matrix for Hurricane Response and Recovery Work, outlining the most commonly performed duties during hurricane response and recovery work, and the hazards employees could face. OSHA has developed specific standards to address many of these hazards. For example, OSHA's Hazardous Waste **Operations and Emergency Response** standard, 29 C.F.R. § 1910.120, applies to employees who are performing cleanups of hazardous waste or other hazardous materials. OSHA's asbestos and lead standards require employers to evaluate the level or exposure to employees, provide appropriate protective equipment, and in some cases, conduct regular monitoring of air quality in the work area.

In addition to these specific standards, other more general requirements will also come into play. For example, OSHA's welding and cutting Lockout/Tagout, confined space entry and fall protection programs may come into play, even if no OSHA standard specifically addresses the type of cleanup activity taking place.

Finally, as always, OSHA's General Duty Clause requires employers to provide a workplace free from recognized hazards. Accordingly, even if no OSHA standard applies to a particular activity or hazard, employers may still face citation liability if the hazard is reasonably likely to cause serious injury or death and there is a feasible means of abatement to correct the hazard. Therefore, before allowing employees to commence any kind of cleanup work, the employer must conduct a job hazard analysis (JHA) to identify and address potential hazards.

It is important to note that even employers who hire outside contractors to clean up after a disaster must recognize their obligations for worker safety. OSHA's "multi-employer worksite" doctrine allows the agency to issue citations not only to the employer whose employees are actually performing the cleanup work, but also to other employers who either control the means and methods of work of the employees. Accordingly, employers may be liable for the safety precautions provided to employees who are brought onto their worksites following a natural disaster.

Recommendations It is imperative that employers develop and implement organized and clearly communicated procedures for responding to a disaster. A wellplanned and executed emergency response program will help prevent panic, thereby minimizing employee injuries and damage to property. We recommend that employers consider the following:

• Develop an EAP that covers a wide variety of potential emergencies and gives employees clear guidance on what to do in each scenario

• Be cognizant of hazards employees may face even after the immediate danger has passed

• Train employees in evacuation plans and other emergency response procedures

• Conduct a job hazard analysis and review applicable OSHA standards before assigning any employees to perform cleanup work

• Evaluate the safety record of any independent contractor hired to perform cleanup work, including investigating the contractor's worker's compensation history, its OSHA logs and its history of citations from OSHA.

Mark A. Lies II is a partner in the Chicago office of Seyfarth Shaw LLP, a firm that has more than 850 attorneys in 15 offices providing a broad range of legal services in the areas of labor and employment, employee benefits, litigation, corporate and real estate. In his occupational safety and health law practice he has represented employers on a national basis in complying with occupational safety and health regulations. Benjamin D. Briggs is a partner in the Atlanta office of Seyfarth Shaw. His practice focuses on a wide-variety of labor and employment matters arising under state and federal law.

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Ensuring the development of an effective EAP also requires the employer to train employees to understand their roles and responsibilities under the plan.

Kirby promoted to North American Sales Director — East



People in the industry

YANKTON, SD Kolberg Pioneer, Inc., Johnson Crushers International, Inc. and Astec Mobile Screens, Inc. are pleased to announce the promotion of Darren Kirby to North America Sales Director - East.

In his new position, Kirby will be responsible for directing, administering and coordinating all domestic field sales operations for the eastern region. In his new role, he will report to the vice president of sales & marketing to establish and attain annual sales goals for his respective region.

Kirby has been employed at KPI-JCI and Astec Mobile Screens since 2007, his most recent position being Regional Sales Manager - Southeast. He graduated from the Virginia Military Institute and has been involved in the aggregate industry since 1996.

"With over 20 years of experience working in the aggregate industry, Darren's unique background, having worked with producers as well as manufacturers, will allow us to better understand and meet the needs of our customers," said Ron Earl, vice president, sales and marketing.

Darren Kirby can be reached at darrenkirby@kpijci.com.



In his new position, Kirby will be responsible for directing, administering and coordinating all domestic field sales operations for the eastern region.

Photo courtesy of KPI-JCI / Astec



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Metso celebrates its 150th anniversary

In 2018, Metso celebrates its 150th anniversary. The story of Metso started in 1868 as a local ironworks and is linked to the development of urban environments and the modern way of life Metso evolved through a series of mergers, acquisitions and divestments. With operations in more than 50 countries and over 12,000 dedicated professionals, Metso is truly a global industrial company providing the world's mining, aggregates, recycling and process industries with innovative solutions for the sustainable processing and flow of natural resources.

During its 150 years, Metso has been in many businesses — ranging from steam engines, locomotives, car manufacturing, forest machines and pulp and paper machines to valves, metal and waste recycling equipment and solutions for rock and mineral crushing and screening — to name but a few. One core area of expertise, today, is aggregates and minerals processing: key ingredients for the construction and manufacture of the infrastructure, housing and consumables needed for growing populations and urban areas. The first innovations that kicked off mechanical crushing and screening processes in mines and quarries were introduced in the 1800s. Bruno Nordberg, a Finnish migrant who settled in Michigan in the U.S., produced some of the first crushing equipment for mines. In 1928, Nordberg acquired the Symons cone crusher technology — an innovation that revolutionized crushing practices in the mine and quarry



Metso is probably the only company in the world that can say that it has been providing equipment and services for the recycling business already for 100 years.



Metso has been able to continuously develop services, equipment and systems to best meet the needs of their customers.



sectors. Bergeaud & Bruno was established in France in 1895 to manufacture crushing equipment and in Tampere, Finland, Lokomo produced its first jaw crushers at the beginning of the 1920s. These industry pioneers are all key components of Metso's DNA.

The amalgamation of Svedala Industri Ab into Metso in 2001 and the introduction of solutions like primary gyratory crushers, grinding mills and vertical shaft impactors were elemental in the creation of a full-scope offering for crushing and screening. Thanks to a strong installed base and close cooperation with customers, they have been able to continuously develop services, equipment and systems to best meet the needs of their customers. Innovations such as Life Cycle Services, energy-efficient HRC® high-pressure grinding technology, MegalinerTM mill linings, the MXTM Multi-Action cone crusher and Lokotrack® Urban(TM) jaw crushing plants have quickly become household names around the world. Digitalization, sustainability and energy-efficiency are some of the focus areas in current R&D projects. The Metso Metrics concept, which comprises of a cloud-based, remote monitoring and data visualization ser-

Industry news

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Metso is truly a global industrial company providing the world's mining, aggregates, recycling and process industries with innovative solutions for the sustainable processing and flow of natural resources.

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McCloskey International announces acquisition of Lippmann – Milwaukee Inc.

KEENE, ON — Screening and crushing industry leader McCloskey International recently announced that it has acquired Lippmann-Milwaukee Inc., a privately-held international company that is a leading manufacturer of aggregate crushing equipment for processing applications. The products are sold across the aggregate, mining and recycling industries.

Headquartered in Milwaukee, WI, Lippmann was established in 1923 and has dedicated itself to producing the highest quality crushing equipment on the market. Since its inception, Lippmann has become synonymous with highly productive and reliable heavy-duty jaw crushers that are built to last. McCloskey's complementary product offerings, including portable and mobile crushers, will allow market expansion for both companies, serving a broader base of customers worldwide. McCloskey International has a dealer network that spans the globe, bringing the power of this distribution channel to the Lippmann product line. Both companies will be positioned for growth across customer bases, markets and geographies with the new entity.

"Lippman's reputation for quality is legendary," said Paschal McCloskey, President and CEO of McCloskey International. "We are excited at the opportunity to leverage the best practices of both companies while aligning the organization and operation for a customer driven model. Our success in the market has been built on quality products, along with dedicated employees. Looking at the similar values and culture between McCloskey and Lippmann, it's an excellent fit."

Headquarters for Lippmann will remain in Milwaukee, WI, USA and McCloskey International will continue to be headquartered in Keene, Ontario, Canada. Over its 95-year history, Lippmann has developed a gold standard reputation for heavy duty stationary and semi mobile products. For more information on Lippmann-Milwaukee please visit <u>lippmann-mil-</u> <u>waukee.com</u>.

Industry news

McCloskey is recognized as being one of the fastest growing mobile crushing and screening equipment manufacturers in the world. For more information on McCloskey International please visit <u>mccloskey-international.com</u>.



McCloskey International will continue to be headquartered in Keene, Ontario, Canada.



Lippmann was established in 1923 and has dedicated itself to producing the highest quality crushing equipment on the market.



Headquarters for Lippmann will remain in Milwaukee, WI, USA.

Metso from 25 -

vice for mobile crushing plants, will soon be introduced to mining and recycling processes, too.

Metso is probably the only company in the world that can say that it has been providing equipment and services for the recycling business for 100 years. With the importance of the circular economy increasing, recycling is more important than ever. Metso is in a good position to provide the necessary equipment and services to handle virtually any type of waste or scrap metal. Metso's metal recycling offering rests on a strong platform built on the LindemannTM, Texas ShredderTM and N-SeriesTM technology covering a wide range of efficient solutions for the fragmentation, compaction and separation of different types of metal scrap. They are also a leading supplier of solid waste recycling equipment, thanks to the acquisition of M&J Industries in Denmark in 2010.

Photos courtesy of McCloskey

In flow control, our solutions are built on innovative Neles® and Jamesbury® valve solutions. Neles Oy was established by Antti Nelimarkka and Eino Santasalo in 1956. The first Neles valves were originally designed for the needs of the pulp and paper industry. Soft-sealed Jamesbury valves, Mapag® valves (now part of the Neles product portfolio), valve controllers and globe valves were later added to the portfolio to complement the offering. Today, various process industries — often located close to urban areas and including, for example, pulp and paper, chemicals, energy, gas processing and LNG, industrial gas, and refining — rely on their flow control products and services to run their processes safely and reliably.

RockRoadRecycle.com

October 2018





New options for CAT® 918m compact wheel loader include high-lift loader linkage, fusion coupler, guarding, larger tires

Caterpillar now offers the 918M compact wheel loader with four new options: high-lift loader linkage, Cat FusionTM coupler, five-piece guarding package and wider tires.

High-lift linkage

The new high-lift loader linkage option is designed specifically for applications that can benefit from increased lift height and increased reach of the loader linkage. The newly designed loader arm assembly can provide up to 10 percent more lift height and reach compared with the standard loader linkage equipped with a similar work tool interface whether pin-on, IT (Integrated Tool Carrier) coupler or ISO coupler. A 918M configured with both a high lift linkage and 20.5 tires will have a bucket pin height over 13 feet, 5 inches (4.1 meters).

Fusion coupler

With the addition of the Caterpillar designed Fusion Coupler System to the 918M's option list, buyers now have the choice of three couplers. Designed for optimum performance and long-term durability, the Fusion coupler uses an advanced constant pressure wedging mechanism to create a tight, rattle-free fit with work tools.

The patented locking system eliminates the play and thus eliminates the associated wear. The Fusion coupler is designed to apply constant hydraulic pressure to wedges that continually pull the work tool tight to the coupler in two directions — in and down, providing secure tool control and increased productivity. The coupler is available for Fusion-compatible work tool attachments.

Tire choices

Three new 20.5R25 tires for the 918M offer a number of benefits compared to the standard 17.5R25 tires, including up to 20 percent more tire life and increases in traction, stability and tipping capacity — all resulting in reduced operating costs.

Available for the North American market, the three new tire options include the general-application Goodyear E/L-2A "Sure Grip Loader," a 12-ply-rated bias tire with directional and self-cleaning tread; the Michelin "Xsnoplus," specially designed for operation on snow and ice, and incorporating a non-directional tread pattern with excellent self-cleaning characteristics; and the Michelin XHA2 radial, a wide-lug tire with non-directional tread, heavy shoulders and protected sidewalls for heavy-duty applications.

Width-over-tires is approximately 91 inches for the larger 20.5R25 tires. All three tire options must be used with the Fusion coupler or with the optional high-lift loader linkage to ensure that work tools rest level on the ground. An oscillation limiter eliminates tire-to-fender interference.

Guarding

The new guarding options, which can be used with currently available steel-front fender deflectors, provide protection for vulnerable areas:

• Headlight guards surround the front light assemblies and protect from debris falling from the bucket



• Hitch guards protect the 918M's articulation point by providing barriers on both sides of the hitch to prevent material from collecting in the frames, while allowing ready access to service points

• Powertrain guard mounts beneath the transmission and related components; provides an access panel to facilitate oil changes

• Drive shaft guard mounts beneath the front driveshaft for protection from debris and obstacles

• Crankcase guard mounts beneath the engine to protect the oil pan



Caterpillar now offers the 918M compact wheel loader with four new options: high-lift loader linkage, Cat Fusion™ coupler, five-piece guarding package and wider tires. Photo courtesv of Cat

Wheeler Machinery Co. joins EIW dealer network

Eagle Iron Works, LLC, is excited to announce that Wheeler Machinery Co. has joined their dealer network focusing on the construction and industrial aggregates industry.

Having several offices in Utah, Arizona, Idaho and Nevada, Wheeler Machinery Co. will be selling and distributing EIW's line of washing and classifying equipment throughout Utah, Southern Idaho, Western Wyoming, Arizona and Nevada. This includes the EIW classic line of equipment that includes classifying tanks, screw washers, attrition mills and mobile processing solutions, as well as, the new CONDOR line.

With over 60 years of service, Wheel-

er serves the industries of construction, landscaping, mining, quarry and aggregate, agriculture, oil and gas and more. Providing repair and maintenance services, parts, rental, financing, consulting and training, Wheeler is your full-service provider and partner dedicated to the success of its customers. "We're pleased that Wheeler Cat has joined our dealer network. Their economic strength will extend our reach into markets we're interested in penetrating further, and look forward to continued sales growth with our new partner in the west," said John Ware, general manager at EIW, LLC.

John Deere introduces industry-leading articulated dump truck transmission warranty on new E-Series models

Reinforcing its commitment to providing best-in-class construction equipment, John Deere now offers an extended coverage of five-years/15,000-hours as part of its articulated dump truck (ADT) transmission warranty on all new E-Series models.

"This industry-leading warranty emphasizes our dedication to producing reliable and durable ADTs," said Maryanne Graves, product marketing manager, articulated dump trucks, John Deere Construction & Forestry. "It assures customers that we truly stand behind our award-winning equipment, and gives them added peace of mind."

The warranty delivers enhanced coverage of five years or 15,000 hours, whichever occurs first. Eligible machines include new E-Series models (260E, 310E, 370E, 410E, or 460E) built on or after Jan. 1, 2017 and purchased prior to Dec. 31, 2019.

For complete warranty information, customers should visit their local John Deere dealer or <u>JohnDeere.com</u>.



The warranty delivers enhanced coverage of five years or 15,000 hours, whichever occurs first.

Telsmith announces new website

MEQUON, WI — Telsmith, Inc., manufacturer of mineral processing equipment, recently announced its newly designed website.

The new website has a clean design that showcases products and relevant information along with greatly improved functionality. The new site will also act as a hub for crushing and screening information such as how to, best practices, troubleshooting and more.

"Our new website properly displays the depth and breadth of our products and services to visitors looking to understand Telsmith and solutions we provide," says Jeff Gray, domestic sales manager of Telsmith, Inc. "We love the new design and how this new platform will allow us to populate the site with useful industry content for visitors to enjoy.

Telsmith's new website will be updated weekly with company news, blog posts, events and videos.

Telsmith, Inc. provides a full range of minerals processing solutions to the aggregate, mining, industrial, and recycling industries with cone crushers, jaw crushers, vibrating equipment, portable plants, track plants, as well as full-scale modular processing facilities. Solutions from Telsmith include product lifecycle support with parts availability and factory trained service technicians.

For more information visit <u>telsmith.</u> <u>com</u>.

ROCK Industry news



PG 31

The new website has a clean design that showcases products and relevant information along with greatly improved functionality.

Photo courtesy of Telsmith

Van Tongeren unveils line of industrial cyclones

LEBANON, PA — Process equipment manufacturer Van Tongeren America located in Lebanon, PA has unveiled a line of industrial cyclone separation systems. Specified to separate dry particles from a stream of air or other gas and remove momentum, the Van Tongeren cyclones are custom-engineered for dust collection, particle classification and/or material recovery to achieve maximum collection efficiency based on the desired cut point, material load, airstream velocity and other factors. Ideal for installation downstream from dryers, coolers, boilers, combusters, pneumatic conveyors, and from other dry processing equipment, the industrial cyclones excel in processing aggregates, cement,

foods, pharmaceuticals, metals, and a diverse variety of other particulates. The cyclones are designed with no moving parts for low maintenance and may be manufactured with a range of proprietary linings for long-term protection against wear due to abrasive, corrosive and/or high-temperature gasses and materials. Cyclones engineered for sterile, cleanroom and other controlled and difficult environments are also available.

Van Tongeren pioneered the use of cyclones for dust collection in 1927 and its concepts form the basis of nearly every industrial cyclone operating worldwide. Today, the cyclones are designed in the company's Lebanon, PA headquarters.



Process equipment manufacturer Van Tongeren America has unveiled a line of industrial cyclone separation systems.

Photo courtesy of Van Tongeren

CEMEX expands aggregates reach to north Texas with new quarry acquisition

HOUSTON, TEXAS — CEMEX USA recently announced it closed on the purchase of a turn-key, fully-operational aggregates quarry in Chico, Texas, from Blue Star Materials II, LLC, further strengthening its aggregates network and expanding into the Dallas-Fort Worth area.

The 122-acre site and quarry plant located approximately 45 miles northwest of Fort Worth in Wise County with more than 25 years of quality limestone reserves.

"The Dallas-Fort Worth area is expected to grow exponentially over the next 30 years," CEMEX USA Regional President, Texas and New Mexico Region Joel Galassini said. "By acquiring a quarry that's currently operational, we can start contributing to that growth almost immediately and bring CEMEX's strong network along with our expertise to projects in the

Metroplex."

CEMEX has deep roots in Texas with some facilities that have operated close to five decades, including the Balcones Quarry in New Braunfels, which was recently ranked as the top crushed stone operation by volume in the nation by the U.S. Geological Survey. CEMEX's extensive Texas network includes one centrally located cement plant, close to 10 distribution terminals, five aggregates operations and nearly 30 ready-mix plants.

"CEMEX has a strong aggregates network in Texas which has supplied some of the largest projects in the state," said CEMEX USA President Ignacio Madridejos. "We look forward to bringing our high-quality products to North Texas and working with our customers to build a better future by giving them a reliable source for aggregates for years to come."

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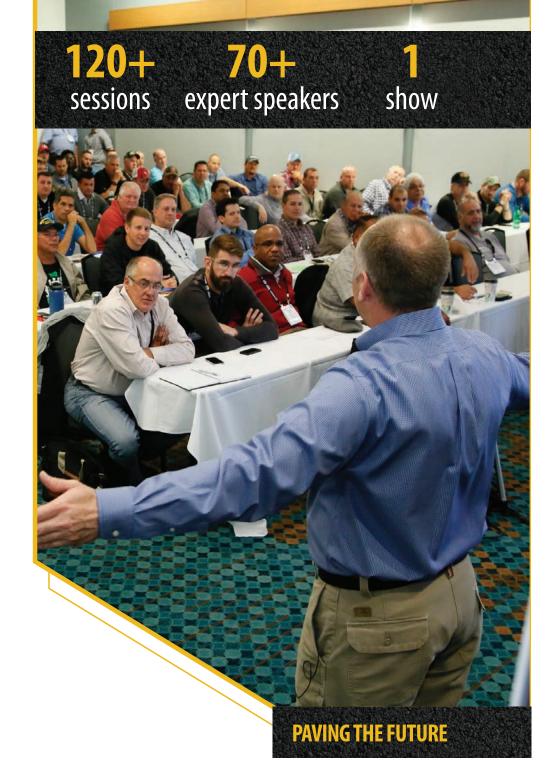
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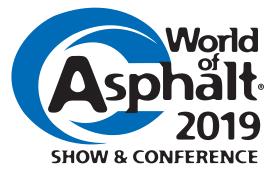
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– Trey Poulson | Fairplay Gold Mine, CO

ROCK ROCK ROAD RECYCLE Volume 40 No. 1 October 2018

CGS stabilizes sinkhole-prone site with compaction grouting



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by RRR staff writer



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CGS stabilizes sinkhole-prone site with compaction grouting

by Brian M. Fraley

On the cover:

CGS generally pumped 20 to 50 cubic yards of grout per day while utilizing two to three crews.

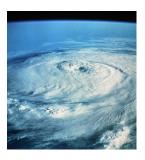
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PG 3

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CGS generally pumped 20 to 50 cubic yards of grout per day while utilizing 2 to 3 crews.

lone drilling rig hammered away on a muddy, puddle-laden King of Prussia, PA, construction site on an unseasonably cold April morning. Future residents of the five-story, 248-unit suburban Philadelphia apartment complex will someday shuttle back and forth to the various amenities in this bustling community, but no structure could rise from the ground until Compaction Grouting Services, Inc. (CGS) performed its namesake service to tame the poor subsurface conditions.

Media, PA-based CGS was retained by local engineering firm Earth Engineering, Inc. (EEI) and worked as a subcontractor to Western New Yorkbased LECESSE Construction Services. CGS, a DBE-certified ground improvement contractor with a 20year track record of geotechnical construction experience in Pennsylvania, New Jersey, Delaware and Maryland, has extensive experience correcting the precarious subsurface conditions that plague the King of Prussia area.

Why compaction grouting?

"This whole town is basically a big sinkhole," quipped CGS Supervisor Steve Oxendine. His experience has been that addressing subsurface issues during pre-construction is far more cost-effective than doing so



Most of the grout ports were clustered on the southern and northeastern quadrants of the site.

post-construction.

EEI confirmed that this site was a candidate for compaction grouting following test bores in 2004 and 2016. This sinkhole-prone parcel is underlain by dolomite, a type of carbonate rock prevalent in King of Prussia's geology.

