

Safety Lines

Safety in the grain industry: engulfment can happen in 22 seconds

By Sarah Kickbusch, Supervisor, Minnesota OSHA Compliance

With fall harvest approaching, it is again time to think about safety in the grain industry. Nationwide, in 2016, there were 29 documented cases of grain entrapment, 11 falls, 10 asphyxiations and eight equipment entanglements occurring in confined spaces at grain facilities, including family farms and commercial enterprises, according to Purdue University. And these are only reported numbers, a majority of which do not fall under OSHA jurisdiction; the university estimates 30 percent of cases go unreported.

Grain continues to be a significant factor in entrapment and engulfment cases. Whenever possible, workers should avoid entering grain bins. However, if entry is necessary, workers should not stand near or try to loosen grain packed on the side of the bin, which can collapse unexpectedly, nor stand on or below a bridge of grain. “Bridging” occurs when spoiled grain clumps together because of moisture or mold. This can create an empty space beneath the bridged grain, which can collapse. Workers should also not stand on moving or flowing grain because they can become entrapped within five seconds and engulfed within 22 seconds.

While entrapment/engulfment is still the leading hazard in grain facilities, it is important to take measures to prevent other common hazards, including falls, equipment entanglement (including auger entanglement), being struck by an object, combustible-dust explosions and electrocutions.

Learn more about grain-handling hazards and ways to protect workers:

- Federal OSHA – 29 CFR 1910.272 Grain handling facilities: www.osha.gov/law-regs.html
- Federal OSHA – Grain handling: www.osha.gov/SLTC/grainhandling
- MNOSHA – Grain-handling information, fatalities, inspections: www.dli.mn.gov/OSHA/GrainHandling.asp
- MNOSHA Compliance at (651) 284-5050 or 1-877-470-6742

MNOSHA, Mexican Consulate renew alliance to spread safety, health message

Minnesota OSHA (MNOSHA) renewed its alliance agreement with the Consulate of Mexico in St. Paul on Friday, Sept. 1, 2017. The agreement recognizes the joint commitment to protect workers’ rights for Mexican workers in the U.S. MNOSHA’s Alliance Program establishes cooperative relationships for training, education, outreach and communication. Learn more about the Alliance Program at www.dli.mn.gov/Wsc/Alliance.asp.

Attendees at a Mobile Mexican Consulate event on Sept. 9 in Willmar, Minnesota, learned about workers safety and health protections from MNOSHA Workplace Safety Consultation Director Tyrone Taylor. At the event, Taylor talked about the programs and services of MNOSHA Workplace Safety Consultation and distributed information about some of the Department of Labor and Industry’s other work units: Apprenticeship, Labor Standards and Vocational Rehabilitation.

Visit MNOSHA Workplace Safety Consultation at www.dli.mn.gov/Wsc.asp.



Minnesota Department of Labor and Industry Commissioner Ken Peterson (left) and Consul of Mexico Gerardo Guerrero Gómez at the alliance agreement signing Sept. 1 in St. Paul.

Product notices issued for several Genie lifts

By Diane Amell, MNOSHA Training Officer

Genie Brand of Terex Corporation has issued several product and safety notices about several of its lifts.

Product notice 170008 covers GS-3384, GS-3390, GS-4390 and GS-5390 rough terrain scissor lifts. The system relief-valve pressure was not properly calibrated and can cause component damage.

Product notice 170016 involves two issues with Genie's SX-135 XC self-propelled telescopic booms. The machine's software does not fully comply with British Standard BS EN280 Mobile Elevating Work Platforms and with Standards Association of Australia AS1418 Cranes, Hoists and Winches. Also, in extreme temperature conditions, the load sensing system may deviate from the load cell engineering specification, resulting in nuisance faults of the load sensing system.

Safety Notice 170017 warns that the counterbalance valves in the oscillate cylinders of Genie S-60, S-65, S-80X and S-85 telescopic booms and the Z-80/60 engine articulating boom may have been improperly calibrated, which can lead to machine instability that could cause the lift to tip over.



