Grain-bin safety: Harvest season dangers
By Sarah Kickbusch, Minnesota OSHA Compliance

Growing up on a farm in southern Minnesota, I’ve always loved autumn. I loved driving through the countryside and seeing tractors in the fields as corn, soybeans and other grains were harvested. Seeing grain trucks at the local elevator always brought me back to when I was a child, riding in my dad’s truck to get the corn weighed and the moisture content tested.

What I didn’t know then was all the work that went into preparing for grain storage and the hazards workers faced. As farms have become more self-sufficient, many of these hazards have shifted to farmers who store grain on their property, though the hazards still exist elsewhere in the grain industry.

During the harvest season, there is an increase in grain storage activities, which also means more opportunity for workers to be injured. Nationwide in 2018, there were 30 documented grain entrapment cases (half were fatalities), six reported falls into or from grain storage structures, seven asphyxiations due to deficient oxygen levels or toxic environments, and 11 equipment entanglements, such as those involving in-floor and sweep augers, according to the Purdue University 2018 Summary of U.S. Agricultural Confined Space-Related Injuries and Fatalities. And the summary estimate is that 30% of injuries in the grain industry are currently not reported.

The injuries documented in the Purdue summary are consistent with some of the main hazards in the grain industry: engulfment, falls, auger entanglement, being struck by an object, combustible-dust explosions and electrocution. It is important for employers and workers in the grain industry to remain vigilant to prevent the injuries and deaths associated with these hazards.

Around harvest time, grain bins are often cleaned to prepare to store grain for the coming months. Workers can be trapped in flowing grain within five seconds and be completely engulfed in as little as 22 seconds. Workers should not stand on moving or flowing grain, nor should they walk down grain that is bridged in a bin. “Bridging” occurs when spoiled grain clumps together because of moisture or mold and bridged grain can collapse. Workers and employers should also ensure the air in the bin is breathable if employees are entering the bins.

Employers and employees can learn more about the hazards in the grain industry and ways to protect workers’ lives from the following resources:

• 29 CFR 1910.272 Grain Handling Facilities standards;
• Federal OSHA: Grain handling topic page at www.osha.gov/SLTC/grainhandling;
• Minnesota OSHA Compliance:
  – online at our Grain-handling information, fatalities, inspections page at www.dli.mn.gov/business/workplace-safety-and-health/mnosha-compliance-grain-handling-information-fatalities; and
  – by phone at 651-284-5050 or 877-470-6742.

Safety, health grants awarded up to $10,000

The Safety Grant Program awards funds up to $10,000 to qualifying employers for projects designed to reduce the risk of injury and illness to their workers.

To qualify, an employer must meet the following conditions:

• the employer must have workers’ compensation insurance;
• the employer must come under the jurisdiction of MNOSHA;
• a qualified safety professional must have conducted an on-site inspection and written a report with recommendations;
• the project must be consistent with the recommendations of the safety inspection and must reduce the risk of injury or disease to employees;
• the employer must have the knowledge and experience to complete the project, and must be committed to its implementation;
• the employer must be able to match the grant money awarded and all estimated project costs must be covered; and
• the project must be supported by all public entities involved and comply with federal, state and local regulations where applicable.

MNOSHA takes safety, health message on the road to Duluth event

Minnesota OSHA (MNOSHA) Compliance and MNOSHA Workplace Safety Consultation participated in Northern Regional Safety Day, in Duluth, Minnesota, Sept. 26.

The annual Minnesota Safety Council event is an opportunity for local businesses to attend seminars about safety and health topics. This year, the event was at the Duluth Entertainment and Convention Center. Approximately 200 people attended and vendors exhibited safety and health products and services.

Daaron Arnold (left) and Dave Ferkul represent MNOSHA Workplace Safety Consultation at National Regional Safety Day, Sept. 26, in Duluth, Minnesota.

Free Construction Seminars underway

The free Construction Seminar 2019/2020 season is underway. Minnesota OSHA (MNOSHA) Compliance offers six seminars each year in the series that feature a presentation about a specific construction safety or health topic – with time for questions, answers and input – plus an update from MNOSHA Compliance about what’s currently happening regarding investigations.