The compaction grouting process consists of injecting a low-slump, low-mobility, soil-cement grout at high pressures to compact loose, coarse-grained soils and densify and/or displace soft fine-grained soils. A grid-like pattern — pre-determined by a geotechnical engineer — is positioned across the site. Grout columns are then injected into the hole loca-

tions within the pattern. Compaction grouting is ideally suited for sinkhole remediation, foundation settlement reduction and soil preparation pre-construction by strengthening soil to withstand higher bearing pressures. It offers a cost-effective alternative to deep foundation systems and underpinning methods.

The apartment building complex will have a 65,000-square-foot footprint founded on spread footings with a partially underground parking garage. CGS drilled 18,061 linear feet at more than 626 hole locations and pumped in 820 cubic yards of grout in total. Some areas of the footing will rest directly on bedrock. When rock





Mike Miluski checks the temporary casing to prepare for grout injection.

was six feet or less below the surface, it was dug out and backfilled with lean concrete. CGS helped to prevent excessive excavation by test drilling in zones where it was suspected that eight-plus feet of digging would be required because of a rock drop-off. In those cases, compaction grouting was a better choice.

Determining the location of additional holes was a fluid process that involved ongoing test drilling and coordination with EEI, according to senior project manager Justin Terry. "It wasn't hard set," he explained. "We were working closely with and feeding the engineers a lot of drilling information to help determine if additional areas needed to be grouted."

Navigating crowded, muddy site conditions

The nature of compaction grouting means that CGS crews are accustomed to muddy jobsites, but an unseasonably cold start to spring in Pennsylvania with multiple nor'easters turned the site into a mud basin. Further complicating matters was that CGS crews were frequently working in areas of low relief, causing them to deal with most of the site's surface water runoff including rain, snow and a tire wash.

CGS Vice President Mike Miluski uses words like lake, pond and swamp to describe site conditions. He recalled one of the firm's trucks halfway immersed in one such body of water. CGS relied on dewatering equipment to dry out the puddles and air compressors to blow off the snow. "We always deal with mud," Oxendine said. "With compaction grouting you never have ideal sites."

A large excavator dug a trench in one corner, an idling articulated hauler had its tires blasted with a pressure washer and oversized truckloads with corrugated pipe rumbled down the road as members of the CGS crew made their way back to the drill rig. While the foundation work was unable to start until CGS finished compaction grouting, the project site was crowded with various other trades trying to get a head start where they could.

A multitude of tightly spaced holes

The site was crowded by more than workers and equipment. The sheer volume of holes in such a tightly packed area meant that CGS crews would not be able to address every other hole. No hole within eight feet could be touched within 12 hours of grouting so they were required to grout every third hole. Most of the grout ports were clustered on the southern and northeastern quadrants of the site.

Oxendine, who supervised the project from the front lines, considered managing the quantity of holes in the condensed area the greatest challenge. "The paperwork was daunting," he recalled, noting that it was critical to crosscheck the plans and survey stakes to stay organized. Keeping the stakes in place and undamaged was also difficult as the various trades on site navigated the obstacle course on foot and in machinery.

Drilling into bedrock and casing holes

CGS subcontracted the lion's share of drilling to East Earl, PA-based Brubacher Excavating, which supplied a manned Atlas Copco ROC D7 drilling rig. The rig was constantly pounding away to pre-drill the holes and install temporary steel casing.

The first step was to drill 3.5-inch diameter holes. The next step was to drive in two-inch inside diameter temporary casing with a bullet point on the bottom.



The 2-inch inside diameter temporary casing was equipped with a bullet point on the bottom that was intentionally knocked out by yanking a rope from ground level to avoid clogging the pipe with grout.

The tip was then intentionally knocked out by yanking a rope from ground level to avoid clogging the hose with grout. It remains in the ground indefinitely. The casing was then pulled out, cleaned and reused repeatedly.

The original spec required CGS to drill three feet into bedrock, which lied at varying depths from 15 to 60 feet. Drilling was cut off at 50 feet if no rock was encountered. Excavation on one corner of the site turned up five- to six-foot boulders, some of which jutted out from stockpiles and embankments around the site. CGS had to bore an extra two feet in this zone to ensure the drill was hitting bedrock.

Mixing and pumping grout

"It's (grout) tightening up the soils as we pump," Oxendine hollered over the machine gun-like hammering of a nearby drill. "The pressure surge (maximum injection pressure) on this job is 500 psi. That's a lot of pressure pumping all that grout down in there and compacting that soil."

The site contained a mix of dense clay soils and softer karst conditions. Miluski noted that a normal soil profile would typically increase in strength with

depth. With karst conditions, the dense clays are up top and the weaker soils are just above bedrock because of water flowing above the rock formation.

There is no surefire way to determine exactly how much material a hole will take. The variables include depth to bedrock, soil conditions and groundwater level. The refusal criteria on the site required CGS to pump grout ranging from 54 cubic feet per foot at 50 psi or below, 27 cubic feet per foot at pressures between 50 and 150 psi and five cubic feet per foot at pressures from 150 to 500 psi.

CGS crews pumped the grout in from 100 to 500 psi, although the average was 300. More challenging locations took five cubic feet on average while locations that encountered the unvarying terrain required about two cubic feet per foot.

"The higher psi tells you that the soils are pretty good or you're in rock," Miluski explained, adding that a significant number of holes took less grout since the rock was higher than anticipated. "The soil has been relatively good and that helped our schedule."

CGS generally pumped 20 to 50 cubic yards of grout per day while utilizing two to three crews. The grout was produced using a mobile mixer with sand and cement in the hopper and a 500-gallon water tank hooked up to a Putzmeister grout



Drilling subcontractor Brubacher Excavating used an Atlas Copco ROC D7 Drilling Rig to pre-drill 3.5-inch-diameter holes and install temporary steel casing.





The refusal criteria on the site required CGS to pump grout ranging from 2 yards per foot below 50 psi to 5 cubic feet at 150 to 400 psi.

pump. This pump is specifically designed for injecting grout at high pressure. "We were averaging between 15 and 20 holes a day," Oxendine recalled. "At one point we had three pumps and two mobile mixing trucks going at the same time because some of these holes were 50 to 60 feet deep."

The mix of water, cement and sand is crucial in compaction grouting, according to Miluski. The specification called for a 300-psi compressive strength and 8 to 10 percent cement, a relatively standard specification. Due to CGS' experience he stressed that the gradation of the mix is what really counted. "The more cement you have, the more it travels in the ground," he said of the grout. "You want it to be like a growing mass." #8 crushed stone was added to prevent the viscous grout from seeping into rock fissures.

Bidding lump sum to mitigate the GC's risk

"This isn't a unit job," Miluski said, looking out over the site. "There's serious risk involved in giving a hard number."

It was initially a unit price project until CGS offered to bid it lump sum as the company does on many compaction grouting projects. This helped to mitigate risk and instill assurance and confidence for its western New York-based general contractor LECESSE.

Justin Terry agreed. He believes there are other subcontractors that could have done the work, but doubts that they understand compaction grouting well enough to bid the project lump sum.

"It's really a crapshoot," he explained. "How deep are we going to have to drill? How much volume (of grout) are the holes going to take? As an owner who's not as familiar with it, it's scary for a lot of them to think that they have the exposure of a possible \$100,000 swing."

It is not uncommon for compaction grouting projects to have 10 to 20 percent swings when comparing estimated drilling and grout volume quantities to actual quantities. Spread over a large magnitude (600-plus grout locations), the associated additions and deductions associated with unit costs can kill a project budget or sink a contractor. By providing a lump sum, CGS eliminated the risk for the owner while betting on its own knowledge, experience and production.

Finishing ahead of schedule

Project delays up front put CGS on the site in February at the tail end of a cold winter that would bleed into a chilly spring. The crew geared up, working through snow, rain and chilly temperatures amidst knee-deep puddles, mud and the occasional snow mound.

In addition to schedule adjustments, tight working quarters and excessively muddy conditions, a sinkhole opened where foundations were founded on rock in an area where grouting had not been performed. Due to experience and CGS' onsite mobile mixing grout trucks, they were able to immediately mitigate this sinkhole by adjusting the grout mix to pump in high-mobility grout. There was no need to wait for cement delivery or a neat cement mixing truck to arrive onsite.

The pressure stayed on as the contractor that would be constructing the footers bore down on the CGS crews. Despite the challenges, CGS delivered the job a day earlier than expected. This was meaningful on a 40-day project with the aforementioned variables — not to mention CGS took on an additional 13 holes at the engineer's request and improved upon its track record of completing a job on time.

"It's a big job, but we try to do it as fast as we can," Oxendine said of the 12 workers that make up his crew. "We work long hours and we get it done."



Backpressure from the soil forced the grout out of the pipe.

Performance in every detail



PG 6

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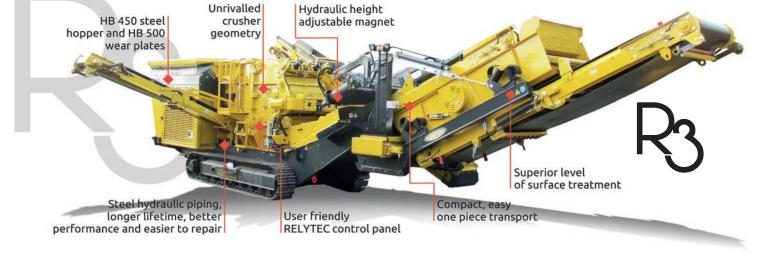
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Venieri earthmoving equipment arrives in the U.S.

ROCK HILL, SC – Applied Machinery Sales (AMS), expands its offering of material handling solutions to the US market with the introduction of VF-Venieri loaders and backhoes.

Globally recognized for building innovative solutions for any number of applications, the current Venieri line-up includes front loaders, backhoe loaders, articulated backhoe loaders and compact minis.

Venieri machines are known for their power, balance, stability and safety. Power across the range comes from 4 or 6 cylinder turbo cooled diesel engines.

Depending on model and type of loader, Venieri earthmoving equipment offers hydrostatic transmissions, "Z" front bar linkage, inching brake pedals, precisely balanced weight distribution, and frame

mounted rear oscillating axles. Plus, footprints are quite compact compared to similar machinery.

Operator efficiency is built into every machine. Enclosed cabs supply 360-degree visibility minimizing blind spots; better ergonomics; and exceptionally efficient ventilation system with automatic and manual climate control. Plus, sound absorbent materials and special anti-vibration rubber shock absorbers are standard, ensuring optimum operator comfort and performance.

Businesses and municipalities looking for versatile high performance and low maintenance solutions will find the Venieri line brings exceptional value to every job.



Globally recognized for building innovative solutions for any number of applications, the current Venieri line-up includes front loaders, backhoe loaders, articulated backhoe loaders and compact minis.

Applied Machinery Sales (AMS), expands its offering of material handling solutions to the U.S. market with the introduction of VF-Venieri loaders and backhoes. Photos courtesy of AMS





Depending on model and type of loader, Venieri earthmoving equipment offers hydrostatic transmissions, "Z" front bar linkage, inching brake pedals, precisely balanced weight distribution, and frame mounted rear oscillating axles.

Dust control technology advances produce cleaner air for construction

RockRoadRecycle staff writer

All photos courtesy of the specified OEM

any things affect construction, with new equipment and techniques being developed, but what is becoming more prevalent in virtually all operations is the development of clean air/dust control technology. This takes in many things, including new low emission engines from the likes of Caterpillar, Volvo CE and Deutz (among others) and the ability of equipment to work from generator or mains electricity. Also, many manufacturers are developing clean air solutions that mitigate the effects of dust and help produce a clean air working environment not just as an afterthought but rather endemic to all activities.

New OSHA regulations for silica dust control

Recent drivers of dust control equipment have been the new OSHA regulations for the control of silica dust. OSHA sets the personal exposure level (PEL) limit at 50 micrograms (μ g) of respirable crystalline silica (RCS) per cubic meter (m3) of air (50 μ g/m3) over an eight-hour, time weighted average. The new rules also stipulate requirements for exposure assessment, respiratory protection and methods for controlling exposure as well as medical surveillance, hazard communication and record keeping.

Invisible to the naked eye and able to travel long distances on ambient air currents, workers are often unaware of the lingering dangers and may take off protective gear, risking exposure and potentially contracting silicosis over time. Silicosis itself is a chronic and incurable disease that affects millions of



A wet dust extractor unit at work on a tunnel.



Rammer has developed a special water jet system which is designed to suppress airborne materials or dust during hammer operation.

workers across the world in a wide variety of industries.

With this in mind, OSHA's Final Rule requires regular monitoring by the employer and sets personal exposure limits while suggesting engineering controls and particulate isolation as opposed to putting the entire onus of PPE on the employees. By doing this, regulators also limit fugitive dust emissions from leaving the site line and exposing the wider public. Non-compliance could result in fines, process disruptions and legal action by federal or state agencies or workers.

Engineering controls and isolation

Engineering controls include equipment that reduces or eliminates worker exposure to RCS. One company that has set out to help the construction industry address outdoor dust emissions from a wide range of activities is BossTek, through its DustBoss® line of atomized mist cannons. These use high-pressure water driven to a circular manifold at the end of a specialized cylindrical barrel with an industrial fan located at the rear. As the unit oscillates, the fan directs air through the cone shaped cannon and propels millions of tiny droplets — approximately the same size as the dust particles — covering an area of up to five football fields in size. The equipment has been used successfully for many years, proving its worth on demolition, construction, tunneling and civil engineering sites.

For outdoor isolation of particle emissions or for stack out conveyors and chutes where the cargo stream is exposed to open air currents, the system works by using point source suppression such as non-mechanical misting rings and spray bars. A misting ring encloses the stream in a curtain of atomized mist, preventing dust from migrating. Open-air discharge resulting in dusty blowback from impact can be suppressed by combining rings and spray bars to create a dust barrier. For hydrophobic materials such as coal, dosing pumps attached to both the mechanical and non-mechanical units can apply dust suppressing surfactants and crusting agents. The sprayed surfactant agents reduce the surface tension of water, improving its ability to wet surfaces and form fine droplets that reduce dust emissions.

Mobile dust suppression keeps demolition emissions from leaving site

An example of how the BossTek equipment can be used to minimize dust concerned River City Demolition. The company used a self contained and mobile DustBoss® DB-60 Fusion®, manufactured to suppress airborne dust created by the jaw processor and falling debris during the demolition of a five story concrete parking lot in a densely populated area. The result was an adjust-



Suppressing dust on a demolition site.

able wide area control of airborne and surface dust that reduced the need for manned hoses, thereby maintaining air quality needed to comply with regulations.

Due to the close-in location and confined space of the project, River City crews decided to use a jaw processor to pulverize the concrete and take the parking lot decks down a section at a time. That helped avoid dust clouds from large sections falling at once, but still required a dust containment system. The BossTek-supplied Dust-Boss® DB-60 FusionTM is equipped with its own generator for locations without convenient access to power. All components are mounted on a road worthy trailer, providing River City crews with the versatility to position the fan-driven unit wherever it was needed on any given day.

The DB-60 Fusion forces water through a circular stainless steel manifold with 30 atomizing spray nozzles, then launches millions of tiny droplets with a powerful 25HP fan that produces 30,000 ft3 (849.50m3) of air flow. Atomized mist droplets of 50 to 200 microns in size are thrown out in a 200-foot (60m) cone at an adjustable zero – 50° elevation angle, capturing airborne dust particles and dragging them to the ground.

Rather than have personnel handling hoses to suppress the dust, the single atomized misting unit delivers 62,800 ft2 (5,834m2) of coverage, while using far less water than hoses and sprinklers. The unit is paired with a 45kW generator featuring a John Deere Tier III Flex engine enabling up to 24h of runtime. At just 80 inches (2.03m) wide, the system can be placed virtually anywhere dust suppression is needed and adjusted based on changes in wind or work activity. An optional dosing pump is powered from the standard 120V electrical outlet on the generator, allowing operators to precisely meter surfactants or other additives. The unit's versatility makes it suitable for uneven ground as well as open spaces or tiered terrain.

Water sources can vary and the unit requires a constant supply pressure of just 10psi (.069bar). The water is delivered to the atomized misting unit through a hose with a cam-and-groove quick disconnect coupler leading to the booster pump. The pump adds approximately 150psi (10.34bar), with a maximum of 205psi (17.23bar), depending on the inlet pressure. For use with a non-potable water source, the DB-60 can be equipped with a number of filter options.

Going underground

Another manufacturer who has specialized in producing dust mitigation systems is U.S.-based JH Fletcher, which has undertaken massive strides in developing and applying clean air technology for its tunneling equipment as well as quarrying, mining and general construction. Currently the company offers enclosed operator compartments as an option on all its drilling jumbos, with most being available with built-in air conditioning and heating systems for mobile equipment. The company's systems have been purpose-designed for enclosed operator cabs, with filters for both recirculated air and the make-up air using a high efficiency filter. The jumbos may also be equipped with an exhaust purifier as well as Tier IV engine options.

JH Fletcher also manufacturers a mobile dry scrubber, which is an independent vehicle designed to filter air and direct it back out into the main air stream. For its roof bolting equipment they offer operator air canopies. Air is pulled through a fan, filtered and then pushed down over the breathing zone of the person working beneath the



The ScanDust 8000 and ScanDust 3600 are equipped with Hepa filters that take care of any unhealthy particles.

canopy. Atlas Copco's Epiroc division and Sandvik Mining and Rock Technology have both ensured that their equipment is also able to protect operators from dust and other emissions.

Specialist developments

The increasing demand for clean air/ dust control technology for underground operations has seen developments from manufacturers whose business is primarily focused on providing technology for a clean working environment. Not all of these companies are well known.

Engart Global specifically focuses on equipment and services aimed at dust management primarily in the field of optimizing dust extraction equipment and solving dust related problems. One such solution is its wet dust extractor unit. This enables users to maintain the proper air volumes required to alleviate fumes from equipment and to control the dust emissions generated during tunneling. The dust extractor allows the air exhausted from a tunnel to be free from air-borne particulate while providing better visibility and controlling unhealthy particulate levels in the tunnel operation.

These developments mean compliance with increasingly stringent work place regulations — as with the new U.S. silica emissions — but also increase productivity by improving visibility and worker conditions.

The age of the machine

Robotic developments are also providing clean air dust control solutions. This is not just in the case of providing equipment to work underground in tasks that may negatively affect human workers but also in the provision of specialized equipment to minimize or remove contaminated air. Swedish company Husqvarna seems to be at the forefront of these developments with a dust reduction accessory available for all its DXR robots. The accessory supplies water to the tool sufficient to bind the airborne dust, contributing to a better working environment and reducing the risk of the operator breathing harmful dust particles. The accessory also provides a more efficient and economical way of working by eliminating auxiliary equipment or extra workers engaged in binding airborne dust. Beyond the environmental benefits, the dust reduction kit has a unique and effective water management system.

One of the best ways to control dust is by using enough water while wet cutting/drilling to bind the dust directly at the source. However, this leads to the production of slurry and in order to remove this, Husqvarna has developed a slurry collector which may be attached to a specially developed slurry vac. In addition, the company has also developed a line of dust extractors designed to meet strict emission regulations. These are ideal for many applications as they are compact and equipped with one, two or three powerful single-phase electric motors with separate cooling, capable of running continuously. Husqvarna now supplies the most advanced and versatile portable air cleaners available on the market, which complement dust and slurry management equipment as well being ideal for other applications where good air quality is essential.

Air scrubbers

Easy to use air scrubbers can further clean air in enclosed areas: plug it in, turn it on and it's ready to clean the air. When used in addition to a dust suppression system, it helps ensure the workspace is well protected against airborne dust particles. Husqvarna's A-line features two of the most advanced and versatile portable air scrubbers available on the market. They are tested and certified for use as both air scrubbers and negative air machines, making them the ideal complement to dust and slurry management equipment as well as other applications where air quality is essential.

The A600 and A1200 are equipped with an efficient filter system and provide superior air quality when dealing with concrete, fine sanding or gypsum dust. The number of air cleaners needed for a particular job site can be calculated so that the entire air volume on the worksite is filtered at least six to eight times each hour.

Features include quiet and efficient operation; ready for ducting; lightweight cabinet with sturdy aluminum frame and metal locking casters with a metal mesh protecting the filter area; and two stage air filtration with a pre-filter made of pleated polyester catching the larger dust fracRockRoadRecycle.com





An Engart Global wet dust extractor unit.

tions before the air enters the individually tested HEPA filter ensuring 99.97 percent efficiency at 0.3 microns.

Single-phase dust extractors

The Husqvarna S-line (S 13, S 26 and S 36) consists of professional dust extractors designed to meet strict demands. These compact, lightweight machines are equipped with one, two or three powerful single-phase electric motors with separate cooling, capable of continuous workday running. This makes them suitable for all construction, abatement and restoration jobs as well as for use with electric power tools.

Furthermore, a dust extractor can also act as a substitute for a cube vac, with this being primarily due to jet pulse cleaning of the conical main filter that ensures dust is continuously removed. A Longopac® collecting bag further enables the machine to be emptied quickly and simply, while individually tested and certified HEPA filters provide superior and safe dust collection, even on fine sanding and gypsum dust. Longopac bags are completely sealed, meaning that the operator never comes in contact with the dust.

AirflowTM tool holders have also been developed to increase airflow across tools to improve diamond cutting and life. At the same time, the increased airflow creates a cyclone effect in the grinder head and enables the dust extractor to pull dust off of the floor more effectively.

Breaking 'bad'

Epiroc, through its SB hydraulic breakers, has also taken measure to ensure its equipment protects operators from dust emissions through an integrated water-spraying channel. The SB hydraulic breakers series are said to be the industry's only breakers equipped as standard with an integrated channel for water spraying. A feature is designed to improve the working environment on construction and demolition sites around the world. The use of an integrated water channel ensures that operators of SB breakers can spray water at the source of dust creation to keep dust levels down. This helps to improve the working environment, enhances visibility and prevents dust from seeping into the bushings. For U.S. customers, the water-spraying feature can assist in compliance with OSHA's final silica rule dust regulations. SB breakers are also designed to protect operators and equipment by reducing noise and vibration.