For more information, visit www.genielift.com/en/service-support/safety-notices. The web page allows visitors to enter a lift's serial number to see if it is covered by these or other notices. Visitors can also download the Genie Safety Notice app from this page, which works on all smartphones and mobile devices.

The Genie website also features an interactive tool to aid in educating end-users about the changes to the ANSI A92 and CSA B354 series of mobile elevating work platform standards. The simulation first requires the participant to choose a boom with either a 500-pound or a 660- to 1,000-pound capacity. The player then chooses the type of work to be performed, the material and attachments to be used, and the number and weight of the operators to be lifted in the basket. The program then calculates the total load weight and indicates if the basket is overloaded.

Online now: MNOSHA annual report, federal review, state response

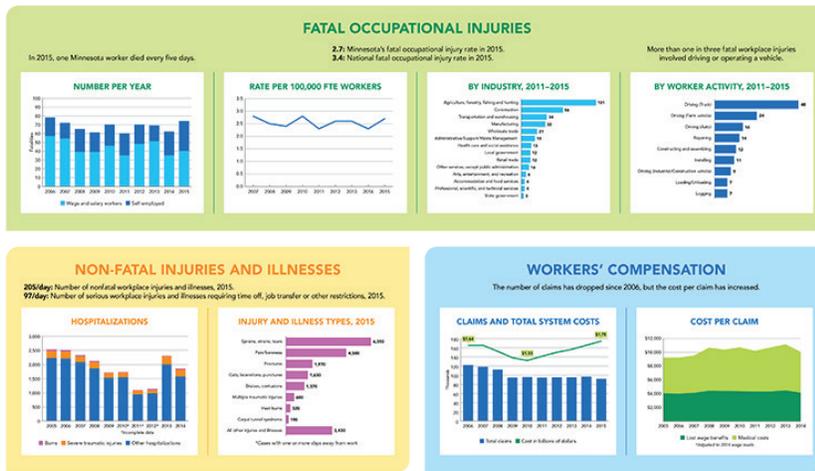
Minnesota OSHA's federal-fiscal-year 2016 *State OSHA Annual Report* is available online at www.dli.mn.gov/OSHA/PDF/annualreport16.pdf.

Federal OSHA's *Fiscal-year 2016 Follow-up Federal Annual Monitoring and Evaluation (FAME) Report* about the Minnesota OSHA program is online at www.osha.gov/dcsp/osp/efame/2016/mn_report.pdf.

Department of Labor and Industry Commissioner Ken Peterson's response to the federal OSHA follow-up FAME report is available online at www.osha.gov/dcsp/osp/efame/2016/mn_formal_response.pdf.

Statistics shine spotlight on worker safety indicators

MINNESOTA WORKPLACE SAFETY SEPTEMBER 2017



To create greater awareness of occupational hazards, the Minnesota Department of Labor and Industry (DLI), Minnesota Department of Health (MDH) and Minnesota Safety Council have created a workplace safety “dashboard” spotlighting a number of key indicators related to worker safety and health.

“In the past decade, Minnesota has seen the number of work-related injuries and illnesses fall from 124,800 in 2005 to 91,520 in 2015; a 27 percent decrease,” said Ken Peterson, DLI commissioner. “To continue this positive trend, we need to build safer worksites so more workers go home healthy each night.”

Dashboard highlights

- More than one in three fatal workplace injuries involve driving or operating a vehicle (2011 through 2015).
- Agriculture remains one of the most dangerous industries in Minnesota: 31 percent of fatal work injuries from 2011 through 2015 were among people working in the agriculture, forestry, fishing and hunting sector, particularly in crop production.
- On average, four new cases of workers with elevated blood lead levels are reported every week.
- The total cost of Minnesota’s workers’ compensation system in 2015 was an estimated \$1.75 billion.

“No one goes to work thinking they will get hurt or sick,” said Paul Aasen, Minnesota Safety Council president. “No one purposely puts themselves in harm’s way. And safety professionals across our state work hard every day to keep their coworkers safe. Nonetheless, the numbers remind us we have more to do.”