The Sept. 24 seminar focused on the responsibilities of various parties on a construction site when working with or encountering hazardous substances, such as lead or asbestos, including identification, notification, handling and training. Plus what you should do if you are working near another contractor that is using a hazardous material.

More information


Email osha.compliance@state.mn.us to be added to the email list for Construction Seminar information.

Registered to vote?

You can check online to see if you are registered to vote in Minnesota, on the Secretary of State’s website, at www.sos.state.mn.us/elections-voting.

The same page also has handy links to information about registering, election day, what will be on your ballot and more.

I Voted

Ron Anderson, Minnesota OSHA Compliance, discusses proper handling of hazardous substances on a construction worksite during the Sept. 24 Construction Seminar in Shoreview, Minnesota.
Minnesota Department of Labor and Industry Commissioner Nancy Leppink stops by to see Tyrone Taylor at the Minnesota OSHA Workplace Safety Consultation booth at the Wellness and Safety Pavilion of this year’s Minnesota Farmfest, Aug. 6 through 8, in Morgan, Minnesota.

Minnesota OSHA (MNOSHA) Workplace Safety Consultation fields safety, health questions at Minnesota Farmfest

Minnesota OSHA (MNOSHA) Workplace Safety Consultation Director Tyrone Taylor fielded safety and health questions during Minnesota Farmfest, Aug. 6 through 8, in Morgan, Minnesota.

The MNOSHA Workplace Safety Consultation booth was part of the Wellness and Safety Pavilion created by Farm Financial Services and the Upper Midwest Agricultural Safety and Health Center to provide safety and health information to farmers, farm workers and others to prevent and reduce injuries and illnesses on farms. FarmFest attendees could visit the exhibitors, take part in health screenings and see live farm safety demonstrations.


MNOSHA Workplace Safety Consultation success shared nationwide

Minnesota OSHA (MNOSHA) Workplace Safety Consultation recognized Malco Products, in Annandale, Minnesota, as a Minnesota Safety and Health Achievement Recognition Program (MNSHARP) worksite in March 2004 and the company has continuously maintained that status ever since.

MNSHARP Construction recognizes major-construction companies where managers and employees work together to develop safety and health programs that go beyond basic compliance with all applicable OSHA standards and result in immediate and long-term prevention of job-related injuries and illnesses. Only construction projects at least 18 months in duration are eligible for participation in MNSHARP Construction.


Minnesota Department of Labor and Industry Commissioner Nancy Leppink stops by to see Tyrone Taylor at the Minnesota OSHA Workplace Safety Consultation booth at the Wellness and Safety Pavilion of this year’s Minnesota Farmfest, Aug. 6 through 8, in Morgan, Minnesota.
Minnesota OSHA (MNOSHA) Compliance recently signed nine Level 3 Cooperative Compliance Partnerships on seven projects. 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.

All of the partnerships were signed under the Construction Health and Safety Excellence (CHASE) Minnesota program with Associated General Contractors (AGC) of Minnesota. The partnerships were with the following companies.

- **Kraus-Anderson Construction Co.** and **Carl Bolander and Sons Co.** for the 240 Park Apartment Project in Minneapolis. Work on the project is scheduled for completion for Carl Bolander and Sons on April 1, 2020, and for Kraus-Anderson on Nov. 1, 2020.

- **LS Black Constructors** for the Richfield High School Project in Richfield, Minnesota. The project is scheduled for completion Oct. 15, 2020.

- **Meyer Contracting, Inc.** for the Highway 10 Project in Arden Hills, Minnesota. The project was completed Aug. 4, 2019.

- **Bituminous Roadways, Inc.** and **VEIT** for the Eden Prairie Road Improvements Project in Eden Prairie, Minnesota. The project is scheduled for completion Oct. 31, 2019.

- **PCL Construction Services, Inc.** for its Civic on First Hyatt House Hotel in Rochester, Minnesota. The project is scheduled for completion May 29, 2020.

- **Park Construction** for its Highway 95 Reconstruct Project in West Lakeland Township, Minnesota. The project is scheduled for completion June 1, 2020.