Rammer has also been at the forefront of dust control advances for its range of hydraulic breakers and demolition attachments. For hammers, the company has developed a special water jet system designed to suppress airborne materials or dust during hammer operation. The Rammer water jet system consists of a hydraulically driven water pump and specially designed hammer housing equipped with necessary spray nozzles and water supply lines. The hydraulically driven water pump is powered by either the hammer supply circuit or from another high-pressure hydraulic source from the carrier. Depending on the installation, Rammer Jet Pump is activated by either the operator or automatically in conjunction with the hammer operation.

The Ramair air flush system is designed to prevent dirt from entering the hammer's tool chamber and keep the tool grease flowing towards the lower tool bushing. The air flush system is most beneficial in applications where the material is highly abrasive and dusty, but is also beneficial when the hammer working position is horizontal or above — such as tunneling and scaling applications. The Ramair system consists of a hydraulically driven air compressor fitted on the carrier, hoses for the hydraulics and compressed air and a built-in channel in the hammer's power cell. The air compressor is powered by the hammer supply circuit and is activated during hammer operation.

Rammer has also developed a special AGW unit specifically designed for the company's PRO hammers which are ideal for tunneling applications, heavy demolition and quarrying.

Advanced systems Europe leading the way?

Many European countries have had stringent, enforced dust control legislation in place for years. This has led to the development of systems and solutions purpose-designed for limiting the effects of hazardous airborne emissions, such as dust from concrete floor grinding and polishing which may contain asbestos. Blastrac has recently launched four new single-phase dust extractors with such features as a permanent reverse air pulse filter cleaning system, which delivers high suction performance with sealed airflow that gives increased productivity.

The Italian manufacturer of equipment for concrete floor grinding and polishing, Klindex, is also involved in the development and manufacture of high-efficiency dust extractors. Klindex recently launched two new models in its Supervak series, X2 and X3, which according to Klindex are the only single-phase industrial dust extractors with an embedded cyclonic pre-separator system. The Supervak X series is equipped with an automatic airpulse cleaning system tank, with air blasts regulated by an electronic timer that keeps filters clean. A pre-separator cyclone is integrated into the drum, which can hold over 90 percent of the dust collected in plastic bags. The drum is

shock proof, and has a very futuristic design fully produced in Italy.

Last year Scanmaskin launched two new industrial vacuum cleaners, ScanDust 8000 and ScanDust 3600. The machines are equipped with Hepa filters that take care of any unhealthy particles, as well as being fitted with a filter guard that informs the user when to clean the filter. In order to keep the filters as clean as possible, its "jet-pulse" system cleans using pulses. The machine's coarse filter package is made of polyester with a high degree of separation. The design and filter area of the two new machines are also designed to maximize suction capacity, with both the ScanDust 3600 and ScanDust 8000 being fully constructed in steel as well as fitted with non-marking powerful, durable and puncture-free tires and comes equipped with Longopac.

Some years ago in Sweden, a new dust extraction technique for the construction industry was launched. The technology in itself was not new, but offered a very efficient way to control dust particles in the air by ionizing the air in the workplace. The ionized air makes the dust particles lump together and through increased weight they fall to the floor ,making them easy to be sucked up by a dust extractor. The company Renluftsteknik AB has used the technique in its Oxysan series of air cleaners that was launched on the Swedish market some years ago. There are now four models in the Oxysan series: Oxysan 200, Oxysan 1000 and the larger Oxysan 2000 and Oxysan 4000. The complete Oxysan range has been upgraded recently and the industrial ionizers today can cover a workplace area from 20m2 to 400m2. The technology is 100 percent ozone free and not only eliminates hazardous dust, but also odors and bacteria, making it useful in many types of environments.

More in the future?

The above outline some of the developments that have occurred in equipment designed to make construction — above or underground — a safer and healthier place to work. There is little doubt that many of these developments are being driven by increasing concern by companies regarding the welfare of their workers at the sharp end of their operations. However, manufacturers are rising to the challenges being presented, and are now producing equipment and solutions which will be refined to further improve working conditions.



The robot uses a water based-dust control system which is ideal for dealing with airborne contaminants.



Joseph A Hardick, CPA, CCIFP

Getting to the bottom line

With Dannible & McKee, LLP

After the new tax law — depletion becomes top tax saver for pit owners

Like depreciation, depletion is an accounting item that is the allocation of costs associated with utilizing assets to generate revenue. Where the two differ is that unlike depreciation, which allots an expense associated with a physical asset such as equipment, depletion allots an expense associated with the extraction of natural resources. The process of mining natural resources entails bringing machinery to the ex-

traction site, drilling into the ground and extracting it to the surface for sale or use.

With depreciation, it is easier to ascertain the useful life of the asset at hand and match it with the revenue that will be generated from the asset. Depletion, on the other hand, requires a less precise estimate. The Internal Revenue Code (IRC) Sections 611 and 613 provide two different methods one can allocate depletion: cost

depletion or percentage depletion.

Cost depletion is determined using the adjusted cost basis of the asset. When a taxpayer purchases the rights to a site, which he believes holds valuable natural resources, he estimates the amount of resources under on site. He would then take his adjusted basis (purchase price) and divide it by the estimated amount of resources to be recovered. This calculates the cost

per unit that can be deducted when each unit is ultimately sold to another party.

Unlike cost depletion, percentage depletion ignores the adjusted basis of the site in calculating depletion. Rather, this method uses specified percentages provided by the Internal Revenue Code. These percentages dictate the amount of expense allocated to a sale. The percentages range from 5 to 22 percent based on the types of resources being extracted. The 5 percent category includes, but is not limited to: gravel, sand, and stone.

These percentages are multiplied by gross income on the sale of the resource. One important provision of percentage depletion is that in no event may the deduction exceed 50 percent of the taxable income from the property before the depletion. Even given this limitation, percentage depletion has one major advantage over cost depletion: it is possible to claim aggregate depletion deductions that exceed the original purchase price of the site. That means we get a deduction even after we have expensed the entire basis.

For example, if a taxpayer purchases the rights to a mineral interest for \$1,000,000, he cannot only deduct the full purchase price, but additional deductions provided by the percentage depletion method. Thus, as long as the taxpayer is generating income from the site, he gets a percentage of that income as a deduction from income even after the full \$1,000,000 cost basis is expensed to \$0. This gives pit owners a "free" deduction every year. Under cost depletion, the taxpayer may in no circumstance write off more than his \$1,000,000 purchase price.

Congress enacted the percentage depletion method to incentivize taxpayers to invest in the development of natural resources. Unfortunately for taxpayers, the introduction of the Alternative Minimum Tax (AMT) effectively took back this benefit to raise taxes.

In accordance with IRC Section 57(a)(1), the depletion deduction taken, over the adjusted basis of the site, is added back as a preference item to AMT. In instances where percentage depletion is utilized, a taxpayer would have a smaller regular tax liability compared to use of cost depletion. However, the AMT addback would result in an additional tax liability due to AMT being higher than their regular tax liability. This renders percentage depletion less effective.

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Bottom line from 11 _

Act is the biggest change to the Internal Revenue Code since 1986, with most provisions effective January 1, 2018. Included in the provisions are significant changes to AMT. For C-Corporations, AMT has been entirely eliminated. This means that companies will not be negatively affected by taking percentage depletion over cost depletion due to AMT.

For pass-through entities (S-Corporations and Partnerships), the percentage depletion addback is still applicable as Individual AMT. However, the phaseout thresholds have been increased significantly. Pass-through shareholders will be less likely to be subject to AMT,

which is why percentage depletion will bring them regular tax benefits without diminishing them through AMT addbacks.

The new tax law has given pit owners tremendous benefits; please do not miss the tax savings available.

For over 40 years, Dannible & McKee, LLP has worked with clients engaged in mining activities whether it be for construction material, gravel, or stone. Throughout that time, we have utilized percentage depletion to minimize our client's regular tax liability while minimizing AMT. This synopsis highlights only one of the important initiatives taxpayers must take in order to minimize their Corporate and personal tax liabilities. With the newly enacted Tax Cuts and Jobs Act, it is more important than ever to understand the tax implications that effect anyone involved with extracting natural resources.

Joseph A. Hardick, CPA, CCIFP is a Tax Partner with Dannible & McKee, LLP, a Syracuse, NY based public accounting firm with more than 90 professionals has been providing services to the construction industry since its inception in 1978. You may contact him at (315) 472-9127 or visit the firm online at <u>www.dmcpas.com</u>.



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by Chris Collins, Asphalt Project Manager at S.T. Wooten

Objectives for safety and liability are always amplified when working crews are in close proximity to the busy driving public. Photos courtesy of S.T. Wooten

S

moother roads can mean a smoother and safer ride for drivers. That's the scenario the team at S.T. Wooten set out to create last summer when working to re-pave a busy 10.8 mile stretch of U.S. Route 64 between Zebulon and Rocky Mount in North Carolina.

Open-graded friction course (OGFC) was used on the project to help improve tire-grip and reduce vehicles hydroplaning or skidding out of control. The laydown included the milling of existing pavement at a height of 2.5 inches followed by the placement of a surface mix and the OFGC. A high percentage of reclaimed asphalt pavement (RAP) and recycled asphalt shingles (RAS) were incorporated into the mixes.

Executed in just two months, the finished project is helping to facilitate a better overall experience for drivers on the road. It also received a Quality in Construction (QIC) Award from the National Asphalt Pavement Association for "excellence in construction of an asphalt pavement" and is in contention for



While rush-hour road congestion posed the biggest obstacle during construction on U.S. Route 64, traffic management was a constant concern.

the organization's prestigious Sheldon G. Hayes Award.

However, that's not to say there were no challenges along the way. Heavy traffic was something the crew had to deal with strategically and proactively for the safety of the public and work crews.

Safety is never understated

While rush-hour road congestion posed the biggest obstacle during construction on U.S. Route 64, traffic management was a constant concern. Objectives for safety and liability are always amplified when working crews are in close proximity to the busy driving public. As S.T. Wooten's Health & Safety Manager, Giovanny Morales pointed out, it takes commitment and careful planning to achieve high safety levels on road construction projects.

"Preparing a road work zone is much like prepping for a storm; you can't predict what is going to happen at the site at any given time. Because people's safety is at stake, for both the general public and working crews, it's that much more important to be detailed in preparation to keep the site secure and eliminate risk factors that can come with high volumes of traffic," said Morales.

Seven steps for safety

Every road paving project is different, but commitment to safety and liability should be consistent. Outlined below are some practical steps Wooten teams took to secure the U.S. Route 64 work zone based on the best practices implemented across each road construction project they undertake.

1. Tap well-trained staff: First and foremost, the field staff and supervisors have the expertise needed to install a safe work zone. Each staff members goes through a vigorous process for training and certification to ensure they're well equipped to prepare for these types of environments.

2. Follow the rules: The team is careful to ensure safety precautions are taken for the work zone based on the contract for the project and NCDOT specifications. These guidelines provide a good roadmap for the installation of advanced warning signs that alert the public of the work zone and provide information on traffic patterns and lane closures.

3. Take things personally: While it's important to follow standard safety precautions, crews always strive to put a personal touch on preparation. By taking a step back and asking if they're confident that a significant other or loved one could navigate the area easily and safely, the team assumes an extra level of ownership to ensure everyone's safety.



Executed in just two months, the finished project is helping to facilitate a better overall experience for drivers on the road.

PG 15 RockRoadRecycle.com

4. Do daily inspections: As with all projects, Wooten performed routine drive-throughs of the U.S. Route 64 work zone to keep an eye out for potential safety hazards, while also making sure signage remained set up and spaced accordingly. Conducting regular walk-throughs inside the work zone also helped them be on the lookout for potential safety hazards workers or drivers might encounter on the job site.

5. Stay alert with teamwork: With so much traffic coming through a busy highway, onsite workers need to be extra attentive — both for themselves and the other crew members. Ongoing risk factors, like distracted driving, make it important for crews to keep their eyes open, communicate with each other and maintain a safe distance from vehicles on the roads.

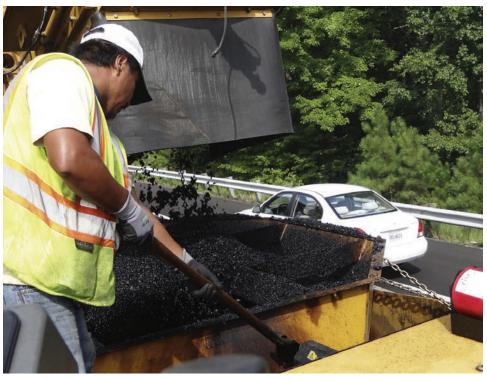
6. Keep traffic under control: In addition to planning and ongoing maintenance surrounding the job site, working closely with local law enforcement plays a major role in traffic control. Leveraging police presence strategically in the roadwork area can often serve as both a warning signal for drivers and a deterrent for speeding.

7. Document everything: Aim to do things the right way at all times. As part of that commitment, document the job's progress in detail with plenty of photos and videos of the site when possible and include progress on construction. Like an insurance policy, it helps to ensure back up in case an accident or other issues occur in the area.

Driving ongoing success

Work zones in high-traffic areas can be dangerous to both construction workers and the public if they're not properly secured. To avoid the hazards that might arise, road construction teams can create a plan of action and take necessary steps, like those above to safely secure and maintain their work zones. With a proper plan that's designed and deployed by well-trained staff, teams and crews can ensure they are prepared to handle what might come their way on the roads.

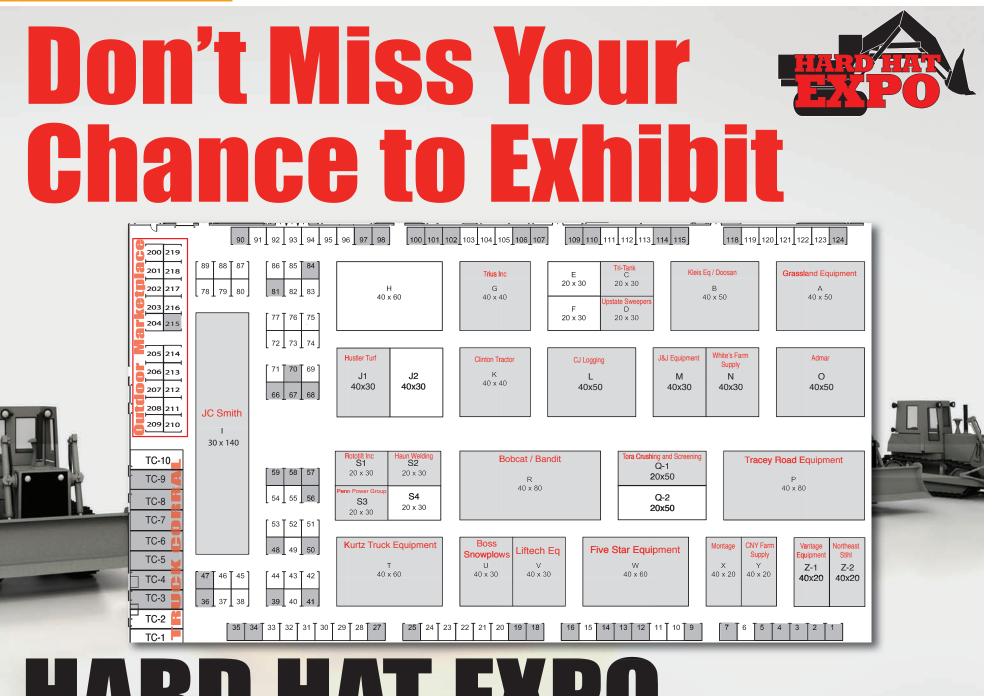
Though the driving public isn't always happy about work zones, they reap the ultimate rewards from all the hard work. The benefits typically outweigh the public inconvenience in the long run, especially when construction practices and procedures are weaved with a tight web of safety. A commitment to protecting the community and individual employees helped S. T. Wooten get the job done right on U.S. Route 64. And, they're happy to say that travelers will enjoy a smoother ride through the area for years to come.



A high percentage of RAP and RAS were incorporated into the mixes.



The laydown included the milling of existing pavement at a height of 2.5 inches followed by the placement of a surface mix and the OFGC.



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Equipment Co., Inc. is

pleased to announce that Chris Kurz has been named branch manager at Southeastern's North Canton, Ohio location.

Kurz's responsibilities

will include overseeing

the sales, service and

parts teams assuring

customers receive ex-

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"We are very fortunate

to have Chris leading our North Canton branch," said Charlie

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ment. "His extensive experience with the company, knowledge of the industry and his strong relationships with clients and suppliers will prove invaluable to our continued

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ed to branch manager, Kurz was a sales representative at Southeastern for twenty years. He earned his bachelor's degree in business from Muskingum University. A resident of Canal Ful-

ton, Kurz enjoys boating, fishing, golfing and spending time with his family. He and his wife have a daughter and a son who are both teenagers.

Southeastern Equipment has been selling, servicing and renting heavy machinery since 1957. The company has eighteen locations throughout Ohio, Michigan, Kentucky, and Indiana.



Kurz's responsibilities will include overseeing the sales, service and parts teams assuring customers receive excellent service in every area. Photo courtesy of Southeastern Equipment



October

Source: EHS Today / September 13,2018 Mark A. Lies III, Benjamin D. Briggs, Adam R. Young, Craig B. Simonsen



For employers who are obligated to keep their employees safe during working hours, disaster preparedness is critical.

uthorities are closely monitoring the ongoing hurricane season in the wake of Hurricane Florence. For employers who are obligated to keep their employees safe during working hours, disaster preparedness is critical. What follows is an updated primer on preparing for an emergency; taking action during an emergency; and cleaning up and resuming business after an emergency.

Preparing for an emergency

29 C.F.R. 1910.38 requires all workplaces with more than 10 employees to develop a written Emergency Action Plan (EAP), when required by an OSHA standard, to identify and coordinate necessary employer and employee actions during an emergency. At a minimum, the EAP must include the following elements:

· Means of reporting emergencies (fires, floods, etc.)

• Evacuation procedures and assigned exit routes • Procedures to account for all employees following an evacuation

• Procedures to be followed by employees who must remain behind to attend to critical plant operations before evacuating

• Rescue and/or medical duties for employees who are assigned and trained to perform them

• Names or job titles of people who can be contacted for more information about the plan.

In addition to these required elements, it is recommended that employers also consider including the following in the EAP:

• The location of the nearest hospital or emergency medical center

• The type of alarm system used to notify employees of an emergency

• Procedures for protecting information, including procedures for storing or maintaining critical documents and records

• The location and permissible uses of protective equipment such as portable defibrillators, first aid kits, dust masks, fire extinguishers, etc.

• The location of televisions or radios for further information during a disaster.

Ensuring the development of an effective EAP also requires the employer to train employees to understand their roles and responsibilities under the plan. When conducting this training, the employer must address literacy, language and cultural barriers to ensure that the training is effective. Employers also must document the training.

OSHA has posted links and recommendations on its website to help employers prepare for hurricanes. The website includes tips regarding how to create evacuation plans and assemble emergency supply kits. The Environmental Protection Agency also has provided tips related to hurricane preparedness on its website.

It is important to note that even employers who hire outside contractors to clean up after a disaster must recognize their obligations for worker safety.

Responding to an emergency

Communication during an emergency is critical to maintain organization and prevent panic and injuries. For example, not all emergencies require an evacuation of the workplace. In some cases, such as flooding, storms or the release of biological or chemical agents, staying indoors is safer for employees. The first question most people ask during an emergency is "Should I stay or should I go?"

Employers can guide employees to the appropriate course of action by having an alarm system that emits a different signal for "evacuate" emergencies than for "stay put" emergencies. Alternatively, the alarm system could be programmed to give specific verbal instructions following the initial alert. Employers must consider the needs of disabled employees (e.g., those who are hearing or visually impaired) in selecting any alarm system.

Employers should have an effective means of communicating with employees about the following during an emergency:

• Whether to evacuate or stay put

• How and where to get information about the emergency itself;

• What areas of the building to avoid

• How and when it is safe to return to the work area

• How and when it is acceptable to contact family members and loved ones.

Picking up the pieces

Once the proverbial dust settles after an emergency, hazards to employees can still remain. For example, downed power lines in a flooded parking lot can injure or kill employees leaving the building after the storm passes. Hazards are even greater for employees who are tasked with cleaning up after an emergency. Employees who are actually performing cleanup work after a flood, storm, earthquake or other disaster may be exposed to one or more of the following hazards:

• Exposure to hazardous materials such as asbestos, mold, lead or chemicals

- Downed power lines and trees
- Heat illness
- Confined spaces
- Blood-borne diseases or other contagions
- Mosquito-borne diseases such as Zika virus or
- Structural destabilization.

Disaster from 18

Broa

Lenox Ave. (Rt. 365A)

OSHA's website provides a Hazard Exposure and Risk Assessment Matrix for Hurricane Response and Recovery Work, outlining the most commonly performed duties during hurricane response and recovery work, and the hazards employees could face. OSHA has developed specific standards to address many of these hazards. For example, OSHA's Hazardous Waste Operations and Emergency Response standard, 29 C.F.R. § 1910.120, applies to employees who are performing cleanups of hazardous waste or other hazardous materials. OSHA's asbestos and lead standards require employers to evaluate the level or exposure to employees, provide appropriate protective equipment, and in some cases, conduct regular monitoring of air quality in the work area.

In addition to these specific standards, other more general requirements will also come into play. For example, OSHA's welding and cutting Lockout/Tagout, confined space entry and fall protection programs may come into play, even if no OSHA standard specifically addresses the type of cleanup activity taking place.

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Finally, as always, OSHA's General Duty Clause requires employers to provide a workplace free from recognized hazards. Accordingly, even if no OSHA standard applies to a particular activity or hazard, employers may still face citation liability if the hazard is reasonably likely to cause serious injury or death and there is a feasible means of abatement to correct the hazard. Therefore, before allowing employees to commence any kind of cleanup work, the employer must conduct a job hazard analysis (JHA) to identify and address potential hazards.

It is important to note that even employers who hire outside contractors to clean up after a disaster must recognize their obligations for worker safety. OSHA's "multi-employer worksite" doctrine allows the agency to issue citations not only to the employer whose employees are actually performing the cleanup work, but also to other employers who either control the means and methods of work of the employees. Accordingly, employers may be liable for the safety precautions provided to employees who are brought onto their worksites following a natural disaster.