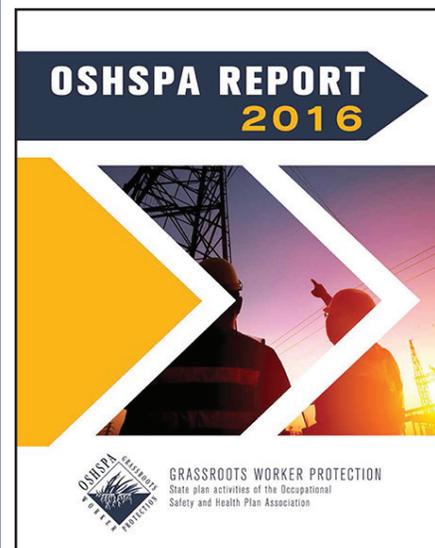
The dashboard, “Minnesota Workplace Safety, 2017” is online at www.minnesotasafetycouncil.org/WorkplaceSafetyDashboard.pdf.

Annual report from OSHA state-plan association available

The updated annual report by the Occupational Safety and Health State Plan Association (OSHSPA) is now available.

GRASSROOTS Worker Protection, describes the innovative approaches to creative partnerships, outreach and education, voluntary compliance, inspection targeting and settlement agreements that have been developed by the 28 states and territories that operate state occupational safety and health plans that are at least as effective as federal OSHA.

The full report, plus a link to just the Minnesota section of the report, is available online at www.dli.mn.gov/OSHA/Reports.asp.



MNOSHA adopts federal OSHA final rule for respirable crystalline silica

By Ron Anderson, Supervisor, Minnesota OSHA Compliance

Minnesota (MNOSHA) Compliance has adopted federal OSHA's final rule to curb lung cancer, silicosis, chronic obstructive pulmonary disease and kidney disease in America's workers by limiting their exposure to respirable crystalline silica. The rule comprises two standards: one for construction and one for general industry and maritime.

Federal OSHA estimates the rule will save more than 600 lives and prevent more than 900 new cases of silicosis each year when its effects are fully realized. In addition, the final rule is projected to provide net benefits of approximately \$7.7 billion annually.

About 2.3 million workers are exposed to respirable crystalline silica in their workplaces, including two million construction workers who drill, cut, crush or grind silica-containing materials, such as concrete and stone, and 300,000 workers in general-industry operations, such as brick manufacturing, foundries and hydraulic fracturing (known as fracking). Responsible employers have been protecting workers from harmful exposure to respirable crystalline silica for years, using widely available equipment that controls dust with water or a vacuum system.



Key provisions of the rule:

- reduces the permissible exposure limit (PEL) for respirable crystalline silica to 50 micrograms per cubic meter of air, averaged over an eight-hour shift;
- requires employers to
 - use engineering controls (such as water or ventilation) to limit worker exposure to the PEL,
 - provide respirators when engineering controls cannot adequately limit exposure,
 - limit worker access to high exposure areas,
 - develop a written exposure control plan
 - offer medical exams to highly exposed workers and
 - train workers about silica risks and how to limit exposures.
- provides medical exams to monitor highly exposed workers and gives them information about their lung health; and
- provides flexibility to help employers, especially small businesses, protect workers from silica exposure.

The federal OSHA construction standard became effective Sept. 23, 2017; the MNOSHA Compliance enforcement date was also Sept. 23, 2017. Federal OSHA enforcement for the general industry and maritime standard is scheduled to begin June 23, 2018.

See www.dli.mn.gov/OSHA/PDF/federal_reg_update1017.pdf for more information about the status of federal regulations.

Recent MNOSHA retirees: Cindy Valentine, Bob Sarna

Cindy Valentine

Cindy Valentine retired from the Minnesota Department of Labor and Industry (DLI) on Sept. 1. She has been a state employee for 40 years, working at DLI for 21 of those years.

Since 2011, Valentine has been the director of Workplace Safety Programs, managing staff members and programs related to MNOSHA Compliance and MNOSHA Workplace Safety Consultation, including its partnerships, outreach and education. Before working with Minnesota OSHA, she worked as DLI's chief information officer and deputy commissioner, and completed temporary assignments in the Human Resources and Financial Services units.

