


Gearing Up for a Safe Spring



The freeze/thaw cycle can loosen solid rock on high walls.

Roads and berms can be damaged by thawing of frozen fill or excess moisture and pose a hazard.

Ensure that haul truck brakes are in good working order.

Despite winds and rains, make sure plant maintenance is not ignored.

Make Sure Your Start-up is a Safe One

Historically speaking, more fatalities have occurred in metal/non-metal operations during the spring months than any other time of the year — including summer months when production rates are typically the highest. According to data from the Mine Safety and Health Administration (MSHA), approximately 1.5 times as many fatalities occur during the combined months of March, April, and May than during the June, July, and August window.

Last year, that trend reversed for the first time in recent record. However, aggregates managers should continue to exercise caution as they enter the spring, particularly at those sites that have been shuttered throughout the winter months and are now preparing for spring start-up.

“The biggest thing I stress is the need to educate workers to recognize hazards,” says Norman J. Zeman, Jr., CMSP, of MSHA’s Educational Field Services office in Bartow, Fla. “The supervisors need to listen to their employees and correct the hazards immediately, not just write a work order and move on or say, ‘Be careful, and we’ll fix it at the end of the shift.’”

Some of the safety hazards specific to springtime include the effects of the freeze/thaw cycle on the site itself. Throughout the winter months, any moisture trapped within a quarry highwall or on the perimeter of a sand and gravel pit can lead to unstable conditions.

“During the March-April time frame, you want to pay particu-

lar attention to when it is below freezing in the morning and temperatures increase throughout the day,” says Tom Harman, the vice president of safety for the NSSGA in Alexandria, Va. “Water dripping from a highwall can be indicative of unsafe conditions.”

Water-related segments of an operation should also be evaluated for potential hazards. According to MSHA guidance, sudden thaw and precipitation can overwhelm drainage systems, damage road surfaces, plug culverts, fill settling ponds, and overwhelm designed capacities and spillways at impoundments.

The agency also recommends that producers pay attention to muddy roads, deferred repairs or construction of berms, damaged dump points, or fill areas that may be compromised by thawing of frozen fill or excess moisture noting that both pose hazards for haulage equipment. Reduced truck speed and travel frequency are recommended — particularly on roads with steeper grades.

When a hazard is identified — weather-related or not — it should be mitigated as quickly as possible. If that is not immediately possible, the area should be marked off with red or yellow tape to indicate that miners should stop or exercise caution in those areas. All workers, including staff and contractors, should be clearly instructed to follow the safety rules that apply with those demarcations, says Bill Butler, CMSP, a Brooksville, Fla.-based site safety coordinator for Cemex, noting, “It’s not there for decorative reasons.”

1 Ensure highwall integrity



Freeze/thaw cycles can loosen rock on quarry highwalls. Pay special attention to the work area and immediately mark and isolate any portions of the highwall that could pose a hazard to equipment operators below.

4 Communicate clearly



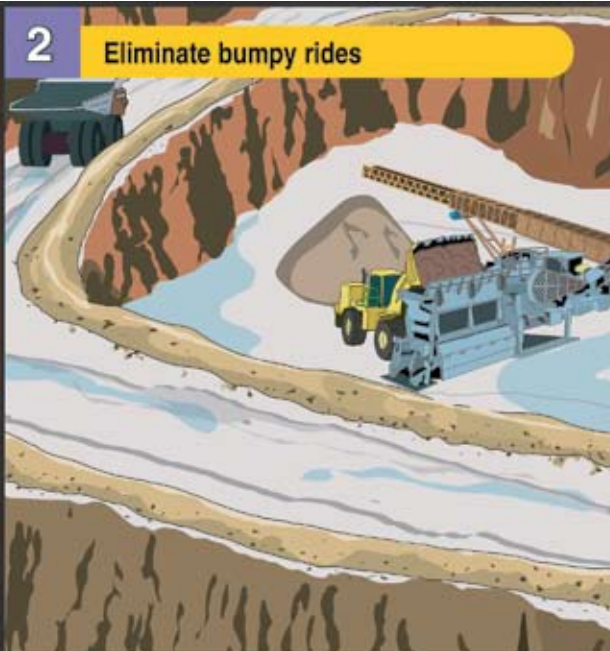
Review signage throughout the plant. If exposure to the elements has caused fading or signs are cracked or broken, replace them. Make sure that important safety messages are easily visible.

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2 Eliminate bumpy rides



Winter weather can be abusive to access and haul roads, which in turn may pose a hazard to both people and mobile equipment. Take the necessary time to fill potholes, regrade slopes, build up berms, and ensure that roadways are safe.

3 Maintain a line of sight



Spring weather is often accompanied by rain and mud. Make sure that windshields, side view mirrors, and video camera lenses are clear. Good visibility is a key factor to safe operation of mobile equipment.

5 Offer contractors site-specific training



Spring start-up often includes non-staff employees. Make sure that any contractors have the appropriate general and site-specific training. Be sure to hold all employees — staff or contract — to the same standards of safe behavior.