Recommendations

It is imperative that employers develop and implement organized and clearly communicated procedures for responding to a disaster. A well-planned and executed emergency response program will help prevent panic, thereby minimizing employee injuries and damage to property. We recommend that employers consider the following:

• Develop an EAP that covers a wide variety of potential emergencies and gives employees clear guidance on what to do in each scenario

• Be cognizant of hazards employees may face even after the immediate danger has passed

• Train employees in evacuation plans and other emergency response procedures

• Conduct a job hazard analysis and review applicable OSHA standards before assigning any employees to perform cleanup work

• Evaluate the safety record of any independent contractor hired to perform cleanup work, including investigating the contractor's worker's compensation history, its OSHA logs and its history of citations from OSHA.

Mark A. Lies II is a partner in the Chicago office of Seyfarth Shaw LLP, a firm that has more than 850 attorneys in 15 offices providing a broad range of legal services in the areas of labor and employment, employee benefits, litigation, corporate and real estate. In his occupational safety and health law practice he has represented employers on a national basis in complying with occupational safety and health regulations.

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Ensuring the development of an effective EAP also requires the employer to train employees to understand their roles and responsibilities under the plan.





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Ironworker Craft Training program expands to 18 units

The Steel Erectors Association of America recently announced three additional companies have joined the nationwide network of SEAA/NCCER Ironworker Training Units and Assessment Sites, bringing the total to 18 providers.

Building Envelope Systems of Plainville, MA, providing structural steel, miscellaneous metal and metal panel construction services, completed its audit in May 2018. The company plans to use the ironworker curriculum with current project managers, assistant project managers and field staff. "We are a growing company with a lot of ambitious young talent that we desire to grow into industry leaders in their respective specialties," said Fermin Goitia, project executive. "We also have seasoned employees that will benefit from refresher training." Using the SEAA/NCCER Ironworker curriculum, Building Envelope Systems will assess knowledge areas then fill any gaps with training from specific modules.

"The SEAA/NCCER Ironworker Craft Training Program provides our company with access to industry professionals, networking opportunities and a solid training path," said Goitia.

Two other companies scheduled to complete audits by the fourth quarter of 2018 are Deem Structural Services of Longview, Texas and CSE Inc. of Madison Heights, VA.

Deem Structural Services, an AISC Advanced Certified Steel Erector, provides structural steel services in Texas, Oklahoma, and Louisiana. "The availability of skilled workers is currently the biggest challenge we face as an industry and is only going to get worse as the current workforce continues to age," said David Deem, president. "We believe the training program will not only improve the skill level of our current workforce but will help in the recruitment of new employees by providing a clear, defined pathway for career development."

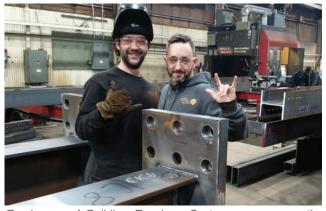
CSE Inc., a SEAA member since 1994, was selected to receive the 2018 SEAA Craft Training Grant. Designated for member companies who are newly implementing SEAA/NCCER Ironworker Training and Assessment programs, the grant covers initial setup, training for administrators, instructors and coordinators and custom training materials for Ironworker Levels 1-3 or similar curriculum.

As a previous recipient of SEAA's Project of the Year award and Zero Accident and Million Miles awards from the Specialized Carriers & Rigging Association, CSE puts quality, safety and integrity at the core of its services, which includes erecting, rigging, crane and industrial contracting services.

"CSE jumped into the SEAA/NCCER program by partnering with Buckner Companies and Schulz Iron Works to utilize existing resources, while working with Adaptive Construction Solutions for assistance with training on-boarding. This is exactly what SEAA's craft training program was designed to do — create a network of SEAA members willing to collaborate and share resources in order to expand the availability of a trained and qualified workforce," said Tim Eldridge, President of Education Services Unlimited and SEAA's Craft Training and Assessment Administrator.



About Steel Erectors Association of America Founded in 1972, SEAA is the only national trade association representing the interests of steel erectors, fabricators, contractors and related service providers. The association promotes safety, education and training programs for steel erector trades, including its Ironworker Craft Training curriculum. The association works in partnership with other steel construction, design and steel product organizations to protect the interests of those who construct steel structures. Learn more at <u>www.seaa.net</u>.



Employees of Building Envelope Systems are among the "young talent" the company hopes to train into industry leaders using the SEAA/NCCER Ironworker Craft Training program. Photo courtesy of Building Envelope Systems

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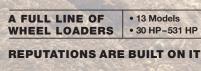
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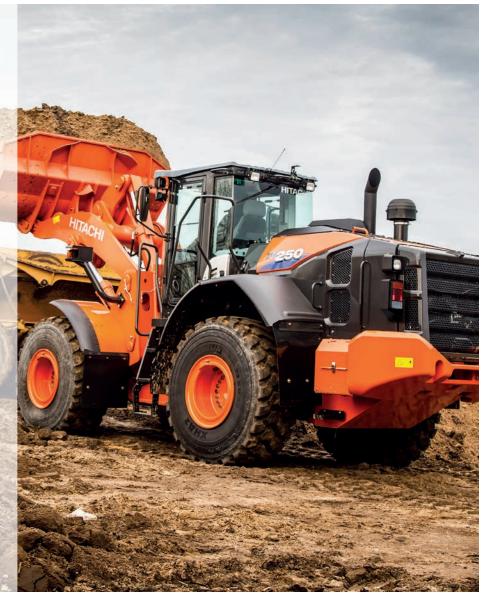
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John Deere updates engine technology and makes model adjustments to 310L EP backhoe and 210L EP tractor loader

MOLINE, IL — The John Deere 310L EP backhoe and 210L EP tractor loader are the latest construction equipment models to undergo updates, with a focus on engine technology and other model adjustments to improve productivity and uptime and lower daily operating costs.

"Our goal is to continue to support the "EP strategy" and to offer an effective backhoe solution under the 56-kW power level, which allows for greater flexibility to meet emission regulations," said Brian Hennings, product marketing manager for backhoes and tractor loaders, John Deere Construction & Forestry. "This solution offers rental customers simpler technology, reduced maintenance requirements, greater reliability and a lower acquisition price."

The 310L EP and 210L EP feature a Yanmar 3.3L Interim Tier 4 diesel engine. At 69-horsepower (51-kW), it complies with EPA FT4 emission regulations without aftertreatment, minimizing machine complexity and the number of parts needed to maintain a fleet. A new variable displacement hydraulic pump delivers increased flow and enhanced power man-



Loader lift times are 26 percent faster due to increased hydraulic pump flow and larger diameter hoses and tubes.



A new variable displacement hydraulic pump delivers increased flow and enhanced power management. Photos courtesy of John Deere

agement. As the engine load increases, the pump modulates flow in order to balance the power split between hydraulics and the transmission.

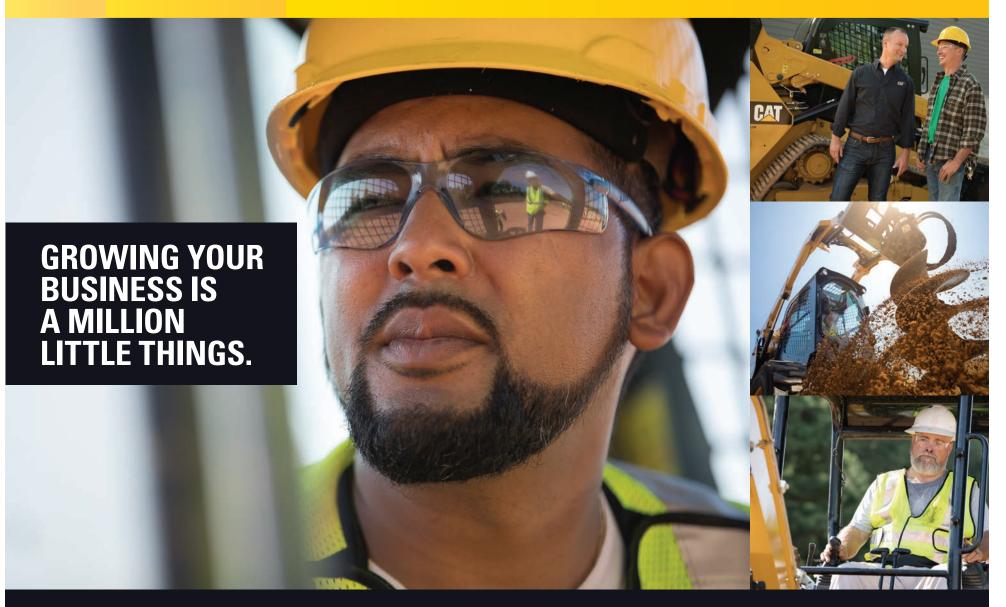
Additionally, both John Deere tractor loaders — the 210L EP and 210L — received a loader performance boost. Loader lift times are 26 percent faster due to increased hydraulic pump flow and larger diameter hoses and tubes. Loader lift capacity increased 18 percent, from 5,342 lbs. (2,466 kg) to 6,340 lbs. (2,876 kg).

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Catching up: five questions with Nick Tullo, SDLG North America

Nick Tullo, sales manager, SDLG North America, has been with SDLG since its introduction to North America in 2013. As a pioneering "value" option for construction equipment, SDLG has carved out a unique space in the marketplace. Companies are buying up SDLG wheel loaders for the value proposition: they pay for the time-tested features you need, and not for the more expensive features of a premium brand that you don't.

Q. SDLG has now been in North America for several years. How has the market responded?

A. We're seeing a good bit of success. A lot of companies have come to realize the benefits of having a "value" brand for construction equipment. Seasonal business, such as snow removal and landscaping, has really latched onto SDLG wheel loaders because they aren't paying a larger price for equipment that isn't running on the job site year round. And there are a lot of companies that prefer to pay for only the features they need for their own applications, rather than purchasing more expensive machines with features they don't need. We see this with automobile handlers, recycling plants, smallscale construction and other materials handling operations.

Q. The latest edition to the SDLG lineup is a compact wheel loader. Has it caught on in North America? Do you foresee other types of compact equipment becoming a trend?

A. The compact 1.03-yard capacity loader with the 1.33-yard optional general purpose bucket that we introduced at CONEXPO 2017 has done quite well. In fact, we are selling them as fast as we can get them in stock. A lot of companies like that they can use them in place of skid-steers, and then still have the functionality of a wheel loader. They are very easy to maneuver and don't cause damage to job site grounds. If they fit a business's application and capacity needs, then they are very good loaders to have in a fleet. I think compact equipment is going to grow in popularity due to its combination of price, value, maneuverability and the ability to fit into tight working

quarters.

Q. SDLG has positioned itself as a "value" brand that is a good alternative to used premium machines. Are consumers actually making this choice?

A. They are, actually. We have had a lot of customers tell us that they were looking at used premium machines, but when they learned about SDLG as a "value" brand, they decided to go with a new piece of equipment that is backed by a warranty instead. The relationships that customers have with their dealers are particularly important here. Customers rely on their local dealers for expertise, support and service, and buying a new machine from a trusted partner brings a lot of piece of mind. Not to mention, the total cost of ownership is often lower for a new machine than a used machine, which will inevitably need more repairs and service at the outset. A lot of them don't need the features of a premium machine, either, which makes buying a new "value" machine a better fit for their particular applications.

Q. Is SDLG growing in North America?

A. It is, and while I can't give specific numbers, I can point to the fact that

several new dealerships have begun selling the brand in the last year. They are finding that having a "value" brand is a good option for many customers. We have also been able to introduce new models, such as the compact wheel loader mentioned earlier, with plans to roll out additional machines in the future. With the support of an expansive, seasoned dealer network behind us, we're confident in SDLG's future growth in the region.

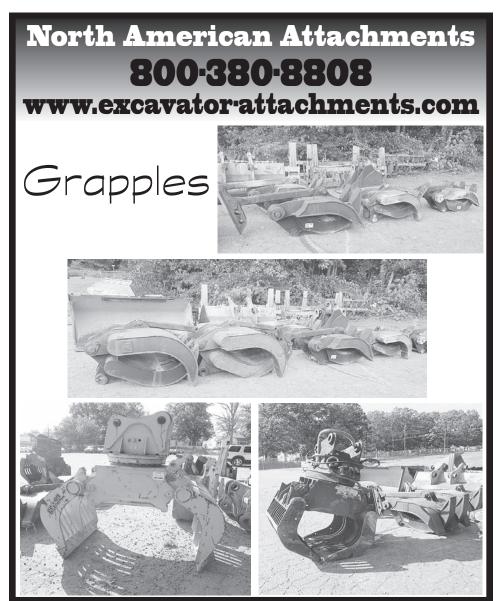
Q. What are SDLG's plans for the future?

A. We are planning on introducing new wheel loader models, including a larger capacity machine in the near future. And we're working with our dealer network, which has been continually expanding since SDLG's introduction, to strengthen the viability of a "value" brand as a great option for a large number of customers in North America. That includes educating the market on the value proposition, but also ensuring we provide top-notch service and support to the customers who have already purchased from us. SDLG is not just here to sell machines, but to ensure they remain valuable tools with great return on investment throughout their lifecycles.



Nick Tullo, sales manager, SDLG North America, has been with SDLG since its introduction to North America in 2013.

Photo courtesy of SDLG



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Ways to improve construction site safety

Source: EHS Today / July 12, 2018



by Kelsey Rzepecki

The term "time is money" is quite literal in the construction industry. The constant pressure project managers and crews face to meet deadlines and stay within budget often causes safety to fall to the wayside. In 2016, out of 4,693 worker fatalities in private industry, one in five were in construction. Implementing each of these strategies can help improve health and safety in construction on any job site:

Set safety expectations

OSHA's Safety and Health Regulations for Construction: OSHA 29 CFR 1926 serves as a baseline for safety requirements. Safety management in construction must reinforce these regulations and go beyond by continuously leading by example and making safety a priority before work begins. By setting clear expectations for safety from the beginning, managers can set the tone to ensure each worker understands their personal responsibility for safety. This will help everyone work together toward the common goal of preventing injuries.

As a safety manager, it's important to "walk the talk" when it comes to workplace safety and health. "The example you set, and the way you talk to workers about safety, has a huge impact on the company's safety and health program, safety culture, and ability to reduce injury and illness," according to OSHA. When workers are able to recognize the value management has for their well being, it helps build trust.

Some workers may never interact with senior management. It's found that these employees are more likely to value and internalize safety messages when they are occasionally delivered by higher-level management rather than passed down in the chain of command. Make it clear that it is everyone's responsibility to follow rules, procedures, and best practices to prevent accidents on the job site. Incorporate safety language into policies and procedures so it becomes ingrained as a natural part of a worker's daily routine.

An informal safety talk at the start of each work day can make safety managers' jobs easier by improving worker understanding of safety expectations, preventing wasted time on inconsistencies, and minimizing chances of error. Toolbox talks continue to be the most effective means of communicating safety to workers. It sparks valuable discussion on general safety and information about safer tools, equipment, materials, and processes.

Utilize OSHA's website for a variety of topics from emergency planning, tool and equipment safety, ladder safety, personal protective equipment and more to help create or obtain a presentation. Always make sure the content is relevant to your specific work site and feature engaging elements like visuals and anecdotes that workers can connect with.

Promote a nonthreatening environment

The authors of Crucial Conversations conducted a survey of 1,500 workers in 22 organizations and found 93 percent of employees say their workgroup is currently at risk from a safety issue that is not being discussed. In addition, almost half knew of an injury that occurred because someone didn't speak up. Trust and quality of relationships heavily influence the safety and overall productivity of workers.

Always encourage employees to speak up when they see something going wrong; this can significantly help to avoid incidents, injuries, and fatalities. To increase chances of participation, ensure workers feel comfortable to ask questions and raise safety concerns without fear of retaliation or bullying. This will make it easier and quicker to address issues head on to prevent them down the road.

OSHA finds that managers often avoid giving feedback to prevent confrontations. If improvements to a worker's performance can be made, approach them in a constructive, positive way. Make sure to avoid judgmental statements and criticisms and focus on the behavior itself, not the person and their values or personality.

Plan ahead

Ensure all pre-work activities, such as approvals, are completed before work begins. A thoughtful planning process can help the work day start on a more efficient and safe foot. Implement zoning to block off areas where certain tasks will take place, install nets and catch platforms, and apply any other safety measures.

Take advantage of technologies

Provide new opportunities to address safety challenges and experience immediate cost savings. Technology can be worth the investment to help bridge time and distance constraints, improving efficiency and safety in the long term.

The growth of digitization in construction now makes it possible to make real-time decisions remotely. Unmanned aerial vehicles (UAVs), known as drones, are already in use in the industry and provide a convenient way to conduct site inspections, observations, and safety audits. Managers can use smartphones, tablets, and project management software to share project data instantaneously from remote work sites and to workers and other onsite



supervisors using a cell phone or tablet. Allowing everyone to have immediate access to the same information eliminates costs of equipment that must be updated and maintained, and it keeps everyone consistently on the same page.

A recent report by Dodge Data & Analytics found that 82 percent of contractors who use wearable technology see instant site-safety improvements. Wearable devices like smart watches, glasses, and clothing allow managers to have better visibility of the work site and workers. These devices have the ability to alert managers to activities going on in the field and even improve response time when injuries occur, like the ability to detect when an employee slips, trips, and falls, triggering an automatic alert to designated site personnel, including medics. These devices also keep track of locations of workers and procedures on the job site. Trigger alarms exist to streamline evacuation procedures in the event of an emergency. These capabilities offer immediate safety benefits. There are also a number of free iOS applications that exist to promote hazard prevention efforts.

Easy to implement safety solutions

One of the most important parts of safety on a construction site is clear and effective communication at all times. An easy way employers can communicate with workers in different areas on a job site is through safety signs and labels. Comply with OSHA and ANSI standards and reinforce safety anywhere on the work site with easy to install premade construction labels and signs. For on-demand custom, site-specific procedures and instructions, DuraLabel printers and supplies are a reliable safety communication solution. All supplies are built to last in the harsh conditions that exist in the construction industry.

Thoughtfully implementing each of these strategies will help to prevent downtime, chances of injury, and improve overall safety on a construction site.

Kelsey Rzepecki writes for Graphic Products, makers of the DuraLabel line of industrial label and sign printers.





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Ten most-asked questions about the OSHA inspection process

by Dave Blanchard

Source: EHS Today June 7, 2018

How exactly does OSHA work? Is the government really out to get every company and to cite every workplace safety violation? What happens when an OSHA inspector shows up at your door? And can you actually beat an OSHA citation?

Who better to know — and reveal — the secrets of what prompts and occurs during an OSHA inspection than former OSHA officers? At the ASSP 2018

show in San Antonio, Texas, two retired OSHA officers who now work for consulting firm Safety Controls Technology — Nick Walters, formerly regional administrator for Region V (Chicago) and Tom Bielema, formerly area director for the Peoria, IL OSHA office — shared their field experiences. Walters and Bielema have a combined 47 years of OSHA experience.

1. Why did OSHA pick my company for an inspection?

OSHA follows a number of priorities when determining which facilities to inspect. Those priorities include:

• Imminent danger

• Fatalities and catastrophes

 \bullet Sever injuries (i.e., hospitalization, am-

putation or loss of an eye)

• Employee complaints

• Referrals, whether from law enforce-

ment, other government agencies or the media
Programmed inspections, such as National Emphasis Programs (NEP) or Local Emphasis Programs (LEP)

2. Can I ask for a copy of the OSHA complaint? Yes, absolutely.

3. Can I ask OSHA to get a warrant?

Again, yes, but you should seriously consider whether you really want to raise the idea in OSHA's mind that you might have something to hide. All OSHA personnel will present their credentials if you have any reason to question the legitimacy of the inspection or the personnel.

4. What documents am I required to provide to the Compliance Officer?

Typical documents requested include the organi-

zation's Federal Employer ID number, OSHA injury and illness logs, written programs and training records.

5. Can I limit the scope of the inspection?

Yes, particularly to manage and limit the risk of providing OSHA more information than you necessarily ought to. For instance, resist the temptation to offer OSHA a full tour of your facility or campus. You should definitely require the Compliance Officer to follow all workplace safety procedures. Also, let



them know about any trade secret areas in your facility. You should know the scope of the inspection and limit areas of access and travel routes (where appropriate) to only the areas within that scope.

6. How does OSHA decide whether or not I get a citation and what the penalty amount will be?

Penalties are calculated based on severity as well as probability, with mitigating factors including history and good faith. There are four violation types:

• Willful: a violation that the employer intentionally and knowingly commits or a violation that the employer commits with plain indifference to the law. OSHA may propose penalties of up to \$129,336 for each willful violation.

 \bullet Serious: a violation where there is substantial probability that death or serious physical harm



PG 29

could result and that the employer knew, or should have known of the hazard. There is a mandatory penalty for serious violations which may be up to \$12,934.

• Other-than-serious: a violation that has a direct relationship to safety and health, but probably

would not cause death or serious physical harm. OSHA may propose a penalty of up to \$12,934 for each other-than-serious violation.

• Repeated: a violation that is the same or similar to a previous violation. OSHA may propose penalties of up to \$129,336 for each repeated violation.

7. Does OSHA have a quota system?

In a word, no.

8. What are my options after I receive a citation?

Companies have three options:

• Accept the citations, correct the conditions and pay the penalty.

• Participate in an informal conference.

• Contest the citations, which must be done in writing within 15 working days of the final order.

9. Should I schedule an informal conference and what should I expect when I go to the OSHA of-fice?

They suggest you should always take the informal conference option, where you should be able to get a better explanation of the violation, the standards cited, what is needed to correct the violation and other issues.

10. Can we beat an OSHA citation?

Yes, particularly if the violation is due to employee misconduct. You must be able to prove all four of these:

• A work rule was violated.

• The work rule had been properly communicated.

• Your organization needs to prove it actively monitors compliance to the rules.

• Disciplinary actions were taken.