Bob Sarna

After 42 years of service, Minnesota OSHA (MNOSHA) Compliance Supervisor Bob Sarna retired Aug. 1, just months after receiving the 2017 Arthur E. McCauley Jr. Award during the Governor's Safety Awards program, part of the Minnesota Safety Council's annual safety and health conference.

"Bob exhibits a commitment to safety and a realistic approach with employers," said Minnesota Department of Labor and Industry Commissioner Ken Peterson at the award ceremony. "He has always been generous with his time and has helped many a new MNOSHA employee learn their job."

The Arthur E. McCauley Jr. Award is presented annually by MNOSHA Compliance, in consultation with the Occupational Safety and Health Advisory Council, to honor a safety professional who is an example of safety excellence and is an individual who possesses high ideals and strong personal character. Winners have gone beyond the ordinary call of duty and made efforts to improve the quality of safety and health in Minnesota's workplaces.

Sarna supervised the principal safety investigator and industrial hygienist employees within MNOSHA Compliance who: conduct informal conferences with employers that have been cited for violations of MNOSHA safety standards and laws; review case files created by inspectors; and serve as mentors to less-senior staff members. Sarna started with MNOSHA Compliance in 1974 and worked as an inspector himself for many years. He died from cancer Aug. 7.

"Bob truly dedicated his efforts to improving the safety and health of Minnesota's workplaces throughout his career," said MNOSHA Compliance Director James Krueger.

OSHA recordkeeping training offered Oct. 20 and Oct. 27: Reviewing the basics

Maintaining an accurate OSHA log of recordable work-related injuries and illnesses is an important skill that benefits employers, workers, safety professionals and government agencies. The Department of Labor and Industry is offering two free introductory-level training sessions about OSHA recordkeeping.

When: Fridays, Oct. 20 and Oct. 27 (attend one session), 9 to 11:30 a.m.

Where: Minnesota Department of Labor and Industry, 443 Lafayette Road N., St. Paul, MN
(directions and parking information at www.dli.mn.gov/Direct.asp)

Register: To register, visit www.dli.mn.gov/OSHA/Recordkeeping.asp

Minnesota OSHA adopts federal regulations for walking-working surfaces, fall protection in general industry

Falls from heights and on the same level (a working surface) are among the leading causes of serious work-related injuries and deaths. From 2012 through 2016, Minnesota OSHA Compliance investigated 26 fatalities and 78 serious injuries due to falls.

Minnesota has now adopted the final rule from the federal Occupational Safety and Health Administration (OSHA) about walking-working surfaces and personal fall-protection systems to better protect workers in general industry. The new rule updates and clarifies standards and adds training and inspection requirements. Among other things, the final rule gives employers greater compliance flexibility and increases consistency between standards for general industry and the construction industry, making compliance easier for employers that conduct operations in both industry sectors.

Minnesota OSHA's final rule became effective Sept. 19, 2017; federal OSHA's final rule became effective on Jan. 17, 2017, for employers under federal jurisdiction. The Minnesota requirements mirror those of federal OSHA.

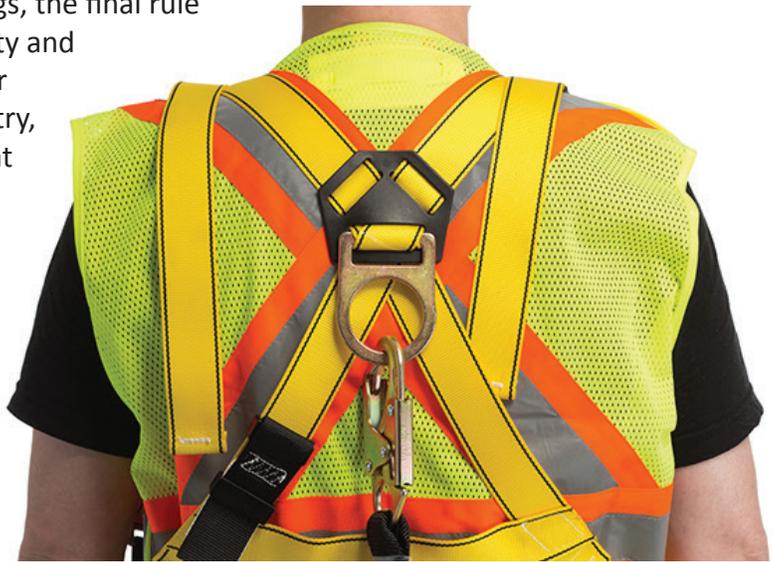
The rule affects a wide range of workers, from retail to warehouse. It does not change construction or agricultural standards.