- **Q3 Contracting** for its East County Line North Project in North St. Paul, Minnesota. The project was completed Oct. 1, 2019.
Eden Prairie Road Improvements, in Eden Prairie, Minnesota – Bituminous Roadways, Inc. and VEIT

Civic on First Hyatt House Hotel, in Rochester, Minnesota – PCL Construction Services, Inc.

Highway 95 Reconstruct, in West Lakeland Township, Minnesota – Park Construction

East County Line North, in North St. Paul, Minnesota – Q3 Contracting

More information

Complete information about MNOSHA’s Cooperative Compliance Partnerships is online at www.dli.mn.gov/business/workplace-safety-and-health/mnosha-compliance-partnership-programs.
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. I am concerned about a hazard at work that may injure me or make me sick. How do I file a complaint?

A. You can call, write or electronically file your workplace safety or health concerns with Minnesota OSHA Compliance. MNOSHA Compliance has two investigators who answer questions and take complaints during normal business hours.

- **Call:** 651-284-5050 or 877-470-6742
- **Mail:** Minnesota Department of Labor and Industry, Occupational Safety and Health Division, 443 Lafayette Road N., St. Paul, MN 55155

Q. If I report a workplace safety or health concern, can I stay anonymous?

A. MNOSHA Compliance does not reveal the name of the complainant to the employer. However, MNOSHA Compliance can only investigate unsigned complaints non-formally and can only conduct an inspection initially if it has a signed complaint from a current employee, an employee representative or a referral from another government agency, from a physician or from the media.

Q. How is a nonformal complaint investigated?

A. When a nonformal complaint is filed, MNOSHA Compliance creates a letter explaining the complaint and advising the employer of next steps. The letters is then sent to the employer by U.S. mail, email or fax. When the employer receives the letter, it has seven days to respond to MNOSHA Compliance. When the response is received, an investigator reviews it. If the response is adequate, the investigator closes the file; if the response is unsatisfactory or no response is received, the investigator may call the employer, resend the complaint by U.S. mail or email, or request that an inspection be scheduled.

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.

### MNOSHA fatality, serious-injury investigations summaries 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, 2018, MNOSHA Compliance has investigated 23 workplace fatalities through Sept. 30.

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.

Recordkeeping 201:
When to record injury recurrences and episodic illnesses, revisited

By Brian Zaidman, Research and Statistics

Editor’s note: Most of the following article was published in the July 2008 edition of Safety Lines; the original is available, plus 17 other Recordkeeping 101 and 201 articles at www.dli.mn.gov/business/workplace-safety-and-health/mnosha-compliance-recordkeeping-standard.

It is sometimes difficult for employers to determine whether the signs and symptoms of an injury or illness are due to a new event or exposure in the work environment, or whether it is a continuance of an earlier injury or illness. Most occupational injury and illness cases occur and resolve, with a full recovery, within a few weeks. A subsequent injury or illness reported by the same worker would be identified as a new case.

However, some soft tissue injuries may take many months to fully heal, and chronic diseases, such as occupational cancers and tuberculosis disease, may never be cured or completely resolved. When a worker with a long-term condition presents with new signs or symptoms, or reports a worsening of their condition, questions may arise about whether a new OSHA log entry is required. The OSHA recordkeeping requirements address these issues in paragraph 1904.5(b)(4) and in section 1904.6.

The OSHA recordkeeping requirements identify five types of cases employers may encounter:
1. totally new cases where the employee has never suffered similar signs or symptoms while in the employ of that employer;
2. cases where an employee aggravates a pre-existing condition by events or exposures in the work environment;
3. cases where an employee has a work-related condition that may or may not have fully healed when the same symptoms or signs recur;
4. cases where the employee has a work-related condition that will progress even in the absence of further exposure; and
5. cases where the employee has a work-related condition that is triggered by further exposure in the work environment.

Each of these case types will be discussed below, with advice about whether these types of cases should be evaluated for inclusion on the log as separate cases or whether the information on the original log entry should be updated.