CASE SiteWatch supports new AEMP Telematics Standard

CASE Construction Equipment announced that its CASE SiteWatch[™] telematics portal is now aligned with the new Association of Equipment Management Professionals (AEMP) 2.0/ISO-15143-3 standard. The AEMP-compatible portal is populated with data provided by equipment manufacturers in a standardized format to ensure a practical and intuitive user experience for the contractor/ equipment owner.

This allows owners of a mixed fleet to access the telematics data of all their AEMP 2.0 equipment in a single place, gaining efficiency in running their operation. CASE equipment owners can activate the new AEMP API from the CASE SiteWatch web portal where they can now monitor more elements in shorter intervals, view more data and monitor new types of parameters related to fuel, idle times, engine load and speed.

CASE SiteWatch is AEMP 1.2 compliant, as well as supporting the new AEMP 2.0 standard in order to support the broadest range of equipment owners. This update provides customers with a telematics solution that is more functional without changing prices or subscriptions. It also makes CASE Sitewatch open to collaborating with AEMP 2.0-compatible solutions to offer greater value to equipment owners.

For more information about telematics and the full breadth of CASE SiteWatch solutions, visit a CASE dealer, or learn more \underline{online} .



This allows owners of a mixed fleet to access the telematics data of all their AEMP 2.0 equipment in a single place, gaining efficiency in running their operation.

Photo courtesy of CASE CE RockRoadRecycle.com

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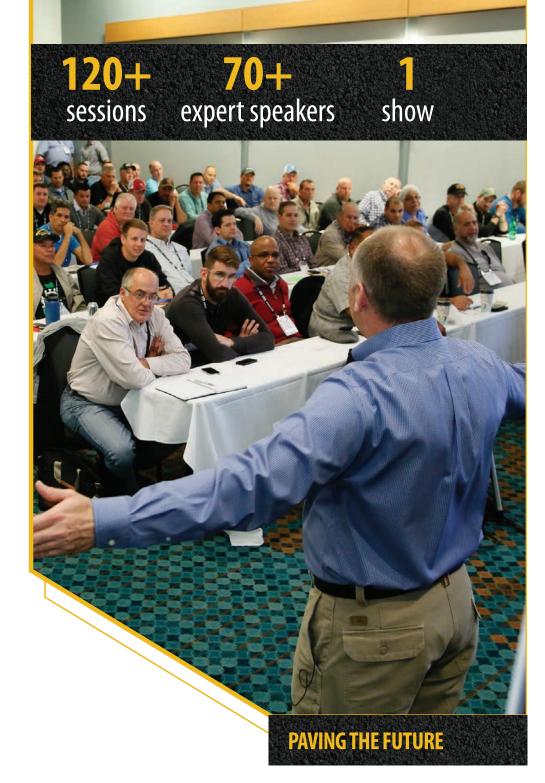
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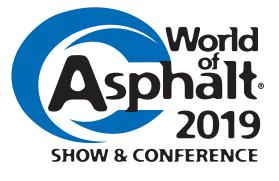
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Model sexual harassment policy

Every employer in the State of New York is required to adopt a sexual harassment prevention policy pursuant to new Section 201-g of the Labor Law. An employer that does not adopt the state's model policy must ensure that the policy that they adopt meets or exceeds the minimum standards in the model policy. Key provisions of the draft model policy must:

• prohibit sexual harassment consistent with guidance issued by the Department of Labor in consultation with the Division of Human Rights

• provide examples of prohibited conduct that would constitute unlawful sexual harassment

• include information concerning the federal and state statutory provisions concerning sexual harassment, remedies available to victims of sexual harassment, and a statement that there may be applicable local laws

• include a complaint form (Sample)

• include a procedure for the timely

and confidential investigation of complaints that ensures due process for all parties

• inform employees of their rights of redress and all available forums for adjudicating sexual harassment complaints administratively and judicially

• clearly state that sexual harassment is considered a form of employee misconduct and that sanctions will be enforced against individuals engaging in sexual harassment and against supervisory and managerial personnel who knowingly allow such behavior to continue

• clearly state that retaliation against individuals who complain of sexual harassment or who testify or assist in any investigation or proceeding involving sexual harassment is unlawful

Model sexual harassment training Every employer in the state is required to provide employees with sexual harassment prevention training pursuant to Section 201-g of the Labor Law. An employer that does not use the model training developed by the State Department of Labor and Division of Human Rights must ensure that the training that they use meets or exceeds the minimum standards in the model training program.

Key elements of the draft training policy shall:

• be interactive

• include an explanation of sexual harassment consistent with guidance issued by the Department of Labor in consultation with the Division of Human Rights

• include examples of conduct that would constitute unlawful sexual harassment

• include information concerning the federal and state statutory provisions concerning sexual harassment and remedies available to victims of sexual harassment

• include information concerning employees' rights of redress and all available forums for adjudicating complaints



include information addressing conduct by supervisors and any additional responsibilities for such supervisors
Each employee must receive training on an annual basis, starting October 9, 2018.

The Combating Sexual Harassment in the Workplace website contains additional information including a FAQ document for employees and employers and information on the restrictions relating to mandatory arbitration provisions and non-disclosure agreements.

As we conduct a more thorough review, we will be providing additional information. And once developed, we will share our comments with our members.

Just how loud is too loud for employees in a workplace?

Source: ehstoday.com / David Sparkman

According to the Occupational Safety and Health Administration (OSHA), the problem of ear-damaging worksite sounds is more widespread than you might think, and both employees and employers are paying the price.

At least 22 million workers are exposed to potentially damaging noise at work each year, OSHA reports. In 2017, employers were required to pay \$1.5 million in penalties for not protecting workers from noise. OSHA also estimates that approximately \$242 million is spent on workers' compensation claims for hearing loss.

Each time an employee files a claim for occupational hearing loss (as opposed to traumatic hearing loss), the claim primarily relies on lay testimony and on the largely uncorroborated statements from the claimant that the noise at work is "loud," notes attorney Alexis Hatten of the Goldberg Segalla law firm.

"In many cases, those statements alone, along with a doctor's report that generally states 'claimant is exposed to noise at work' is sufficient to establish the claim," she says. "After all, the judge cannot hear what the claimant hears. Defense counsel cannot hear what the claimant hears. The claimant's doctor cannot hear what the claimant hears."

In 1981, OSHA adopted regulations requiring employers to create a Hearing Conservation Program in situations where workers are exposed to a time-weighted average noise level of 85 A-weighted decibels (dBA) or higher throughout an eight-hour shift.

These Hearing Conservation Programs require employers to measure noise levels, provide free annual hearing exams and free hearing protection, provide training, and conduct evaluations of the adequacy of the hearing protection equipment unless changes to tools, equipment and schedules are made to reduce exposure below the 85-dBA level.

OSHA's maximum permissible (as opposed to daylong average) exposure limit is 90 dBA for all workers for an eight-hour day. In addition, the OSHA standard employs a 5-dBA exchange rate. This means



that when the noise level is increased by 5 dBA, the amount of time a person can be exposed to a certain noise level to receive the same dose is cut in half. Measuring Up, or Down?

These decibel levels may not be that hard to reach on occasion, but for a charge to stick they must be sustained throughout the workday. By way of example, an average factory produces at least 80 dBA, a car wash at 20 feet is 89; propeller plane flyover at 1,000 feet is 88, a diesel truck at 40 mph at 50 feet is 84, a diesel train at 45 mph at 100 feet is 83, a milling machine is 85 and even a food blender registers 88.

The National Institute for Occupational Safety and Health (NIOSH), the federal agency responsible for research and recommendations to prevent work-related injuries, recommends that all worker exposures to noise should be controlled below a level equivalent to 85 dBA for eight hours to minimize occupational noise-induced hearing loss.

Hatten says the first thing for an employer to do after receiving notice of a hearing loss claim that you wish to challenge is to obtain a professional noise reading completed as quickly as possible by an occupational health and safety specialist or technician specializing in collecting and analyzing data on many types of work environments.

"If the average decibel levels are below 85 dBA, you have the best possible proof that the claimant was not exposed to noise loud enough or consistent enough to cause hearing loss," she points out.

The report then can be entered into evidence much like a vocational rehabilitation report. However, given that this report may need to be authenticated, and the specialist or technician may need to testify, these tests should be run as soon as possible, and the report provided to defense counsel.

The report should also be provided to an independent medical examination doctor for comment on the possibility that these particular noise readings could cause the employee's hearing loss.

"If your noise readings are under the industry standard 85 dBA (and, of course, the lower the noise readings are, the better), it is hard to imagine that any judge would ignore these scientific readings to establish a hearing loss claim based on claimant's vague descriptions of 'loud' noises," Hatten concludes. "You can, and should, deny such a claim confidently."



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People in the industry

CM Labs recently announced that they have been chosen by Manitowoc Cranes to develop and deliver a series of groundbreaking simulators that showcase Manitowoc's intuitive new Crane Control System (CCS) to provide high-value tool for demonstrations and customer training.

Unveiled at Manitowoc's 2018 Crane Days event held June 3-8 in Shady Grove, PA, Manitowoc's initial order of CCS-driven Vortex Simulators is intended to help dealers market and educate crane operators on the benefits and capabilities of CCS equipped models. Simulators are already being delivered to Manitowoc clients for operator training, including locals of the International Union of Operating Engineers (IUOE).

Manitowoc's CCS operating platform provides a common human-machine interface across multiple crane product lines. Each CCS unit features the same control layout, with standardized symbols, and is made up of several common components (crane controller, safety controller, small IO (input/output), large IO, joysticks, jog-dial and display).

Manitowoc engaged CM Labs to integrate the new control technology into a simulator, with the goal of allowing dealers and customers to experience and train with the CCS on a true-to-life worksite. "Our design starts with a relationship with the machine so that the user interface feels very close to the real thing. This was important for Manitowoc so that the end product both looked and acted like their brand," said Drew Carruthers, Product Line Manager for Construction Equipment.

"We selected CM Labs because they are the leader in crane simulation with their top-quality solutions

CM Labs selected by Manitowoc as training simulator partner for next-generation Crane Control System

already widely deployed at training organizations." said John Alexander, Director of All-Terrain Crane Service, Mobile Training & Telematics at Manitowoc. "Many of our own clients are already using CM Labs simulators every day."

The simulators not only replicate the functionality and behavior of a 35-ton (40 US Ton) Grove RT540E crane as manufactured by Manitowoc, but do so under the control of an actual CCS user interface.

Vortex simulators are powered by Vortex Studio, the high-fidelity physics-based real-time simulation platform that delivers unparalleled realism and immersion. This means that the simulation includes actual on-board crane computers and load moment indicators, different boom configurations, accurate simulation of machine behavior, plus cable physical property simulation for winch line, slings, and load, and multiple rigging options.

As with all Vortex simulators, high quality visuals and sound effects complete the immersive experience. This overarching accuracy ensures skills learned on the simulator will transfer better to the live equipment.

"CM Labs works well with OEMs like Manitowoc because of our ability to leverage authentic OEM control sets and programmable logic controllers and control systems," said Arnold Free, Chief Commercial Officer of CM Labs. "This Manitowoc CCS simulator is an effective way for dealers to easily demonstrate the capabilities of the CCS hardware and for operators to get the expert training they need."

Dealers and operators of Manitowoc Cranes who are interested in purchasing a Vortex Crane Simulator enhanced with CCS to use for customer training can do so through Manitowoc Crane Care. [confirm contact point]

For more information visit $\underline{\text{cm-labs.com}}$.



Manitowoc's initial order of CCS-driven Vortex Simulators is intended to help dealers market and educate crane operators on the benefits and capabilities of CCS equipped models. Photo courtesy of Manitowoc

Komatsu partners with Propeller to bring enterprise-grade drone analytics solutions to the construction industry

Komatsu America Corp. and Propeller Aero Inc. are partnering to boost the efficiency of construction job sites using drone-powered mapping and analytics software.

With drones becoming an increasingly common worksite tool, Komatsu has identified aerial mapping and analytics as a key component of their Smart Construction initiative — a range of integrated hardware and software products designed to offer an end-to-end workflow for each phase of construction.

"A Komatsu Smart Construction jobsite by definition is technology-enhanced and production optimized," says Jason Anetsberger, Sr. Product Manager at Komatsu America Corp. "Adding Propeller Aero as one of our key partners gives our North American distributors and customers exceptional capabilities to achieve this standard in the aerial mapping space. Propeller combines simple, yet powerful analysis tools with accurate and fast site visualization."

Komatsu America Corp. spent several years testing various commercial drone mapping and analytics products in North America. In Propeller, Komatsu found an exceptionally robust product, well suited to meet the needs of modern construction operations. Propeller expertly balances ease-of-use with survey accuracy and reliability.

Propeller's processing machinery crunches thousands of drone images in hours and delivers the results as a cloud-based 3D model right to the user's desktop or tablet. From there, powerful collaboration and analysis tools let users perform height, volume and slope calculations, and measure change over time to confirm that a project is on track.

"Worksites are starting to see the real business value of accurate, upto-date drone data," says John Frost, VP of Business Development at Propeller. "We drive that value through workflows that enable everyone to understand who's moved what material, how much, and where. It's all about empowering worksites with the information they need to make data-driven decisions to reduce costs, ensure quality, and use resources efficiently. Now more than ever, stakeholders on site, or in the head office miles away, can stay up-to-date with exactly what's happening on the ground."

Importantly, Propeller's technology platform supports multiple coordinate systems, including local site calibrations. This allows personnel to capture up-to-date survey data expressed in the specific geospatial coordinates they already use on that job site. Local grid support is crucial for ensuring drone-captured maps and models 'match up' with plans and previous surveys.

Now available through a widespread network of Komatsu distributors across the US, Komatsu Equipment Company (KEC), a leading Komatsu distributor headquartered in Salt Lake City, was among the first to roll out Propeller solutions to Komatsu customers as a result of this partnership. Based on the positive response so far, KEC is confident the construction sector will be quick to adopt this technology.

"Anyone can fly a drone — it's what you do with the data that makes an impression," says Chris Faulhaber, Smart Construction Business Manager at Komatsu Equipment Company. "Propeller provides fast, accurate data processing via a web platform that is unparalleled. The platform is easy to use, facilitates healthy collaboration and delivers vital information quickly — so everyone can work together better and faster than anticipated."



With drones becoming an increasingly common worksite tool, Komatsu has identified aerial mapping and analytics as a key component of their Smart Construction initiative. Photo by Andrew Itaga

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Skid steers: The workhorse of the job site

As equipment prices rise, some construction companies are looking at skid steers as the go-to equipment to help get the job done, as it is compact, productive and can easily migrate from one jobsite to the next. Combine this with the fact that attachments are growing in popularity, you can see why these machines are quickly becoming the workhorse of the construction jobsite.

Skid steer loaders are used to perform various tasks at construction and mining sites. One of the major driving factors in the market is flexibility of skid steer loaders.

"The versatility of skid steers continues to grow with hydraulic and non-hydraulic attachments," explained Jorge De Hoyos, senior product manager, skid steers and compact track loaders, Kubota. "At Kubota, we've seen growth in attachments as multiplier in the workforce."

He points to the recent launch of Kubota branded attachments as evidence that it believes customers are investing more in hydraulic and non-hydraulic attachments for skid steers to minimize their purchases of other dedicated equipment, which can be done by attachments.

"We have tripled the number of skid steer and compact track loader attachments over the last two years," explained De Hoyos.

He even suggests that investing in the right skid steer, combined with the correct mix of attachments, will minimize the need to purchase other dedicated equipment, boosting productivity and profit margins.

Still, sales of skid steers will likely remain flat, as the number of attachments sold will increase exponentially. "Users are enjoying the versatility of skid steers given the increase of attachments and the increases in hydraulic horsepower."

These trends are also in line with recent research. According to the market research report compiled by Fact.MR, high initial investment to own skid steer loaders is restricting the market growth. However, vendors are providing financing options to increase the sale and this also results in the minimum impact on the budget of companies to own the equipment. Vertical lift skid steer loaders are anticipated to witness growth throughout the forecast period, while skid steer loaders with 65-80 HP of engine power are expected to be preferred.

Technological & operational advances for skid steers

Increasing operator comfort, providing larger skid steer loaders, providing high lift capability and offering units with vertical lift are some of the focus areas in the development of skid steer loaders today.

De Hoyos explains that in addition to power and efficiency, operator comfort has been at the forefront of innovation and design during the last five years.

He points to Kubota's rollup door on the skid steers, which are unique in that they can be locked in the open position so that the operator can continue to operate without removing and storing the door. Additionally, the door can be opened at any point of loader arm travel.

Another growing trend is the technological advances that are now available on the equipment. Even just five years ago, skid steers were very mechanical in nature and more physical to operate, explains Gregg Zupancic, product marketing manager, skid steers and compact track loaders, John Deere Construction & Forestry.

However, today, the equipment has evolved rapidly, as they have joy stick controls, are ergonomic and have electrohydraulic (EH) controls. Zupancic explains that with controls, wires run to the hydraulic system and the software and programming tell the machine how to function based on the input.

Earlier this year, the company announced the new John Deere G-Series mid-frame skid steers and compact track loader. Flexible control choices allow contractors to choose between standard manual foot and hand controls, EH ISO joystick controls switchable between ISO- and H-patterns, and performance package options for adjusting drive system response, boom and bucket speeds or for setting creep mode on demand.

Additionally, 4G JDLink Ultimate machine monitoring provides real-time data and health prognostics to suggest maintenance solutions that decrease costly downtime and protect against machine theft. Remote diagnostics enable a dealer to read codes, record performance data and even update software without a trip to the jobsite.

Going forward, Zupancic says the equipment will continue to advance even further. For example, there will be more grade control systems from companies like Trimble and Topcon Positioning Systems.

These advances and others are changing how work is done at the construction jobsite today — and will continue to reinvent projects in the future.

Zupancic says one of the biggest ways it is doing this is by taking away the physical nature of manually operating a machine, increasing productivity and safety.

"A beginner operator can be more proficient with these features," he explained. "A good operator can become great and a new operator can become more productive and safe."

For new operators just getting started with the equipment, he recommends familiarizing yourself with the manual and signing up for local union programs to learn how they function. He also urges the importance of safety and doing a daily walk around at the beginning of a project to check air pressure, fluids, filters, belts and more.

However, in the end, skid steers can help diversify a business, providing good value and return on investment to construction companies.

De Hoyos says while many users are migrating to compact track loaders, skid steers still have a place in the workforce. "The choice may not be as application driven as it was before because the surface and conditions may dictate a wheel machine rather than a track machine. Remember that the attachments, are, for the most part, universal for both product lines."



Increasing operator comfort, providing larger skid steer loaders, providing high lift capability, and offering units with vertical-lift are some of the focus areas in the development of skid steer loaders today.

RockRoadRecycle.com

PPRA launches industry-leading site for pavement preservation, recycling and network management

GLEN ELLYN, IL — North American infrastructure suffers from deteriorating roads, rising cost of materials, stagnant budgets and an ever-present, ever-growing demand to get "more for less." While the demand for cost-effective network management solutions rises, many roadway managers still struggle to find the tools and nuanced expertise needed to successfully apply budgets toward the "right treatment on the right road at the right time."

The Pavement Preservation and Recycling Alliance (PPRA), comprised of leaders at industry associations, AEMA (Asphalt Emulsion Manufacturers Association), ISSA (International Slurry Surfacing Association) and ARRA (Asphalt Recycling & Reclaiming Association), aims to bridge the gap between interest and successful use of progressive treatments within the asphalt industry. The group has just launched RoadResource.org, a digital hub offering more than 500 pages of accurate information about pavement preservation, recycling and optimized network management.

"This new resource puts technical information alongside useful tools and research to make learning easier for agencies," said AEMA president Mark Ishee. "We've eliminated many of the hurdles that road managers have had to deal with in the past."

RoadResource.org compiles relevant information with a standardized technical menu on 18 pavement preservation, recycling and emulsion treatments, alongside useful network comparison calculators. The site allows users to learn and explore freely how to apply concepts and strategies to their own pavements and networks and it gives users a chance to see first-hand how progressive network approaches can impact taxpayers, pavement conditions and the bottom line.

RoadResource.org was founded on an intensive research process including:

• Input from more than 45 industry leaders

• Interviews and beta-testing with agency-level users, pavement managers, contractors, DOTs, pavement engineers and academics

• International cost survey

• Page-by-page technical review from multiple association committees

The website draws upon years of experience to provide best practices, set appropriate expectations and provide recommendations to agencies' frequently asked questions such as: "which treatment is best for my road?"

In addition to compiling technical information, the site also organizes relevant research summaries and success stories from different regions across North America to better translate research into practice and success.

"We wanted to give users the benefit of sitting down with experts in the industry. It's as if we're driving the roads with you, pointing out what we see and what we know to be helpful. The website goes beyond technical info and linking to specs — it actually makes it easy to explore possible pavement solutions," said Scott Bergkamp, ISSA representative and a primary contributor to the site.

PPRA leadership plans to rollout additional communication initiatives, including newsletters to agencies, educational webinars and informative printed



PG 39



RoadResource.org compiles relevant information with a standardized technical menu on 18 pavement preservation, recycling and emulsion treatments, alongside useful network comparison calculators.

Photo courtesy of PPRA

and digital materials to serve as an educational and functional hub for roadway managers across North America. To learn more about the new website, visit and explore <u>RoadResource.org</u>.

PPRA seeks to help agencies at the state, county and local level to make the right choices for their road networks and be the best possible stewards of their roads and of taxpayer dollars.

Century-old rule stifling innovation in transportation arena, ARTBA tells House Committee

WASHINGTON, DC — A 1916 rule enacted by President Woodrow Wilson's administration is curbing 21st century transportation innovations that could improve safety and quality on the nation's major roadways, the ARTBA said in Sept. 5 testimony submitted to the House Highways & Transit Subcommittee.

At issue is 23 CFR 635.411, a 102-year old federal regulation that prohibits state and local governments from using patented or proprietary products on highway and bridge projects that receive federal funding unless those products qualify for limited exceptions. The rule was adopted by the U.S. Department of Agriculture — which then managed the emerging federal-aid highway program — over the objections of both the American Road Builders Association, as ART-BA was known and the American Association of State Highway Officials.