The rule incorporates advances in technology, industry best-practices and national consensus standards to provide efficient and cost-effective worker protection. Specifically, it updates general industry standards addressing slip, trip and fall hazards (subpart D) and adds requirements for personal fall-protection systems (subpart I).

Benefits to employers

The rule benefits employers by providing greater flexibility in choosing a fall-protection system. For example, it eliminates the existing mandate to use guardrails as a primary fall-protection method and allows employers to choose from accepted fall-protection systems they believe will work best in a particular situation -- an approach that has been successful in the construction industry since 1994. In addition, employers will be able to use nonconventional fall protection in certain situations, such as designated areas on low-slope roofs.

Visit www.osha.gov/walking-working-surfaces for complete information. For more information about the status of federal regulations, see www.dli.mn.gov/OSHA/PDF/federal_reg_updates1017.pdf.



Construction worker injuries caused by falling to a lower level

By *Brian Zaidman, Research and Statistics*

Preventing falls is a constant concern in the construction industry. During 2014, construction employers reported that falling to a lower level injured 240 workers of the estimated 1,590 workers with injuries leading to one or more days away from work, 15 percent of the cases. This increased to 290 cases in 2015, accounting for 21 percent of the cases.

Injuries caused by falling to a lower level are also more severe than other injuries, with estimated median days away from work of 69 days in 2014 and 39 days in 2015, compared with medians of seven days and 14 days, respectively, for all injury events.

Figure 1 shows some additional characteristics of these injuries among construction workers. About 70 percent of these injured workers had from three to 12 months of tenure with their employer. Just under 70 percent suffered fractures due to the fall and most of the injuries were to the lower extremities (legs, knees, ankles and feet). The majority of the injuries were due to falls from a ladder.



Figure 1. Selected estimates for private ownership construction, Minnesota, 2014 and 2015

	2014	2015
Total cases, all events	1,590	1,360
Cases with falls to lower level	240	290
Percent of total cases	15%	21%
Among fall-to-lower-level cases		
Percentage with three to 12 months job tenure	71%	72%
Percentage with fracture injuries	67%	69%
Percentage with injuries to lower extremities	58%	76%
Percentage involving ladders	71%	79%
Source: U.S. Bureau of Labor Statistics, U.S. Department of Labor, Sept. 5, 2017		

Estimated injury and illness rates, case characteristics released Nov. 9

The estimated injury and illness incidence rates and case counts for industries are expected to be released Nov. 9. The estimates are prepared from the Survey of Occupational Injuries and Illnesses, conducted in Minnesota jointly by the U.S. Bureau of Labor Statistics and the Minnesota Department of Labor and Industry (DLI).

The case and demographic estimates will also be released Nov. 9. These estimates address the

worker and injury characteristics for injury and illness cases where the worker is unable to work for one or more days after the date of injury.

DLI will post both 2016 estimates online at www.dli.mn.gov/RS/StatWSH.asp.

Information about the number and characteristics of fatal work-related injuries in 2016 is expected to be released Dec. 19.

Minnesota OSHA's Duluth staff takes part in 2017 Northern Regional Safety Day



Minnesota OSHA (MNOSHA) staff members from the Duluth office participated in the 2017 Northern Regional Safety Day, Sept. 26, at Spirit Mountain in Duluth. The annual full-day conference featured vendors, morning and luncheon keynote speakers, plus concurrent sessions. At the event, Jeff Isakson presented a MNOSHA update and staff members from MNOSHA Compliance and MNOSHA Workplace Safety Consultation worked their respective booths and answered questions for attendees.