Recording of a new or recurring case in the OSHA log is completely unrelated to whether the event or exposure is covered by workers’ compensation insurance, whether it generates a new workers’ compensation claim or whether it is considered part of a previously reported claim. The OSHA recordkeeping requirements do not rely on workers’ compensation determinations to identify injuries or illness cases that are considered new cases for recordkeeping purposes.

Totally new cases

Most of the cases resulting from workplace events or exposures are totally new injuries or illnesses that have not been previously suffered by the employee. These new injuries or illnesses must be evaluated for their work-relatedness and then for whether they meet one or more of the recordkeeping criteria. (See Recordkeeping 101: Part 1.) When the recordkeeping criteria are met, the case must be recorded as a new log entry.

Pre-existing conditions

Pre-existing conditions result solely from a non-work-related event or exposure that occurs outside the employer’s work environment or any injury or illness the worker experienced with another employer. Non-work-related injuries and illnesses should not be recorded on the OSHA log. However, pre-existing conditions that have been significantly aggravated by events or exposures in the work environment represent cases that must be recorded on the log, because
work has clearly worsened the injury or illness.

Paragraph 1904.5(b)(4) of the recordkeeping requirements defines a significant aggravation at work as one that results in tangible consequences that go beyond those the worker would have experienced as a result of the pre-existing condition alone. For recordkeeping purposes, a significant aggravation occurs when an event or exposure in the work environment results in: death; loss of consciousness; a day or days away from work; a day or days of restricted work or job transfer; medical treatment where no medical treatment was needed for the condition before the workplace event or exposure; or a change in the course of medical treatment that was being provided before the workplace event or exposure and the consequence would not have occurred without the occupational event or exposure.

Work-related aggravation that does not appreciably worsen the pre-existing condition, alter its nature, change the extent of the medical treatment, trigger lost time or require job transfer or work restrictions is considered a minor aggravation that is not required to be recorded on the log.

**Work-related conditions that may or may not have fully healed**

A new injury may manifest the same signs and symptoms as the previous injury but still be a new injury and not a continuation of the old case. For example, if a worker fractures his or her finger and six months later, after the fracture has fully healed, falls and fractures the same finger, he or she would have a new case that must be evaluated for recordability.

However, if the previous injury or illness has not fully healed, the case cannot be considered resolved. If work activities aggravate a previously recorded case, there is no need to record it as a new case. It may be necessary to update the previous case information in the log, such as adding more days away from work.

Back pain and strains are also subject to this analysis. To be considered a new case, the worker needs to have fully recovered between the episodes and the second episode is the result of a second workplace event. When a worker has not fully recovered from a recordable episode of back pain and reports new or continuing back pain, it would not be recorded as a new case. However, if the recurrence of back pain is due to a second workplace event, it would be recorded as a new case.

**Chronic, progressive illnesses**

Some chronic illnesses progress even in the absence of further exposure, such as some occupational cancers, advanced asbestosis, tuberculosis disease and advanced silicosis. After the disease is contracted, it may never be cured or completely resolved. These cases, when recorded in an OSHA log, are never “closed,” even though the signs and symptoms of the condition may alternate between remission and active disease. These diseases progress without further workplace exposure to the toxic substance(s) that caused the disease. Therefore, the recurrences of signs or symptoms are not recorded as a new case; the original log entry should be updated to indicate a more severe outcome, such as days away from work. However, if a worker with one of these conditions should suffer a work-related injury or a different work-related illness, then the incident must be treated as a new case.

**Chronic, episodic illnesses**

There are other chronic work-related illness conditions, such as occupational asthma and contact dermatitis, that are triggered by workplace exposures. Typically, individuals with these conditions are symptom-free if exposure to the sensitizing or precipitating agent does not occur. If the worker is symptom-free and events or exposures at work cause the same symptoms or signs to recur, the incident must be treated as a new case.
Reviewing the basics: Recordkeeping training in November and January, includes webinar

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 free introductory-level training sessions about OSHA recordkeeping, in November and January.

**Dates**

- Nov. 6 – 9 to 11:30 a.m.
- Jan. 10 webinar – 9 to 11:30 a.m.
- Jan. 29 – 1 to 3:30 p.m.
- Jan. 31 – 9 to 11:30 a.m.