6 Conduct thorough walk around surveys



Make sure that all appropriate safety precautions are in good working order. Equipment should be appropriately guarded and hazards should be eliminated immediately. If that is not possible, notify employees of the hazard, limit worker exposure, and remediate the hazard as quickly as possible.

Tom Harman is the vice president of safety for the National Stone, Sand & Gravel Association (NSSGA). He holds two master's degrees in environmental and occupational safety and health management. Prior to joining NSSGA, Harman served as the National Ready Mixed Concrete Association's managing director for regulatory affairs.

Bill Butler, CMSP, is a site safety coordinator for Cemex. Based in Brooksville, Fla., he has been with the company for 19 years, beginning in maintenance. Butler has been an industry safety professional for 13 years.

Norman J. Zeman, Jr., CMSP, has spent the last seven years with the Mine Safety and Health Administration's Educational Field Services unit in Bartow, Fla. Previously, he spent 13 years in metal mines and two years in heavy and highway construction.

OPERATIONS ILLUSTRATED

Voices of Experience

Tom Harman ▼

The National Stone, Sand & Gravel Association (NSSGA) and the Mine Safety and Health Administration (MSHA) have partnered on a “Spring Thaw” workshop series, being held at various sites around the nation.

“The program has been around for a number of years,” says Tom Harman, the vice president of safety for the NSSGA in Alexandria, Va. “It started out reviewing safe practices for the spring thaw which usually deals with highwall instability and the unconsolidated material that can drop off during the thawing out and refreezing process.”

Throughout the program’s existence, however, it has expanded to include topics such as behavioral safety, fall protection, hazard recognition, and many other topics. “It’s a time to refocus all the stakeholders onto safe work,” Harman points out.

In the springtime, it is important to highlight safety and to ensure that proper equipment maintenance is performed, regardless of weather conditions.

“Mechanics’ and equipment operators’ attention has to be much greater than normal. They need to detect unsafe conditions in the mechanical system because of the poor visibility conditions created by the accumulation of mud,” Harman notes. “The key is to dress for the weather so miners can do the pre-op checks and repair the equipment in a thorough manner.”

One concern, for example, is that mud build-up on the undercarriage of mobile equipment such as haul trucks can affect various systems, including the brakes.

“Unless you keep your equipment clean on its undercarriage, there could be problems with all of the mechanical components,” Harman says. “Equipment maintenance and equipment cleaning is very important at this time of year.”

Bill Butler, CMSP ▼

As spring start-up preparations begin, contractors are a frequent sight at many operations. Before they come onto your site, it is important to make sure their expertise is in the field you require, that they are certified by the Mine Safety and Health Administration (MSHA), that they have received the appropriate safety training, and that they have the necessary insurance coverage, says Bill Butler, CMSP, a Brooksville, Fla.-based site safety coordinator for Cemex.

Once a contractor arrives at your mine, site-specific training must be completed. Information ranging from the location of the break room to how to access an emergency calling list should be shared as part of that training. “It’s almost like taking a new employee and giving them a crash course on the site,” Butler notes.

When it comes to contractor selection, he prefers to use one from a pool of half a dozen contractors familiar with his operations. “Our plants are 24/7 so we need to get them back up as quickly as possible,” Butler says, noting that when a cement kiln goes down for repairs, it can take days rather than hours to get back it online. “Their history helps them know what to look at, what precautions to take, and helps to prevent them from being injured.”

He recommends that plant managers treat contractors and employees alike when it comes to safety procedures. Beyond the regulatory training requirements, consistency sends the message that safe behaviors are expected from all.

“When they’re here, they’re an extension of our workforce,” Butler says. “That’s the way we look at them. You have to lead by example. The end result is that you’re looking out for both parties. When they realize that you want to make sure they go home safely at the end of the day, they appreciate it.”

Norman J. Zeman, Jr., CMSP ▼

A safe spring begins by educating workers to recognize a hazard and then to correct it — safely — or to report it to his or her supervisor, says Norman J. Zeman, Jr., CMSP, of MSHA’s Educational Field Services office in Bartow, Fla.

Zeman defines a hazard as “the potential for harm. In practical terms, a hazard is often associated with a condition or activity that, if left uncontrolled, can result in an injury or illness,” he says.

In contrast, he says, an accident is a specific, identifiable, unexpected, unusual, and unintended event which occurs without apparent cause, but with marked effects. The key is to prevent hazards from becoming accidents.

“The more you can remove the hazards and educate the miners, the less likely an accident will occur,” Zeman notes. “It’s human nature that after you look at something for three or four days, it becomes common practice. The next thing, somebody gets hurt, and management and employees ask how long it’s been like that...they will usually say it’s been like that forever.”

To prevent employees from viewing hazards as part of doing business, it’s important to conduct regular, thorough walk around surveys to assess hazardous conditions. When one is spotted, it should be immediately fixed. If that is not possible, try to reduce employee exposure to the hazard, notify workers that the hazard exists, and mitigate it as soon as possible.

If a manager — or other employee — observes unsafe behavior, it should be stopped immediately and used as a learning opportunity. Zeman recommends that the supervisor discuss the risk and potential loss, then express his concern for worker safety. Making the experience a positive safety contact will build employee buy-in for safer work routines.