Above (l to r): Scott Johnson, MNOSHA Workplace Safety Consultation, and Dave Fossum, Jeff Isakson, Natalie Stone, Jenny Jensen, Kevin Sundet and Dustin Wilman, MNOSHA Compliance. Photo credit: Natalie Stone.

Current, past MNOSHA fatality investigations, serious-injury investigations summaries available online

Each month, Minnesota OSHA (MNOSHA) Compliance publishes current, updated summaries of its fatality investigations and serious-injury investigations.

For the federal-fiscal-year that began Oct. 1, 2016, MNOSHA Compliance has investigated 17 workplace fatalities and 75 serious injuries through Aug. 31.

The information provided about each investigation is:

- the inspection number, date of incident and worksite city;
- the type of business and number of employees;
- a description of the event; and
- the outcome of the MNOSHA Compliance investigation.



The summaries, plus other helpful workplace safety and health information from Minnesota OSHA, are available online at www.dli.mn.gov/OSHA/Information.asp.

OSHA answers

frequently asked questions

As part of its continual effort to improve customer service and provide needed information to employers and employees, Minnesota OSHA (MNOSHA) Compliance answers the most frequently asked questions from the previous quarter.

Q. Am I eligible for one of Minnesota OSHA Workplace Safety Consultation's recognition programs?

A. Minnesota OSHA (MNOSHA) Workplace Safety Consultation currently administers three safety and health recognition programs, modeled on federal Voluntary Protection Programs.

- Minnesota STAR (MNSTAR) Program – www.dli.mn.gov/Wsc/Mnstar.asp
- Minnesota Safety and Health Achievement Recognition Program (MNSHARP) – www.dli.mn.gov/Wsc/Mnsharp.asp
- MNSHARP Construction – www.dli.mn.gov/Wsc/MnsharpConstruction.asp

How the programs are similar

All of the programs recognize companies where managers and employees work together to develop safety and health management systems that go beyond basic compliance with all applicable MNOSHA standards and result in immediate and long-term prevention of job-related injuries and illnesses. Through the qualifying process, worksites that achieve program recognition show: management leadership and employee involvement; an allocation of resources to address safety issues; systems that identify and control workplace hazards; and a plan for employee safety training and education.

How the programs differ

The MNSTAR Program focuses on large companies.

MNSHARP focuses on smaller employers (250 at a single worksite; not more than 500 companywide) in high-hazard industries.

MNSHARP Construction focuses on major-construction companies and their projects at least 18 months in duration.

Learn more about MNOSHA Workplace Safety Consultation at www.dli.mn.gov/Wsc.asp.

Do you have a question for Minnesota OSHA? To get an answer, call (651) 284-5050 or send an email message to osha.compliance@state.mn.us. Your question may be featured here.

Notes from the undercount, part 12:

Improve recordkeeping quality to improve injury, illness estimates – results from four states

By Brian Zaidman, Research and Statistics

Notes from the undercount is a series presenting results and ideas from the Department of Labor and Industry's efforts to understand and reduce the undercount of cases in the annual Survey of Occupational Injuries and Illnesses. Minnesota's report about its undercount research, part of a broader U.S. Bureau of Labor Statistics research program, is available online at www.bls.gov/iif/mn_interviews.pdf.

The Bureau of Labor Statistics (BLS) web page about the undercount of injuries and illnesses in the Survey of Occupational Injuries and Illnesses (SOII) is now listed as Data Quality Research in the "Browse IIF" list on the Injuries, Illnesses and Fatalities web page at www.bls.gov/iif/home.htm.

The undercount page has been reconfigured into a Q&A overview and a table outlining the course of the undercount research. A second page, at www.bls.gov/iif/soii-bibliography.htm (linked at the bottom of the main page), provides a full list of the relevant research studies, including the Minnesota survey of SOII responders.