In its testimony, ARTBA told the subcommittee that since many new technologies — particularly those marking a significant advance in quality, performance or durability — incorporate intellectual property protected by patents or proprietary processes, 23 CFR 635.411 inevitably impedes the development and deployment of those same innovations that various congressional and U.S. Department of Transportation (DOT) initiatives are intended to foster.

"It is also important to point out that when states outright disallow a patented or proprietary product, they may be preventing a transformative solution to a serious problem from taking place in a timely manner," ARTBA said. "For example, every great paradigm shift in the bridge world originated from a patented idea or intellectual property, generally marketed as a proprietary product."

ARTBA added, "The goal of federal highway policy should be to deliver the safest, most efficient and fiscally responsible highway and bridge network possible. Achieving that goal must include a thoughtful assessment of technological and other advances to ensure infrastructure development strategies are in fact delivering the best possible outcome as opposed to the widest achievable outcome. The practical effect of the existing proprietary and patented products rule, however, impedes that process and can potentially deny the travelling public a better service."

The association noted other federal agencies, such as the U.S. Department of Defense, have set up procurement systems that allow for the appropriate use of sole source contracts for patented or proprietary products to accomplish their missions.

"The goal of federal transportation policy should be to promote innovation and enable ideas and products aimed at building a better transportation network as efficiently as possible — not to protect the status quo. While U.S. DOT is to be commended for moving in the right direction in a number of areas, the proprietary products rule is an antiquated regulation that has no place in today's marketplace of ideas and needs to be corrected as soon as possible," according to the testimony.

In March, ARTBA formally petitioned the U.S. Department of Transportation to repeal 23 CFR 635.411 and is awaiting a response from the agency.

Established in 1902, ARTBA represents the U.S. transportation construction industry before Congress, the White House, federal agencies, courts, news media and the general public.

Editor's Note: The full testimony can be found in the government affairs section of the $\underline{\text{ARTBA website}}$.



American Road & Transportation Builders Association



People in the industry

John Deere reveals industry's first fully integrated, mastless grade control motor graders

MOLINE, IL — Road building and site development contractors can now reap the benefits of John Deere SmartGradeTM in the highly successful G-Series motor grader line. SmartGrade technology delivers the first-of-its-kind mastless Topcon 3D integrated grade control as a factory option on new machines and field kit for equipment already on the job. The system is fully incorporated into the machine's structures and software, delivering precise grading performance while eliminating vulnerable masts and cables.

"Earthmoving customers already utilize SmartGrade technology integrated into Deere dozers, and many have asked when it would be available on the motor grader line," said Luke Kurth, motor graders product marketing manager, John Deere Construction & Forestry. "Today is the day, and we're excited to be the first manufacturer to offer this integrated solution to the industry. The same machine can now be used throughout the job site, from site clearing to final grade, maximizing operator resources and fleet utilization."

SmartGrade eliminates external masts and cables from the moldboard, preventing possible theft or damage. This also removes the need to climb on the machine every day and install blade-mounted sensors and components, reducing setup time and complexity. By removing the masts and leveraging position sensing, the operator can now run without limitation, using all of the machine functions, like blade pitch, circle side-shift and circle rotate, without risking damage all while staying on grade. In the cab, the grade system interface is built into the Grade Pro (GP) controls available in the Deere exclusive fingertip or dual joystick design.

An all-new Automation Suite is included with SmartGrade and is available as an option on all GP graders, helping operators in daily production by reducing the number of controls needed to perform common tasks. The suite boasts auto-articulation, blade flip and operator-selectable machine presets. Auto-articulation combines front steering and rear articulation while blade flip, a Deere exclusive, enables the operator to automatically rotate the blade to a set position without holding the control at the end of a pass. Machine preset, another Deere



Road building and site development contractors can now reap the benefits of John Deere SmartGrade™ in the highly successful G-Series motor grader line. Photos courtesy of John Deere exclusive, allows the operator to activate multiple functions by pressing a single button (return-to-straight, auto-shift, lights, etc.). Up to three positions can be stored in the monitor.

"SmartGrade graders are the latest in a long line of technologies Deere has developed to help customers become more efficient and automate some of the controls for one of the most sophisticated pieces of equipment on the job site," said Sean Mairet, grade control product marketing manager, John Deere Work-Sight.[™] "Whatever machine you have on the job site, Deere's focus on industry-leading innovations will help operators be more productive and let owners better manage their workloads."

Fleet managers looking to get the most out of their SmartGrade motor graders can rely on their world-class John Deere dealers to provide unmatched support for both the grader and the SmartGrade system. Owners receive predelivery and follow-up inspections that include five years of JDLink[™] telematics, machine health prognostics, remote diagnostics and programming capabilities.

For additional information and availability, visit your local John Deere dealer or $\underline{www.JohnDeere.com}$.



The system is fully incorporated into the machine's structures and software, delivering precise grading performance while eliminating vulnerable masts and cables.

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PG 41

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Getting material to the sharp end: conveying systems



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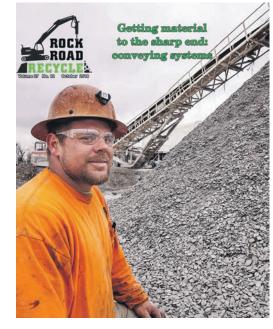
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• Asphalt & concrete recycling

Conveyors



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Recycling at Cologne/

Wirtgen KMA 220 produces

hydraulically bound base

using mix-in-plant process

Bonn Airport

Getting material to the sharp end: conveying systems

by RockRoadRecycle staff writer

On the Cover:

Aggregate resulting from tunneling is a valuable resource and is generally considered to be a recycled aggregate.

Photo by Don Bensman, Jr.

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Classifieds

PPRA launches industry-leading site for pavement preservation, recycling and network





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Why being "OSHA legal" isn't enough

by Michael Pardus / EHS Today











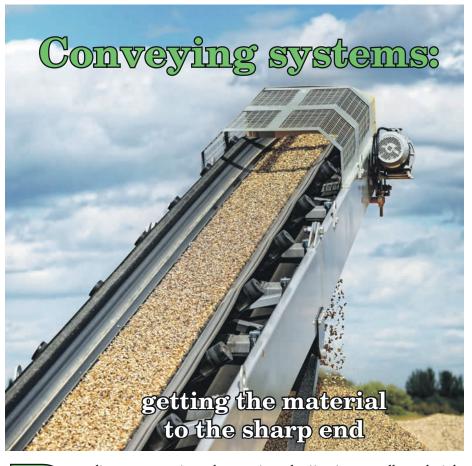






Volvo CE celebrates 60 years of live demonstrations

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ecycling, or concrete and cement production is generally undertaken at specifically designed stationary processing plants. Here conveying systems are integral components of the entire set up, being vital to the entire operation of the plant.

Although the conveying systems used are often very similar, many manufacturers are developing systems to work in highly specialized ways and in a variety of industries.

A relatively recent development has actually seen excavated tunnel rock being used as a key component of shotcrete. Furthermore, tunnel projects are now often major sources of recycled aggregate and other materials, with the large amounts removed being used to form the sub base of connecting roads.

In recycling and demolition, much of the material processing is now being undertaken on site, although there are many specialized material processing plants that are designed to turn waste construction materials into reusable product. The often mobile nature of crushing and screening plants used in processing has led to a relatively recent development — that of tracked conveyors which are able to move and process in tandem with the tracked crushers and screens.

Crushing and screening manufacturers

Conveying systems are in reality pretty similar. The equipment is designed to move material. Recycling conveyors — especially those dealing with demolition arisings — tend to be heavy duty, while conveyors and systems for finer aggregate and sand are more focused on ensuring the material is able to be moved speedily and safely with little or no spillage.

Although often not a primary part of their offering, most screening and crushing systems manufacturers offer ranges of conveying systems as part of their plant designs. These can be configured to the exact specifications of the customer and incorporate the full material processing solution.

Companies such as McClanahan, Eagle, Superior, Steadman, Terex, Telsmith, Pioneer Kolberg, etc. manufacture and supply conveying equipment.

Although the company divested much of its Mining Systems in 2017, Sandvik Mining and Rock Technology still offers conveying systems as part of its stationary crushing and screening offering. This equipment is used in underground mines as well as tunneling projects. However, the main use is in aggregate plants. Sandvik has in recent years worked to develop crushing and screening equipment, which is ideal for manufacturing sand from naturally occurring rock, which is proving to be a significant improvement on the final concrete and cement product.

RockRoadRecycle staff writer

All photos courtesy of the specified OEM

Tunneling - the 'new' source of recycled aggregate

Primarily designed to get the rock out of a tunnel, in-tunnel conveying systems can also help transport material such as shotcrete to where it is most needed. Additionally, it should be remembered that the aggregate resulting from tunneling is a valuable resource, and is generally considered to be recycled aggregate. The ongoing undersea tunneling project in Norway has seen the excavated rock recycled and used as road aggregate, subbase and a constituent component of shotcrete.

One of the world's leading manufacturers of tunneling equipment, the Robbins Company, is considered to be one of the foremost developers and manufacturers in the field. Involved in hundreds of tunnel boring projects around the world, the company also manufactures an extensive range of underground material excavation equipment designed for high speed tunneling operations.

A direct consequence of the company's commitment to high speed tunneling is getting the cut rock or muck out of the tunnel as quickly and efficiently as possible. Robbins believes that muck trains used in conjunction with its TBMs must possess a high speed and high capacity in order to keep up with production. However, the company sees even with the best trains available, the logistics of keeping a high speed, multiple train system up and running on time is a complex management task that requires a great deal of maintenance and support.

This has meant that Robbins has invested in developing its own continuously advancing conveyors, which are designed to increase the efficiency of muck removal and vastly simplify tunneling logistics. With a reliable conveyor system constantly removing the rock from the tunnel, this means that trains are only required to deliver personnel and materials to the TBM.

Robbins conveyor systems have now been successfully employed on nearly 100 TBM projects worldwide, with the company claiming it has built and installed more tunnel conveyor systems than any other TBM manufacturer. Unsurprisingly, its conveyor systems are designed to support its own TBMs and are capable of moving more than a thousand tons of muck per hour, including up a shaft height of 656 feet (200m).

One such project that involved Robbins was the Indianapolis Deep Rock Tunnel Connector (DRTC), which is the first phase of a nearly 45km long network of deep rock tunnels being built 249 feet (76m) beneath Indianapolis, IN, by Citizens Energy Group. The DRTC project itself comprises of a 7.5-mile



Huge stockpiles of material are possible with the use of the right systems.



A Terex tracked conveyor from Finlay.



Metso's new line of tracked conveying systems.

(12.2km), 18-foot (5.5m) diameter tunnel constructed by S-K JV, a joint venture between J.F. Shea Construction and Kiewit Infrastructure Co.

Aiding the tunneling process is a Robbins designed and built conveyor system which has facilitated continuous tunneling in a difficult layout that included two 90° curves and two S curves. Spanning 7.3 miles (1,7771m) in its longest iteration, the system included nine booster drives plus a main drive. A vertical belt moved muck up the 656 foot (200m) deep shaft to a radial stacker for temporary storage, with the system being considered one of the most complex in North America, and the first to operate in 90° curves.

Multiple use conveyors

German company H+E Logistik has developed a reputation for providing contractors with excavated material removal systems capable of meeting even the most unlikely of requirements. Its conveying systems have been found successfully working underwater, in the centre of a city or high up in the mountains. Wherever they have been put to work, the company's high-tech systems have ensured that projects are handled on time, even under extensive and extreme conditions.

One interesting development the company is particularly proud of has been that of its booster stations, which have enabled extensive conveying systems to operate even with the tight bends typical of modern metro tunnel construction and complex aggregate production facilities. Often found in large urban projects, the stations have proved ideal where space is limited but still require excavated material to be transported without impairing the surrounding infrastructure. All the company's conveying systems are available with an extensive range of accessories, including touch panel control and surveillance cameras, belt scales, metal detectors, overfill sensors, covering hoods for the upper belt and lower belt covers.

Keeping the systems working

Making sure conveying belting is maintained in or-

der to move material is equally as important as the belting itself. Canada's Shaw-Almex has developed conveyor belt vulcanizing presses to hot-splice all types of conveyor belts. Almex heavyweight vulcanizing presses splice fabric ply and steel cord conveyor belts, whereas its lightweight presses are used for PVC, polyurethane and polyester mono filament synthetic belting. Both vulcanizer types offer a continually expanding menu of ancillary items including belt splicing tools, belt specific tool kits, conveyor accessories and other splice tools.

In addition to the above, the Almex Group Fusion Systems provide a single global source for a comprehensive line of pulley lagging, cold bond splicing material and repair materials. The Almex fusion lining, impact, wear and corrosion protection products reduce maintenance costs associated with abrasion damage to key components of conveyor belt systems.

Tracked stacking conveyors

A relatively recent trend in conveying systems has been the development of tracked conveying systems. The use of tracked conveyors often means increased stockpile capacity and reduces on-site material handling while delivering full mobility. Although not able to deliver the same levels of production as stationary plants — nor are they designed to be — they offer other benefits which are now proving to be particularly beneficial to material processing and handling companies world-wide.

The range of Terex tracked conveyors can be bought from Powerscreen, Terex Finlay, CBI, EvoQuip, Terex Ecotec, Terex Washing Systems or Terex Minerals Processing Systems. Terex Ecotec's Stacking Conveyor range currently consists of two self powered tracked options, 65ft and 80ft. Transport costs of each conveyor are kept to a minimum due to the compact transport design, allowing them to be easily tracked in and out of a 40ft container and shipped globally. A simple yet robust design allows for easy setup and positioning fitting the customers' requirements. The 36.4.3kW (49hp) Deutz engine and powerful hydraulic drive deliver impressive capacities of up to 400tph. The design also provides a full range of high specification options, including full under belt and head drum guarding, radio control movement and setup where required.

Terex's relatively new 100ft stockpiler builds on the hugely successful 65ft and 80ft conveyors. The extra length of conveyor and increased power allows for maximum mobility and flexibility. The conveyor can cope with all applications, from light duty screened material to aggregate for cement and recycled concrete; in fact more or less any material it encounters. The company's tracked radial stockpiling conveyor has proved to be an ideal solution for stockpiling after mobile crushing and screening plants, with the mobility and flexibility of the conveyors reducing or eliminating the use of a wheel loader on site.

One of the early developers of tracked conveyors was Telestack, whose bulk material handling products are designed to handle all free flowing bulk materials including ores, coal, aggregates, fertilizers, grains, woodchips, pellets, etc. All the conveying solutions are designed to reduce the need for haulage on-site and support tracked crushing and screening operations.

Telestack states that it supplies the widest range of tracked stockpiling conveyors with lengths ranging from 50 feet (15m) to 101 feet (31m), able to deliver tonnages ranging from 100tph up to 1,500tph and lump sizes up to 12 inches (300mm). The company is also able to supply its conveyors in a "links" system, which aims to reduce or eliminate the need for truck or wheel loader haulage on site. The link conveyors can either be track mounted, fully self-driven or wheel mounted/towable wheel mounted. Furthermore its mobile and flexible products have been designed to reduce or eliminate degradation, segregation and compaction of material in the cement product process and to ensure only in specification material is fed into cement plants.

EDGE Innovate's range of material handling equipment offers operators an efficient, reliable and robust material handling solution. The EDGE brand name is intrinsically linked to the manufacturing of mobile and track conveyors, feeders and radial track stockpilers, all of which have been designed to improve productivity and mobility while minimizing operator costs. The company states that as a leading manufacturer of conveying solutions, it is acutely aware that one style of conveyor is nowhere near sufficient enough to meet the differing requirements of each material handling operation.

Differing discharge heights, transfer lengths, condition of terrain, availability of power, the frequency of repositioning and throughput are all factors that must be taken into account when an operator is determining what solution meets all of their requirements. With a "one size does not fit all" mind set, the EDGE Innovate material handling range of equipment offers a wide range of stackers and feeders to suit specific material handling requirements including low-level feeder stackers and radial stackers, with the option of wheeled or tracked units. Finnish crushing and screening giant Metso has developed its own tracked conveying system. The mobile conveyor adds flexibility to Lokotrack multistage crushing and screening applications and is said to enable easy and fast closed circuit operation even with special combinations. When in open loop, a high discharge height increases the stockpile capacity, and with an additional radial drive (on model CW3.2) the discharge end can be moved radially.

Its Lokotrack[®] CT3.2[™] is powered by the CAT[®] C2.2 and for the wheel mounted CW3.2, a power pack is available as an option. Additional features include a rock box, impact bars and double drive making the CT3.2 an ideal conveying solution for different feed sizes and capacities. Both systems are easy and safe to use, especially when hydraulic tilting is applied. Spare and wear parts as well as Metso support are available as for any other Lokotrack crushing and screening plant.

Material is typically fed by conveyor into the feed chute and from there, material is conveyed onwards.

Discharge height can be adjusted, and depending on feed material rock box, impact bars and double drive can be utilized. The conveyors are ready to use within minutes: drive it off the trailer, open tilt tail and discharge end, adjust the angle and start the conveyor. Track drive makes it easy to move on site just like any other Lokotrack unit.

More than just a conveyor

The complexities of modern quarries, recycling plants, tunneling projects and cement manufacture means that not only crushing and screening systems have developed but also the material moving or conveying systems. They must be tough for recycling applications, precise for moving fine aggregates for sand and have support systems that can repair any problems. Furthermore, tracked conveyors are now becoming more frequent in quarries, surface mines and construction projects with capabilities to match virtually any requirement.



Aggregate resulting from tunneling is a valuable resource and is generally considered to be a 'recycled' aggregate.

Photographer: Don Bensman, Jr.



A Telsmith conveying system in operation.



Sandvik has been at the forefront of developing equipment and systems for the manufacture of sand from aggregate.

October 2018

Martin Engineering vibrators go pink for breast cancer awareness month

Following the success of its 2017 campaign, the global leader in bulk material handling technologies is repeating its Cougar Cares fundraising program for National Breast Cancer Awareness Month in October. Manufacturing a limited-edition series of Cougar® brand DC truck vibrators painted in the iconic pink color, Martin Engineering plans to donate \$50 from the sale of every unit to the Susan G. Komen Foundation, with the goal of exceeding its \$3,750 donation last year.

PG 6

"With breast cancer having touched the lives of so many of our employees and customers, we wanted to create a lasting program to help support patients and families," said Mark Huhn, director of the Vibration Products Business Group. "The Cougar Cares program raises awareness and the importance of early detection. Just like last year, we're proud to be joined by our friends at Bonnell Industries who have built an entirely pink truck equipped with a pink vibrator."

Delivering serious power in a small package, Cougar brand 12- and 24-volt DC truck vibrators provide up to 3,700 pounds (16.5 kN) of vibratory force to improve the unloading of wet, sticky, fibrous or even frozen material. Sealed ball bearings eliminate lubrication requirements to enable low amp draw, longer run times and a longer equipment life for faster and more complete unloading compared to similar units on the market. Since 1982, the Susan G. Komen foundation has invested more than \$2.9 billion in developing breast cancer research. With treatment options, community outreach, advocacy and other programs in more than 60 countries, the organization has played a critical role in virtually every major advance in fighting breast cancer — transforming how the world talks about and treats the disease and helping millions of breast cancer patients become cancer survivors.

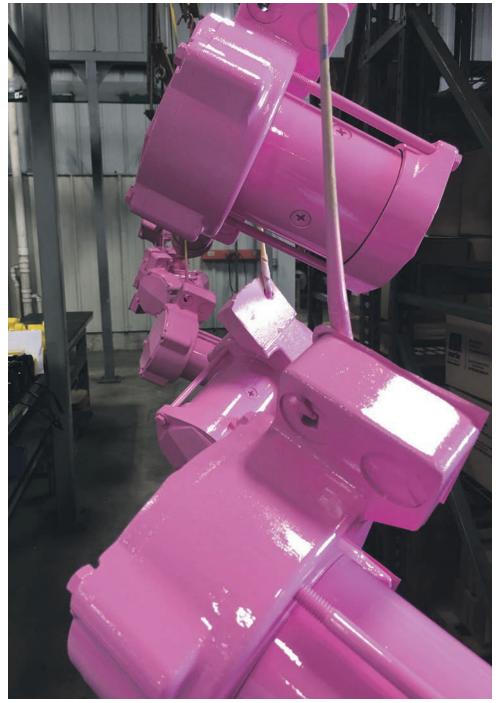
For years, the Susan G. Komen mission has inspired the passionate employees at Martin Engineering to engage in grass roots efforts, including a team participating in the Peoria Memorial Race for the Cure, a Martin Race for the Cure in the company's home town of Neponset and raffles and bake sales with proceeds going to the foundation. "Before she married Stan Komen, she was Susan Goodman, both of which are well-known families in the Peoria area," explained Martin Engineering Chairman Ed Peterson. "But we are more than geographically linked, we are both vested in a common community and a cause."

Breast cancer is the second most common type of cancer in women. It is estimated that about 1 in 8 women born today in the United States will get the disease at some point. The strides in awareness, testing and treatment of the disease have made it survivable if discovered early and treated promptly. Early intervention is most effective, so regular mammograms remain the fundamental screening test. Now the world's largest nonprofit source of funding for the fight against breast cancer, the Susan G. Komen foundation is the only organization that addresses the disease on multiple fronts such as groundbreaking research, community health, global outreach and public policy initiatives in order to deliver the greatest impact.

The success is in the numbers, with deaths from breast cancer declining by 38 percent between 1989-2014. Martin Engineering is proud to contribute to the organization's ongoing success.

Martin Engineering is a global innovator in the bulk material handling industry, developing new solutions to common problems and participating in industry organizations to improve safety and productivity. The company's series of Foundations books is an internationally-recognized resource for safety, maintenance and operations training — with more than 20,000 print copies in circulation around the world. The entire 500+ page volumes can also be downloaded as free PDFs from the Martin web site. Martin employees take an active part in ASME, SME, VDI, CMA and CEMA, and the firm played a pivotal role in writing and producing the 7th edition of the CEMA reference book, Belt Conveyors for Bulk Materials.

For more information, contact <u>info@martin-eng.</u> <u>com</u> or visit <u>www.martin-eng.com</u>.