**Topics**

- Recordability of injuries and illnesses
- Differences between OSHA cases and workers’ compensation claims
- Classifying cases
- Counting time
- Privacy cases
- How many logs to keep
- Maintaining logs
- Creating a log summary
- Reporting log data to OSHA

**Registration, more information**


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**Free on-site safety and health consultations available**

Minnesota OSHA (MNOSHA) Workplace Safety Consultation offers free consultation services, where employers can find out about potential hazards at their worksites, improve safety management systems and apply for grants to abate safety standards.

The program targets small, high-hazard businesses. It is separate from Minnesota OSHA Compliance inspection activities and no citations are issued as part of a consultation visit.

**Learn more and request a consultation**

Web: [www.dli.mn.gov](http://www.dli.mn.gov) • Email: osha.consultation@state.mn.us • Phone: 651-284-5060
Number of knee injuries, days of recovery remain steady

By Brian Zaidman, Research and Statistics

Injuries to knees accounted for 9% of the 2017 estimate of cases with one or more days away from work (DAFW) in 2017. They also account for 9% of the DAFW cases during the entire 2011 through 2017 period. In 2017, there were an estimated 1,960 knee injuries among the DAFW cases, similar to the numbers for the preceding six years (see Figure 1). In 2017, knee injuries occurred at an estimated rate of 8.8 cases per 10,000 full-time-equivalent workers, the same as the rate for the 2011 through 2017 period.

Workers with knee injuries tend to remain away from work for longer periods than for other injuries; the 2017 median was 14 days away from work, compared to a median six days away for all injuries and illnesses. The median duration away from work was 14 days for four of the past five years. Knee injuries are mostly due to falls, slips and trips and to overexertion and bodily reaction, which together accounted for 84% of the knee injuries in 2017, similar to previous years.

Figure 1. Estimated number of workers with knee injuries, Minnesota cases with one or more days away from work

Statistics shine spotlight on worker safety indicators

The Minnesota Safety Council has updated its Minnesota Workplace Safety dashboard to spotlight the most recent indicators related to worker safety and health.

The Department of Labor and Industry (DLI) and the Department of Health produced the statistics.

The dashboard presents some of the most important occupational safety and health measures together in an easy-to-use format.

"After a steady decline over the more than nine decades since the Minnesota Safety Council was founded, we’re now seeing a concerning uptick in workplace fatalities," said Paul Aasen, president, Minnesota Safety Council. This means all of us – employers, government agencies, the Minnesota Safety Council and others – must continue to join forces to make our state’s workers safer."

The dashboard is online at www.minnesotasafetycouncil.org/WorkplaceSafetyDashboard.pdf.
Minnesota OSHA’s calendar of events

October 2019

Oct. 30  LogSafe:  CPR, first-aid certification; OSHA training – Grand Rapids  

November 2019

Nov. 1  Occupational Safety and Health Advisory Council  

Nov. 6  OSHA recordkeeping training:  Learn the basics  

Nov. 12  Construction seminar – Understanding the AWAIR requirement: More than a program on a shelf  

Nov. 21  LogSafe:  CPR, first-aid certification – Cloquet  

Nov. 21  LogSafe:  CPR, first-aid certification; OSHA training – Bemidji  

December 2019

Dec. 3  LogSafe:  CPR, first-aid certification; OSHA training – Cloquet  

Dec. 6  Occupational Safety and Health Review Board  

Dec. 10  LogSafe:  CPR, first-aid certification – Two Harbors  

Dec. 13  LogSafe:  CPR, first-aid certification; OSHA training – Grand Rapids  

January 2020

Jan. 10  OSHA recordkeeping training:  Learn the basics  

Jan. 29  OSHA recordkeeping training:  Learn the basics  

Jan. 21  Construction seminar – Advanced safety and health recognition opportunities with MNOSHA Compliance  

Jan. 31  OSHA recordkeeping training:  Learn the basics  

See more at www.dli.mn.gov/about-department/about-dli/events-minnesota-osha