One new report added to the research list is an analysis of the BLS SOII respondent surveys combining data from the four states that participated in the 2013-2014 project: Minnesota, New York, Oregon and Washington. The report, *Employer-based work injury recordkeeping: Data from four states* (March 2017), was cowritten by Sara Wuellner, a researcher with the Washington State Department of Labor and Industries who had a research fellowship to study the data, and Polly Phipps, a member of the Office of Survey Methods Research in the BLS. Both researchers were involved in the 2013-2014 project and both have produced other reports examining the undercount.

While future articles in *this* series will cover some of their research findings, the presentation of the reports will start with their conclusion.

Wuellner and Phipps conclude that improving the quality of the data reported by employers will improve the accuracy of the BLS estimates. Because the quality of the employer injury and illness data improves with the recordkeepers' knowledge of OSHA recordkeeping requirements, they list actions that improve recordkeeper engagement throughout the survey process.

1. Identify first-time SOII respondents to provide increased assistance.
2. Increase communication about recordkeeping and the SOII between the data collection staff and all respondents throughout the survey period.
3. Enroll establishments in SOII for a multiyear period instead of one year to increase familiarity with the process.
4. Develop and disseminate effective training materials, in collaboration with OSHA, that address common recordkeeping misperceptions.

MNOSHA Compliance signs safety, health partnership



Parsons Electric – Cofferdam Data Center
Chaska, Minnesota

Minnesota OSHA (MNOSHA) Compliance recently signed a Level 3 Cooperative Compliance Partnership with **Parsons Electric** for its Cofferdam Data Center worksite in Chaska, Minnesota. Level 3 is the peak level of MNOSHA Compliance partnerships, with applicants striving to be an industry leader with very comprehensive safety and health programs.

The partnership is under the Construction Health and Safety Excellence (CHASE) Minnesota partnership between MNOSHA Compliance and Associated General Contractors (AGC) of Minnesota members. CHASE Minnesota partnerships recognize those contractors where managers and employees work together to develop safety and health management systems that go beyond basic compliance with all applicable OSHA standards and result in immediate and long-term prevention of job-related injuries and illnesses. To qualify for Level 3, participants must have reached Level 2 and remained there for at least one year.

The Cofferdam Data Project, at 1706 W. Creek Lane in Chaska, began Feb. 2, 2017, and is scheduled to be completed Dec. 15.

MNOSHA Compliance has 16 Cooperative Compliance Partnership agreements at construction sites across Minnesota to create mutual trust and respect among all parties – including project owners and construction workers – involved in the construction process.

Learn more about MNOSHA's partnerships at www.dli.mn.gov/OSHA/Partnerships.asp.

Minnesota OSHA's calendar of events

October 2017

- Oct. 18** *LogSafe Training – Mountain Iron*
www.dli.mn.gov/WSC/Logging.asp
- Oct. 20** *Basics of OSHA recordkeeping*
www.dli.mn.gov/OSHA/Recordkeeping.asp
- Oct. 24** *LogSafe Training – Wabasha*
www.dli.mn.gov/WSC/Logging.asp
- Oct. 26** *LogSafe Training – Bemidji*
www.dli.mn.gov/WSC/Logging.asp
- Oct. 27** *Basics of OSHA recordkeeping*
www.dli.mn.gov/OSHA/Recordkeeping.asp

November 2017

- Nov. 1** *LogSafe Training – Chisholm*
www.dli.mn.gov/WSC/Logging.asp
- Nov. 2** *LogSafe Training – Cloquet*
www.dli.mn.gov/WSC/Logging.asp
- Nov. 3** *Occupational Safety and Health Advisory Council*
www.dli.mn.gov/Oshac.asp
- Nov. 8** *LogSafe Training – International Falls*
www.dli.mn.gov/WSC/Logging.asp
- Nov. 21** *Construction Seminar: Fall protection*
www.dli.mn.gov/OSHA/ConstructionSeminars.asp
- Nov. 29** *Workplace violence prevention: How to prepare for an armed intruder*
www.dli.mn.gov/WSC/Wvp.asp

See more at www.dli.mn.gov/EventsOSHA.asp