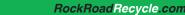
The high-gloss coating helps repel buildup of road dust and other contaminants.



The program helped inspire Bonnell Industries to build a pink truck to show its support. Photos courtesy of Martin Engineering



Fitting most standard mounting assemblies, the vibrators require minimal space.



PG 7

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October 2018

CAT® 903D compact wheel loader delivers increased performance, expanded work tool capability and enhanced operator comfort

The new Cat® 903D compact wheel loader, when compared with its 903C2 predecessor, features a 25 percent increase in both lifting capacity and travel speed, so customers are able to do more, faster. With new optional features, such as creep control, throttle lock and work tool electrical harness, the 903D has the ability to run any number of tools.

PG 8

standard and continuous-flow allows powered tools to be easily controlled.

To further enhance the 903D's versatility and productivity, new optional features allow ground speed (creep control) and engine speed (throttle lock) to be independently controlled, delivering optimum hydraulic power to work tools, while machine travel



With new optional features, such as creep control, throttle lock and work tool electrical harness, the 903D has the ability to run any number of tools.

speed is automatically limited to ensure optimum tool performance. In addition, an optional work-tool electrical harness allows use of attachments that have electrically operated functions.

Loader linkage for the 903D is the Z-bar type, providing both aggressive bucket-digging ability and efficient control in fork applications. Boom arms are available in both standard and high-lift configurations, with the latter increasing hinge-pin height from 10 feet, 1 inch to 10 feet, 7 inches (3 086 to 3 227 milimeters). Standard features for the 903D's loader linkage include boom-float and return-to-dig functions

Operator's station/serviceability

For the operator's convenience, the 903D's new multi-function joystick provides controls for directional changes, third-function hydraulics, differential locks and continuous hydraulic flow. The operator's station has increased leg room, improved pedal positioning, easier entry/exit and features a suspension seat and tilt steering wheel. Now available with optional ride control, the 903D offers a smooth ride, reducing the wear and tear on the operator, as well as reducing the amount of material loss out of the bucket when traveling.

The 903D's overall design results in minimal engine overhang, providing enhanced visibility to the rear and corners. Both enclosed cab as well as canopy options are available depending on climate and an optional heavy-duty 90-amp alternator can be used to support the climate-control system.

To facilitate routine maintenance, the 903D's fully opening rear hood allows ready access to the engine compartment, which features side-by-side coolers and transparent fuel/water separator. Options include an engine air pre-cleaner and radiator screen for use in high debris applications. New rear tie down locations under the machine allow for easier transport and a new engine oil fill location allows for easier access.

Available with either an open or enclosed cab, the 903D operator's station features a refined ergonomic design with a new multi-function joystick that provides fingertip control of the standard third-function hydraulic system. Whether lifting light material into a hopper or loading heavy pallets onto a truck, the choice of standard-lift or high-lift boom arms increase the 903D's ability to work efficiently in a wide range of applications, with buckets ranging in capacity from 0.8 to 1.3 yd3 (0.6 to 1.0 m3), forks or a selection of powered and non-powered work tools.

Efficiently powerful

The new 903D's power train uses a fuel-efficient, tier 4 final, Cat C2.4 engine, rated at 40 net horsepower (30 kw); hydrostatic transmission that provides travel speeds to 12.4 mph (20 k/hr); and caterpillar-designed planetary-reduction axles that are available with optional differential locks. The differential locks can be engaged "on-the-fly," allowing the 903D to respond instantly to changing ground conditions.

The 903D also features a standard auxiliary (third-function) hydraulic system that delivers a flow of up to 14 gpm (52 L/min.) at pressures to 3,481 psi (240 bar), producing ample hydraulic horsepower to operate any number of hydraulic work tools such as brooms, power box rakes and grapple buckets. To facilitate the use of an expanded range of work tools, the 903D is equipped with a standard universal coupler. An optional electrically activated coupler is available for switching attachments from the cab. Auxiliary hydraulic lines with quick connectors are



The differential locks can be engaged "on-the-fly," allowing the 903D to respond instantly to changing ground conditions. Photos courtesy of Cat

PPRA launches industry-leading site for pavement preservation, recycling and network management

GLEN ELLYN, IL — North American infrastructure suffers from deteriorating roads, rising cost of materials, stagnant budgets and an ever-present, ever-growing demand to get "more for less." While the demand for cost-effective network management

solutions rises, many roadway managers still struggle to find the tools and nuanced expertise needed to successfully apply budgets toward the "right treatment, on the right road, at the right time." The Pavement Preservation and Recycling Alli-

ance (PPRA), comprised of leaders at industry associations AEMA, ISSA, and ARRA aim to bridge the gap between interest and successful use of pro-

PPRA 11

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Performance in every detail



PG 10

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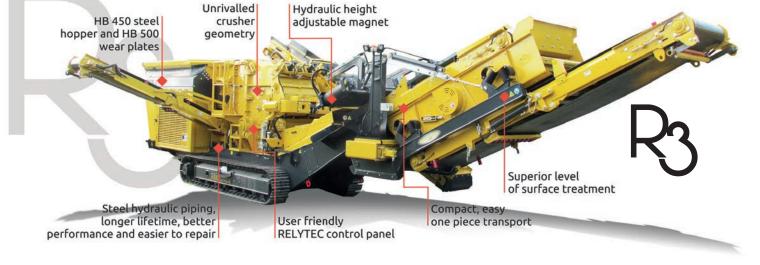




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PPRA from 9

gressive treatments within the asphalt industry. The group has just launched <u>RoadResource.org</u>, a digital hub offering more than 500 pages of accurate information about pavement preservation, recycling and optimized network management.

"This new resource puts technical information alongside useful tools and research to make learning easier for agencies," said AEMA president Mark Ishee. "We've eliminated many of the hurdles that road managers have had to deal with in the past."

RoadResource.org compiles relevant information with a standardized technical menu on 18 pavement preservation, recycling and emulsion treatments alongside useful network comparison calculators. The site allows users to learn and freely explore applying concepts and strategies to their own pavements and networks and giving users a chance to see firsthand how progressive network approaches can impact taxpayers, pavement conditions and the bot-tom line.

RoadResource.org was founded on an intensive research process, including:

• Input from more than 45 industry leaders

• Interviews and beta-testing with agency-level users, pavement managers, contractors, DOTs, pavement engineers and academics

• International cost survey

• Page-by-page technical review from multiple association committees

The website draws upon years of experience to provide best practices, set appropriate expectations and provide recommendations to agencies' frequently asked questions such as: "which treatment is best for my road?"

In addition to compiling technical information, the site also organizes relevant research summaries and success stories from different regions across North America to better translate research into practice and success. "We wanted to give users the ben-

PG 11

efit of sitting down with experts in the industry. It's as if we're driving the roads with you, pointing out what we see and what we know to be helpful. The website goes beyond technical info and linking to specs — it actually makes it easy to explore possible pavement solutions," said Scott Bergkamp, ISSA representative and a primary contributor to the site.

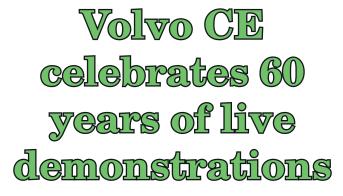
PPRA leadership plans to rollout additional communication initiatives, including newsletters to agencies, educational webinars and informative printed and digital materials to serve as an educational and functional hub for roadway managers across North America. To learn more about the new website, visit and explore <u>RoadResource.org</u>.

PPRA seeks to help agencies at the state, county and local level to make the right choices for their road networks and be the best possible stewards of their roads and of taxpayer dollars.



RoadResource.org compiles relevant information with a standardized technical menu on 18 pavement preservation, recycling and emulsion treatments alongside useful network comparison calculators.





All photos courtesy of Volvo CE

ndustry veteran Volvo Construction Equipment first held live demonstrations for customers in 1958. Today the company takes great pride in its ability to showcase practically the entire range of Volvo machines at the stateof-the-art Customer Center in Eskilstuna, Sweden.

Located in the town where Volvo CE began life in 1832, the recently-renovated Volvo Customer Center is the jewel in the company's crown. The facility spans 75 hectares and houses more than 80 machines with the space to demonstrate them all on different terrains and at varying gradients, highlighting the full extent of their potential. In June alone this year, more than 5,000 visitors stepped through its doors.

One of the most popular models at the Customer Center this summer has been the new 100-ton (95-tonne) Volvo R100E rigid hauler. Launched this past April, customers have been keen to learn more about and even test-drive this mighty machine.

"The R100E is the new flagship product designed, built and distributed from the Volvo rigid hauler facility in Motherwell, UK, which has over 65 years of rigid hauler expertise. It's a completely new machine that delivers stability, a long service life, high profitability, durability and comfort. And moreover, it's quick and simple to operate and maintain," says Paul Douglas, Volvo CE's vice-president of rigid haulers.

Dexterous demolition

Volvo's special applications solutions have also attracted a lot of attention from visitors. At Internat Paris, Volvo CE launched a new multi-demolition boom on the EC380E HR (high reach) excavator for Europe and North America. Many visitors to the Customer Center have been interested in learning



The pipelayer kit converts EC140D, EC140E and ECR145E excavators into a pipelayer for lowering pipes.



Volvo CE recently launched a new multi-demolition boom on the EC380E HR excavator for Europe and North America.

how this extension boom would enable them to use heavier tools with their demolition digging boom set.

"In the straight position, the multi demolition boom provides an industry-best tool weight capacity of 4.3t at 15.2m – still with a 360° working range. What is also exciting about this new boom is that it can be configured for double bending. This greater flexibility means that operators can work deeper and closer to the machine underground. Overall, the new multi demolition boom for the EC380E HR highreach excavator offers customers greater versatility for a faster return on their investment," says Peter Lam, product manager for excavators within Volvo CE Sales Region EMEA.

A pipelayer market first

Another star performer from the special applications solutions segment has been the new mini pipelayer kit, launched at the Customer Center in June for less regulated markets. The kit converts EC140D, EC140E and ECR145E excavators into a pipelayer for lowering pipes up to approximately 300mm/12" into a trench.

"The mini pipelayer kit enables customers to add a specialized pipelayer to their fleet with relatively low investment – and maximize their productivity and profitability by quickly and easily switching to a standard excavator. This kit is a completely new solution on the market – Volvo is the first to offer such a kit – and is a great extension to the lower end of the Volvo pipelayer range. We are so confident of the value this kit will offer customers that we have patented it." says Lars-Inge Larsson, global product manager for pipelayers at Volvo CE.

Other popular new models have included the L350H, L260 and upgraded L60H, L70H and L90H



Other popular new models included the L350H, L260 and upgraded L60H, L70H and L90H wheel loaders and the EWR170E short swing radius wheeled excavator.

wheel loaders, the EWR170E short swing radius wheeled excavator, the ECR355E short swing radius crawler excavator, the EW240E MH material handler, the DD105 OSC oscillating compactor and the P6820D paver.

Co-Pilot in the cab

Customers have also used their visit to Eskilstuna this summer to learn more about Volvo Co-Pilot, which delivers real-time machine data to a screen in the cab, helping operators to boost their productivity, efficiency and safety. Following the European launch of the Volvo Co-Pilot Haul Assist function at Intermat, the system is now available for all of the company's main product types — articulated haulers, excavators, wheel loaders, compactors and pavers.

"One of the major trends in our world over the last decade has to be the explosion of data. Volvo has been collecting machine data through its CareTrack telematics system for more than 10 years but thanks to Volvo Co-Pilot, this data can now be delivered directly to the operator in the cab, where it can make an instant difference. Volvo Co-Pilot is a very important advance for the company indeed," says Peter Ahlberg, director of Aftermarket Strategy & Product Management for Volvo CE Sales Region EMEA.

Carl Slotte, president of Volvo CE Sales Region EMEA, concludes, "The Volvo Customer Center gives visitors a real insight into the Volvo brand, its long heritage and the expertise behind our machines. We are constantly developing our facilities and test-driving capabilities to remain the industry leader in the field. I would like to thank all the guests who have taken the time to join us in Eskilstuna this summer — we hope to see you again soon!"



One of the most popular models at the Customer Center has been the new 100-ton Volvo R100E rigid hauler.

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New options for cat 918m compact wheel loader include high-lift loader linkage, fusion coupler, guarding, larger tires

Caterpillar now offers the 918M compact wheel loader with four new options: high-lift loader linkage, Cat FusionTM coupler, five-piece guarding package and wider tires.

High-lift linkage

The new high-lift loader linkage option is designed specifically for applications that can benefit from increased lift height and increased reach of the loader linkage. The newly designed loader arm assembly can provide up to 10 percent more lift height and reach compared with the standard loader linkage equipped with a similar work tool interface whether pin-on, IT (Integrated Tool Carrier) coupler or ISO coupler. A 918M configured with both a high lift linkage and 20.5 tires will have a bucket pin height over 13 feet, 5 inches (4.1 meters).

Fusion coupler

With the addition of the Caterpillar designed Fusion Coupler System to the 918M's option list, buyers now have the choice of three couplers. Designed for optimum performance and long-term durability, the Fusion coupler uses an advanced constant pressure wedging mechanism to create a tight, rattle-free fit with work tools.

The patented locking system eliminates the play and thus eliminates the associated wear. The Fusion coupler is designed to apply constant hydraulic pressure to wedges that continually pull the work tool tight to the coupler in two directions in and down, providing secure tool control and increased productivity. The coupler is available for Fusion-compatible work tool attachments.

Tire choices

Three new 20.5R25 tires for the 918M offer a number of benefits compared to the standard 17.5R25 tires, including up to 20 percent more tire life and

increases in traction, stability and tipping capacity — all resulting in reduced operating costs.

RockRoadRecycle.com

PG 15

Available for the North American market, the three new tire options include the general-application Goodyear E/L-2A "Sure Grip Loader," a 12-ply-rated bias tire with directional and self-cleaning tread; the Michelin "Xsnoplus," specially designed for operation on snow and ice, and incorporating a non-directional tread pattern with excellent self-cleaning characteristics; and the Michelin XHA2 radial, a wide-lug tire with non-directional tread, heavy shoulders and protected sidewalls for heavy-duty applications.

Width-over-tires is approximately 91 inches for the larger 20.5R25 tires. All three tire options must be used with the Fusion coupler or with the optional high-lift loader linkage to ensure that work tools rest level on the ground. An oscillation limiter eliminates tire-to-fender interference.

Guarding

The new guarding options, which can be used with currently available steel-front fender deflectors, provide protection for vulnerable areas:

 \bullet Headlight guards surround the front light assemblies and protect from debris falling from the bucket

• Hitch guards protect the 918M's articulation point by providing barriers on both sides of the hitch to prevent material from collecting in the frames, while allowing ready access to service points

• Powertrain guard mounts beneath the transmission and related components; provides an access panel to facilitate oil changes

Drive shaft guard mounts beneath the front driveshaft for protection from debris and obstacles
Crankcase guard mounts beneath the engine to protect the oil pan



Caterpillar now offers the 918M compact wheel loader with four new options: high-lift loader linkage, Cat Fusion™ coupler, five-piece guarding package and wider tires.

Recycling at Cologne/Bonn Airport



The mobile KMA 220 from Wirtgen can accommodate two different aggregate materials in the capacious twin-chamber proportioning hopper.

Photos courtesy of Wirtgen Group

ith the mobile KMA 220 mobile cold recycling mixing plant from Wirtgen, road construction materials can be recycled or upgraded in just about any location. This avoids countless transport trips and is also sustainable and environmentally friendly. And finally, it is extremely economical – as became clear from a job at Cologne/ Bonn Airport at the end of 2017. There, the plant, located immediately next to the job site, produced around 11,000 t of materials for a hydraulically bound base layer, using materials reclaimed locally, water and cement in the mix-in-plant process.

In autumn 2017, parts of the flight operations areas at Cologne/Bonn Airport were renovated. In this context, parts of the drainage system – including both the unbound superstructure and parts of the substructure – were also rehabilitated. The mobile cold recycling mixing plant from Wirtgen prepared the material mix.



David Rose (M. Eng.), site manager of general contractor Heinz Schnorpfeil Bau GmbH.

Flexible location and formula

Alexander Weber of SAT Straßensanierung GmbH coordinated the deployment of the mobile KMA 220. "We use the cold mixing plant in projects across the country. In the last three months, for instance, it has been in Munich before going on to the Rhineland and then to two different locations in the Hunsrück region. This works outstandingly well, because the plant is very easy to transport and the setup times are very short."

A new location usually also means a different formula, different mineral aggregates and different binders. But that's not a problem for Weber, because the KMA 220 can produce a wide range of mixes from new aggregates, milled material or other reclaimed road surfacing materials in an environmentally friendly process. Cement, bitumen emulsion or foamed bitumen can be added in the plant as a binder.

Short setup times save money

One of the key factors in the cost-effectiveness of the plant is its simple, time-saving transportability. This was taken into account right from the design stage, when the transport dimensions were kept within the international guidelines for road traffic. Erection and dismantling are also straightforward, because the work can be done without any special tools and no foundations are required. Instead, a combination of fixed and hydraulically extending supports provides stability.

Additional components such as the tanker truck for water or emulsion and the cement auger can be positioned on either side of the plant. And, not least, the discharge conveyor has a wide slewing range in either direction. In short, there is enormous flexibility when it comes to choosing the location.

More than 15 years of satisfaction

Volkmar Gogol is the person at SAT who is responsible for setting up the KMA 220 and putting it into operation. He has been working with cold mixing plants from Wirtgen since as far back as 1990. "I worked with the KMA 150 first, then with its succes-



Volkmar Gogol has been working with cold mixing plants from Wirtgen since as far back as 1990.

sor, the KMA 200, and now the KMA 220. Over the years, the plants have been continually optimized and made more efficient. Today, I can mix between 150 and 220 t per hour with the KMA 220, depending on the material used and the formula. That amounts to as much as 2,000 t in one working day," the experienced operator explains.

The short route to 11,000 t of hydraulically bound base in six days

In six days, the mobile KMA 220 at Cologne/Bonn Airport turned some 11,000 t of recycled material into the hydraulically bound base required for a surface area of about 60 m x 600 m in the area of the taxiway. The material actually consisted of RAP from a variety of projects in the region and parts of the hydraulically bound base from a construction site neighboring the airport. To achieve the required strengths, 4.4 percent by volume of 32.5 R Portland cement and 1.2 percent by volume of water was added to the construction material. A total of six trucks transported the material from the KMA 220 straight to the installation site some 400 m away before shuttling back again.

Tried-and-tested measuring and control technology in the KMA 220 ensures that the formula is followed.

The aggregate is weighed on belt scales while on the take-off conveyor and fed continuously to the mixer. The quantities of water and binder specified in the formula are determined by microprocessor control, based on the weight of the aggregate, and then dosed precisely and added by means of the pump and flow meter. They are added directly at the twin-shaft compulsory mixer, where mixing blades made of wear-resistant carbide metal mix all components thoroughly. The result was conclusive: Even after more than 3,500 hours of operation, the KMA 220 is still mixing the construction materials in accordance with the mix design test specifications.

Economy meets endurance

The mixer, like all other components of the KMA 220, is operated hydraulically. The hydraulic pumps are driven by a powerful diesel engine delivering 129 kW (176 HP). The system saves a lot of energy: "I can mix for 10-15 hours on one tank of fuel," says operator Gogol. The dimensions of the water tank are also impressive: Its capacity of 4,500 l supports a reliable supply of water even while the water tanker truck is being switched.

Compaction with Hamm compactor

Thanks to the large tank capacities, the preparation of the hydraulically bound base at the Cologne/Bonn airport project also proceeded smoothly. This is confirmed by David Rose (M. Eng.), site Manager of general contractor Heinz Schnorpfeil Bau GmbH: "As a building contractor, we appreciate the benefits of the mix-in-plant process and the Wirtgen cold mixing plant. The plant keeps to the formula reliably and produces the desired quantities in the allotted time." The KMA 220 continuously turned the recycled material into hydraulically bound base material that was then distributed over the surface of the site by a grader. A Hamm earth compactor, the H 16i, handled compaction.

Immediately after completion of the hydraulically bound base, a Vögele paver together with some Hamm asphalt rollers laid the 30 cm-thick asphalt surface on the hydraulically bound base layer.

By then Volkmar Gogol was already getting the KMA 220 ready for its journey to the next job site, around 150 km away in the Hunsrück. There, some 20,000 t of tar-polluted reclaimed material had to be processed in the following two weeks so that it could then be recycled economically for use in the rehabilitation of a country road.



The slewing discharge belt of the mobile Wirtgen KMA 220 cold recycling mixing plant allows the trucks to be loaded to capacity and ensures smooth onward transport – even under full load.



The KMA 220 from Wirtgen measures 14.71 m in length for transport, including the cabin. The transport width is only 2.50 m, though, because the cabin is folded in for transport.



The hydraulically bound base at Cologne/Bonn Airport was compacted by a Hamm H 16i compactor.





The clearly structured control panel in the cabin allows the operator to see the current mixing capacity – in this case 235 t/h. This makes it easy to achieve typical daily outputs of 2,000 t in 10 h.

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October 2018



PG 19 October 2018 To Place A Classified Ad Phone 1 (800) 836-2888 • Fax (518) 673-2381 • E-mail: classified@leepub.com **RRR Mailing Address Classifieds,** BUCM ROAD PO Box 121. Palatine Bridge. NY 13428 RECYCLE A Picture is Worth a Thousand Words **Snowplows** Snowplows **Trucks** Trucks Snow Pushers 6' up to 16' Martin's Farm Trucks, LLC **Other Sizes Available** Trucks for All Your Needs - Specializing in Agri-Business Vehicles **Ouick-tach, Bucket Mount or Bare Back PINE RIDGE** Welding and Machine 2006 Kenworth T800, C13 Cat, Jake, 1993 Ford L9000, L10 Cummins Penn Yan, NY - Steel Sales - 315-536-2102 300hp, 7LL, Quadlock, heavy single 10spd, 44k rears, Quadlock, 5.29 ratio, It's easy & economical to add a picture to your ad! frame, 191k miles \$14,900 78k miles \$44,500 For Information Call 717-597-0310 Trailers Trailers 1-800-836-2888 **4 Easy Ways To Place A** SPECIAL OF THE WEEK **ROCK ROAD RECYCLE Classified** 1 PHONE IT IN - Just give Peggy a call at 1-800-836-2888 FOR BEST RESULTS, RUN FAX IT IN - For MasterCard, Visa, American Express or Discover customers... 2. YOUR AD FOR TWO ISSUES! Fill out the form completely and fax to Peggy at (518) 673-2381 New PJ Gooseneck Trai 3. MAIL IT IN - Fill out the form, calculate the cost, enclose your check/money Cost per issue: \$10.00 for the first 14 order or credit card information and mail to: 102" x 25' (20' flat deck + 5' dovetail). 3 spring assist **ROCK ROAD RECYCLE Classifieds** ramps, 22,400 lb GVW, electric/hydraulic disc brakes, words, 30¢ each additional word. PO Box 121 locking toolbox, winch plate, spare tire, (Phone # counts as one word) LED lights, side steps Palatine Bridge, NY 13428 \$11,000 4. E-MAIL IT IN - E-mail your ad to classified@leepub.com Number of Issues to Run e-mail or call with your credit card Midlakes information. Trailer Sales "We'll hook you up" 1595 Yale Farm Rd., Romulus, NY 14541 Toll Free 888-585-3580 ~ 315-585-6411 Trailers 1970 DUMP TRAILER, 24' steel, oldie but goodie, good \$10.00 for demo work, \$2,500. 716-937-6434. \$10.60 \$10.90 \$11.20 TEITSWORTH TRAILERS: Over 400 trailers in stock! PJ Goosenecks, Dumps, Tilt Tops, \$11.80 \$12.10 \$12.40 Landscape, Car Haulers, Skid Steer trailers, Frontier Livestock Trailers & much more! \$13.60 \$13.00 \$13.30 Best prices, largest selection. Financing available. Call 585-243-1563. \$14.20 \$14.50 \$14.80 Name: (Print) Just Ask For Pegav Trucks Street: County: City: St.: Zip: 2006 CHEVY pickup, Dura-Phone: Fax: max diesel, 4dr., 127,000mi., 4WD, \$16,000; 1999 Ford Cell: E-mail: flatbed diesel, 4WD, 163,000 m I have enclosed a Check/Money Order mi., \$11,000; 1996 Chevy Utilm Please charge my credit card: m Visa m Discover ity pickup, gas, 170,000 mi., m American Express

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PG 22

October 2018



Go beyond compliance to better protect your employees and business.

Source: <u>EHS Today</u> Michael Pardus | Aug 30, 2018

hen it comes to chemical exposure protection for employees and downstream users, companies must be compliant with OSHA regulations. In 1970, OSHA created permissible exposure limits (PELs) that remain the rule of law to this day, though knowledge regarding exposure and toxicity has continued to evolve since then.

Disregarding that knowledge means legal compliance is not the same as protecting your company, employees and downstream users. Staying "OSHA legal" is no longer enough. Going beyond compliance is how you create a safer standard of care and protect your bottom line. But how exactly do you go beyond compliance? For starters, you look beyond OSHA regulations.

EPA & OSHA: overlapping jurisdictions?

While EPA and OSHA have different purposes, their jurisdictions can seem to overlap when it comes to workplace exposure. Even though EPA has a broader reach, their guidelines do not nullify OSHA regulations when it comes to workplace compliance. But the lines can seem blurry and using only OSHA regulations is not enough.

EPA's Toxic Substances Control Act (TSCA) includes rules that are wide-reaching and go far beyond workplace chemical exposure. TSCA has occupational exposure limits (OELs) that are more current — and "stricter" — than OSHA's PELs. Additionally, there are now new amendments in the mix as a result of EPA's Principles for TSCA Reform, which aim to "reauthorize and significantly strengthen" the effectiveness of TSCA. These developments point to potential regulatory shifts.

Could EPA consultation lead to OSHA updates?

OSHA itself recognizes that its PELs, many of which are based on Threshold Limit Values (TLVs) from 1968 or earlier, are woefully outdated. Until they update their PELs, OSHA continues to provide additional updated chemical information to employers who want to adopt more protective and preemptive measures voluntarily.

In efforts to help create more up-to-date regulations, EPA is consulting with OSHA. Additionally, OSHA is partnering with the American Chemistry Council (ACC) to look for more ways to ensure workplace safety. At ACC's Global Chemical Regulations Conference (GlobalChem) this year, OSHA's Directorate of Standards and Guidance Director William Perry touched on the OSHA/EPA consultation. Perry noted that EPA has consulted with OSHA about some chemical reviews, but he said he is "not sure how active" the consultation will be over the long run. The result of the consultation with EPA may be that OSHA adopts those stricter TSCA rules while still maintaining their workplace authority. Your best bet is to be proactive and keep your eyes glued to the road ahead. Adopt TSCA's recommendations now to provide the best standard of care because it's better for enterprise-wide risk management.

Be proactive with compliance

Forward-thinking companies know that merely complying with OSHA's 40-year-old standards puts their investments — including worker and downstream user safety — at risk. When stricter rules exist, legal compliance tends to flow toward them, so it's important to be proactive.

EPA's OELs under TSCA create a new benchmark to which safety compliance stakeholders may want to adhere. Whether or not EPA's OELs become the OSHA rule of law in the future, it's wise to use them as a guide for chemical substances handled in the workplace.

Proactive steps: monitor, assess and then plan How do you ensure you're taking the right proactive steps to go beyond compliance? Start with constantly monitoring compliance trends. Create processes that help to ensure you're alerted the moment there's a whiff of a potential global chemical manufacturing trend. Technology can help, though only in concert with boots-on-the-ground monitoring efforts.

With constant monitoring comes continuous assessment — it's the only path to productive planning and strategizing. If you monitor, assess and then plan, you're more likely to avoid stopped production due to a chemical that "suddenly" can't be used any longer. More importantly, you can be on top of an employee chemical exposure issue before it becomes a serious problem.

Improve your standard of care with voluntary guidelines

EPA and OSHA are not the only organizations creating chemical exposure limits. There are other sets of voluntary guidelines that many EHS professionals follow. While these are not legally enforceable rules, many businesses use them because they can help to ensure a standard of care that goes way beyond compliance.

A popular set of guidelines comes from the American Conference of Governmental Industrial Hygienists (ACGIH), which updates its TLVs every year. ACGIH is an 80-year-old scientific organization devoted to advancing occupational and environmental health. Many companies use their TLVs as a tool to continually improve their standard of care, which in



turn protects a company and boosts its bottom line.

There's also the National Institute of Occupational Safety & Health (NIOSH). NIOSH, established by the Occupational Safety and Health Act of 1970, collects new knowledge with the aim of developing best practices. Like ACGIH, NIOSH guidelines are entirely voluntary.

Unlike ACGIH, NIOSH depends on government funding, which can lag, and therefore hinder their recommended Exposure Limit (REL) updates. However, NIOSH still provides EHS professionals with guidance for a higher level of worker and downstream user protection than OSHA PELs alone.

These two organizations have well-recognized criteria for their guidelines, and many manufacturing organizations use their recommendations to go beyond compliance.

Developing appropriate OELs

Regardless of official regulations, manufacturing organizations need to establish their own OELs. But in today's world, it's easy to lose sight of reasonable OEL expectations for your circumstances. Companies must navigate non-legally binding TSCA guidelines along with mandatory OSHA regulations, plus recommendations from ACGIH and NIOSH. There's no clear roadmap for the territory beyond compliance.

While OSHA's PELs are the only official legal standards, it's still crucial to consider the other more conservative recommendations. Do what's right for your business. Keep in mind that some recommendations from industrial hygienists don't consider systems thinking and may not work from a business continuity and risk management standpoint. Understanding your organization's risk tolerance and risk competence is paramount when developing OELs.

For example, ACGIH could make a recommendation that would add two more steps to your production line, which would slow down manufacturing significantly—eating away at bottom-line dollars. The ACGIH could have excellent reasons for their recommendation, but how would it fit into your organization's risk management plan? Is it worth it to slow down production and take a hit to the bottom line, especially if it's not OSHA-mandated?

When creating OELs for your company, there are a few things to consider:

• Your company's risk tolerance (and risk competence): all OELs should revolve around overall risk management policies.

• Worker and downstream user population size: are you at risk of exposing 100 workers or 100,000?

John Deere upgrades large frame G-series with EH Boom Performance Package

MOLINE, IL — Improving its popular G-Series large-frame skid steers and compact track loaders, John Deere continues to provide industry-leading job site solutions with the addition of the EH Boom Performance Package. This productivity-boosting feature is available as a factory-installed option on the 330G and 332G skid steers, and the 331G and 333G compact track loaders.

"We designed our G-Series machines with customer response in mind and we're committed to the continuous use of this invaluable feedback," said Gregg Zupancic, product marketing manager, John Deere Construction & Forestry. "Our EH Boom Performance Package automates repetitive tasks and improves job site efficiencies and safety. With this new technology, operators can feel more confident and productive than ever before."

The EH Boom Performance Package offers several features to help trim cycle times, speed production and improve job site awareness by automating repetitive functions.

The electronic self-level (ESL) feature automatically keeps the bucket, pallet forks or attachment level so the operator does not need to make adjustments when raising or lowering the boom to prevent material spillage. The EH Boom Performance Package also includes updated joysticks with built-in detent positions to activate the operator programmable boom and bucket functions. The return to dig (RTD) fea-

ture allows the operator to automatically and easily reset the bucket or attachment into a ready-to-work position. The return to carry (RTC) feature allows the operator to automatically and easily reset the boom and bucket into an operator-designated ready-tocarry position for quick transportation of materials. The boom height kickout (BHKO) feature allows the operator to set the boom height based on a low ceiling in an indoor application, or the height above a truck sidewall or hopper. Then, using the joystick detent, the boom will automatically stop at the preset position, reducing the chances of equipment damage. With these features enabled, even an inexperienced operator can take full advantage of production-leading compact equipment from John Deere.

PG 23

The EH Boom Performance Package brings big loader functionality to the John Deere compact construction line. It also enhances the capabilities of the refined vertical-lift boom design in the large-frame G-Series, enabling these machines to rise higher, reach farther and lift more for quicker and easier loading. Height to hinge pin is 11 feet, enabling operators to easily load dump trucks, feed mixers, fill hoppers and do everything in between. The lift path on the G-Series extends an additional 6 inches from the machine.

To learn more, contact your local John Deere dealer or visit <u>www.John-</u> <u>Deere.com</u>.



The RTC feature allows the operator to automatically and easily reset the boom and bucket into an operator-designated ready-to-carry position for quick transportation of materials. Photos courtesy of John Deere



The BHKO feature allows the operator to set the boom height based on a low ceiling in an indoor application, or the height above a truck sidewall or hopper.

• New OELs EPA is currently developing under TSCA; at the very least, stay in the loop with where the EPA is heading.

• New use restrictions for existing chemicals; make sure old processes reflect new ideas.

• Analogous EPA OELs that apply to new compounds; if you want to use a new compound that is not yet covered by a use rule, there may be OEL data for an analogous substance that's appropriate.

While federal agencies decide new occupational exposure regulations, it's crucial to stay informed about all developing rules and trends to remain compliant. It's also vital to take proactive steps to look beyond EPA and OSHA for guidelines that will better protect your organization.

Most importantly, stay vigilant about reviewing and developing your own OELs. Going beyond compliance will improve your standard of care and keep you ahead of the workplace safety curve. Big businesses now require more transparency from their suppliers, and that's only going to increase in future years. You don't want to play catch-up.

Michael Pardus is a technical expert at Haley & Aldrich Inc., a consulting company specializing in underground engineering, environmental science and management consulting. He has 30 years of experience in industrial operations and environmental consulting, enterprise resilience and governance, EHS compliance, and regulatory affairs.



ALLU welcomes new Midwest territory manager for the U.S.

EAST BRUNSWICK, NJ — ALLU Group Inc., based in East Brunswick, NJ, recently announced Darrin Harn as its new territory sales manager for the midwestern United States. Based in Wisconsin, Harn will be responsible for developing and working with ALLU's network of dealers in the Midwest, as well as field sales activities.

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Harn was previously a territory manager for ALLU from 2006 to 2011, and brings decades of construction and agricultural sales experience to his new position. Prior to rejoining ALLU, he worked with farming equipment manufacturer McFarlane Manufacturing, first as a product support manager and then as territory sales manager. Harn also spent 13 years in sales and service support for Kuhn North America. He has a Bachelor of Science degree in Agricultural Operation Management (Mechanized Agriculture) from the University of Florida.

"We are pleased to have Darrin Harn join our U.S. sales team," says Edgar J. Chavez, president North America of ALLU Group Inc. "His prior experience with ALLU, along with his history of success in equipment sales and dealer and customer relations, make him an excellent fit for us."

Darrin Harn is ALLU's new territory sales manager for the midwestern United States.

port for Kuhn North Science degree in Agnt (Mechanized Agri-Florida. In Harn join our U.S. Wez, president North His prior experience istory of success in I customer relations, S." *y* sales manager for the Photo courtesy of ALLU

ADM offers recycle systems to enhance cost-efficiency

HUNTERTOWN, IN — Asphalt Drum Mixers, Inc. offers four models of portable and stationary recycle systems to enhance asphalt plant cost-efficiency. Recycle systems allow plants to use milled material in hot HMA. Since RAP is much cheaper than virgin aggregate, the result is a less expensive finished product that maintains the high quality of a pure virgin aggregate mix.

The 15-ton-capacity recycle bins stand strong with continuously welded seams. ADM reinforces the bins with angle irons and midsection stiffeners and incorporates steeply sloped sidewalls to prevent material from plugging or bridging. A tapered discharge opening leads to the direct-drive belt feeder, which includes a 5-horsepower motor, multi-ply belt, self-cleaning tail pulley and adjustable skirt boards.

The recycle system transfers RAP from the bin with a heavy-duty weigh conveyor that features a channel frame and wind shroud protection for accurate weighing. The conveyor is 2 feet wide and depending on the model, between 45 and 65 feet long. It introduces RAP to the dried aggregate mix after the heating process. As much as 50 percent of the HMA can contain recycled pavement, depending on the conditions and type of plant.

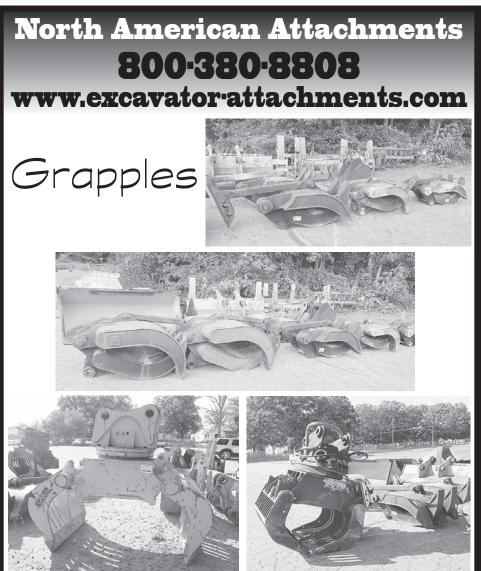
Portable units feature a heavy-duty

I-beam frame on a gooseneck trailer with a fifth-wheel kingpin hitch, single axle and air brakes. The trailer includes hinged support legs and a hydraulically controlled incline conveyor. An optional lump breaker breaks down large pieces of RAP into useable sizes. It features an adjustable steel breaker plate and replaceable tungsten-tipped teeth and is powered by a 30-horsepower, high-efficiency motor with an open-mesh-covered V-belt drive. Single- and double-deck scalping screens are also available to ensure oversized material does not enter the aggregate mix. Other options include air cannons, grizzlies, bin extensions, adjustable legs with sand shoes, and a skid with bolt-on support legs.



Asphalt Drum Mixers offers four models of portable and stationary recycle systems to enhance asphalt plants' cost-efficiency.

Photo courtesy of ADM



KINSHOFER introduces WS-series drum cutters for efficient and powerful cutting

KINSHOFER, manufacturer of high-quality excavator and loader crane attachments, recently introduced the WS drum cutter series. KIN-SHOFER acquired the drum cutter line earlier this year with the purchase of

Photos courtesy of KINSHOFER

Schaeff Transverse Cutter from Atlas GmbH. The drum cutters feature an exclusive pick angle and optimal chisel arrangement for high performance and minimal wear, making the attachments ideal for mining, tunneling, road



PG 25

WS-Series drum cutters are available with three drum types, a profiling drum for tunneling, a rock drum for quarry and mine applications, and a demolition drum for cutting concrete.

KINSHOFER introduces a full line of drum cutters, ideal for mining, tunneling, road construction and demolition.





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New Jersey forms US Composting Council chapter

MORRISTOWN, NJ — USCC members from the state of New Jersey have affiliated with the US Composting Council as an official committee to promote the compost manufacturing industry under the umbrella of the USCC, it was recently announced.

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The New Jersey Compost Committee (NJCC) has been organized by a group of USCC members working in the consulting, non-profit, public education and legal fields. These members are working towards a more robust organics and food waste recycling industry in the state.

"Our group wants to work with state regulators and legislators to make it easier to open a compost pro-

construction and demolition.

"Years of engineering and manufacturing have shaped the WS-Series drum cutters into precise rock breaking units that maximize efficiency and outperform the competition," said Francois Martin, KINSHOFER North America general manager. "Our team of application specialists work with contractors to choose the best drum and chisel for their specific application, minimizing noise and vibration while optimizing performance."

Drum cutters are a quieter alternative to hydraulic breakers and the WS-Series are one of the quietest in the industry, making them excellent for use in areas with noise restrictions. They also produce less vibration than breakers, so contractors can use them where there's a risk of disturbing a nearby structure's foundation.

KINSHOFER achieves the low decibel output and minimal vibrations of the attachments through a high-torque hydraulic motor. The motor powers the drum cutter while its gear reduction optimizes torque and cutting force. The higher torque enables the attachment to achieve greater cutting efficiency while operating at a slower speed than competitive drum cutters. The controlled speed of the attachment reduces noise and vibration as well as maximizes operator comfort. Additionally, the hydraulic motor is adjustable to match the output of an excavator's hydraulics. KINSHOFER has a drum to match any application. The rock drum effectively breaks soft to medium-hard rock in mines and quarries with its strategic chisel pattern while the profiling drum's higher density of chisels shapes and levels soft to medium-hard rock in tunneling applications. The demolition drum offers reduced vibrations due to a wear-protected spiral sheet and is ideal for cutting medium-hard to hard rock as well as concrete.

Based on the application, KINSHOFER offers four chisel tips that attach to the wear pick: standard, heavy-duty, wear-protected and wood. Standard chisels are excellent for breaking asphalt, argillite and other soft to medium-hard rocks while the heavy-duty chisels power through medium-hard to very-hard materials such as limestone and concrete. Wear-protected chisels are ideal for abrasive rocks such as sandstone and furnace gravel. The wood chisel is designed specifically for wood applications, such as stump removal. Wear picks can be replaced in minutes, leading to greater productivity and less downtime.

Selecting the proper chisel and drum combination is key to optimizing performance and reducing attachment wear. KINSHOFER's application specialists work closely with customers to understand applications and material conditions so they can recommend the best drum and chisel tip for each situation. The attachment's heavy-duty sealing system enables underwater operation as deep as 25 meters for applications such as bridge repair.

WS-Series Drum Cutters are available in seven models for 2- to 60-ton excavators. For added versatility the attachment can be paired with KINSHOFER'S NOX Tiltrotator, which enables 360-degree continuous rotation and multi-directional tilting up to 55 degrees. duction business here and to educate our citizens about the importance of organics recycling," said Jairo E. Gonzalez, vice chair.

The group, which is seeking New Jersey members, will educate state regulators, local officials and the public about the importance of the compost manufacturing industry to local waste management programs and jobs and business development, as well



as the benefits of using compost in commercial and residential landscaping, storm water management, erosion control and green infrastructure. The committee and USCC will jointly take positions on regulations and legislation that affect the industry and the market for compost in the state.

"The USCC — and the compost industry — is most effective in states where a local and organized industry





October 2018



WTD Equipment joins Bandit's dealer network

WTD Equipment has joined Bandit's growing dealer network to supply hand-fed chippers and stump grinders to the Pacific Northwest with two locations: Portland, OR and Monroe, WA.

"WTD Equipment has a deep commitment to the hardworking tree care professionals in the northwestern United States, and now they will be able to supply the best hand-fed wood chippers and stump grinders in the industry to their customers," said Bandit Sales Manager Jason Morey.

Customers can expect a complete inventory of arborist equipment, climbing gear, ladders, chainsaws, pole pruners and more, along with

group is at the table," said Frank Franciosi, executive director of the USCC. "Our chapters are important because their leadership is directly in touch with the members we work to serve."

The New Jersey Committee becomes the ninth regional chapter of the USCC. Committees are groups on a path to become full-fledged Charter Chapters. The industry is expanding due to increased efforts at removing food scraps from disposal along with traditional yard trimmings. The demand side of the industry is expanding with the growing recognition of the beneficial uses of compost.

California, Minnesota, Colorado, Virginia and North Carolina all have USCC Chapters, and Committees have been founded in Illinois, Michigan and the Maryland-DC region.

For information about the New Jersey chapter, contact NJCC Co-Chair Jairo E. Gonzalez at jairo@njcomposting.com or to start a chapter, contact USCC Membership Manager Linda Norris-Waldt at: <u>Inorriswaldt@compostingcouncil.org</u>. work trucks, lift trucks, chip trucks and Bandit equipment. They can even handle financing. "WTD is uniquely positioned to literally be a one-stop stop of our customers," Morey said. "They have everything needed to outfit a tree care company from top to bottom." Learn more about WTD Equipment by visiting wtdequipment.com.









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With R-Series compact excavators, operator comfort starts outside the cab. The redesigned exterior provides exceptional fit and finish, reducing vibration levels. Beneath the surface, enjoy a more spacious and comfortable cab, with increased glass for added visibility, keeping operators working productively all day. R you ready for the revolution?

Check out R-Series comfort features: Bobcat.com/MyR-Series



One Tough Animal.

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