

Safety Lines

Now 40, MNOSHA retains its focus:
Keep Minnesota workers safe on the job



Minnesota OSHA Compliance Director Jim Krueger addresses the crowd during MNOSHA's 40th anniversary celebration, Sept. 30, at the Minnesota Department of Labor and Industry in St. Paul, Minn.

Established in 1973, Minnesota's Occupational Safety and Health Administration (MNOSHA) program is required to set job safety and health standards that are "at least as effective as" comparable federal standards. Minnesota is one of 27 states and jurisdictions operating an OSHA state plan.

MNOSHA comprises two distinct and separate work units. **MNOSHA Compliance** assures safe and healthful working conditions for workers through on-site inspections, citations for noncompliance, interpreting standards and helping employers understand how to comply with standards. It responds to employee complaints of workplace hazards and discrimination due to safety and health issues. **MNOSHA Workplace Safety Consultation** provides free safety and health consultation services and inspections to Minnesota private- and public-sector employers, prioritizing small, high-hazard industries. Programs administered include: safety grants, ergonomics, MNSTAR, MNSHARP and workplace violence prevention. It helps employers understand and comply with MNOSHA standards. Workplace Safety Consultation also conducts educational safety and health seminars.

MNOSHA annual report, federal review, state response online

Annual report

Minnesota OSHA's federal-fiscal-year 2012 State OSHA Annual Report (SOAR) is available online at www.dli.mn.gov/OSHA/PDF/annualreport12.pdf.

Federal OSHA review

Federal OSHA's federal-fiscal-year 2012 review of the Minnesota OSHA program is contained in its Federal Annual Monitoring and Evaluation (FAME) report and is available online at www.osha.gov/dcsp/osp/efame/2012/mn_report.pdf.

Response to federal review

Department of Labor and Industry Commissioner Ken Peterson's response to the federal OSHA FAME report is at www.osha.gov/dcsp/osp/efame/2012/mn_formal_response.pdf.



'Can you dig it?' Excavation, trenching safety saves lives

By Gary Robertson, MNOSHA Training Officer



From 2000 to 2012, Minnesota OSHA (MNOSHA) investigated 10 fatalities and 13 serious-injury cases involving unprotected trenches that have caved in on the employees working in them.

Trenching and excavation work creates worksite hazards that are extremely dangerous to workers. Compliance with MNOSHA construction standards applicable to such operations is frequently bypassed because of economic pressures, a belief that compliance is unnecessary and a belief that these short-term operations will go undetected.

Cave-ins are the most feared trenching hazard, but other potentially fatal hazards exist in trenches and excavations too, including asphyxiation due to lack of oxygen in a confined space, breathing toxic fumes, drowning and others. Also, electrocution or explosions can occur when workers contact underground utilities.

MNOSHA requires that workers in trenches and excavations be protected and that safety and health training programs address the variety of hazards they face. No protective system, failure to inspect trench and protective systems, unsafe spoil-pile placement and unsafe access/egress are the main reasons for most of trenching and excavation fatalities and injuries.

MNOSHA defines an excavation as any man-made cut, cavity, trench or depression in the earth's surface formed by earth removal. A trench is defined as a narrow underground excavation that is deeper than it is wide and is no wider than 15 feet.

Do not enter an unprotected trench. Trenches five feet deep or greater require a protective system unless the excavation is made entirely in stable rock. Trenches 20 feet deep or greater require the protective system be designed by a registered professional engineer or be based on tabulated data prepared and/or approved by a registered professional engineer.

Minnesota OSHA presents update, attends safety conference



Minnesota OSHA staff members from the Duluth office attended and presented at the Minnesota Safety Council's Northern Area Safety and Health Network Safety Day on Sept. 17. Pictured above (l to r): Jeff Isakson, Jenny Jensen, Kevin Sundet, Natalie Stone, Carolyn Meysembourg (formerly of Minnesota OSHA), John Lawless, Stephanie Taylor and Dustin Wilman.

Three protective systems are the most common:

- sloping, which involves cutting back the trench wall at an angle inclined away from the excavation so the walls can't cave-in;
- shoring, which requires installing aluminum hydraulic or other types of supports to prevent soil movement and cave-ins; and
- shielding, which protects workers by using trench boxes or other types of supports to protect employees who are working inside of them.

Designing a protective system can be complex because of the many factors to consider, including:

- soil classification;
- depth;
- water in the soil;
- changes in weather;
- surcharge loads such as the spoil pile; and
- other operations that may cause vibration.

All of these factors affect the decision about what type of protection system should be used to protect employees working in trenches. MNOSHA requires that trenches be inspected daily, as conditions change, prior to worker entry and as needed.



MNOSHA requires safe access and egress to all excavations, including ladders, steps, ramps or other safe means of entrance and exit for employees working in trench excavations four feet or deeper. These devices must be located within 25 feet of workers in a trench.

Important trenching and excavation information to consider:

- more than 50 percent of cave-in fatalities are people attempting a rescue;
- all excavations have the potential to cave in, it is sometimes just a matter of time;
- MNOSHA requires all employees be trained about trenching hazards before they enter a trench;
- the vast majority of trench fatalities occur in trenches five to 15 feet deep;
- a cubic yard of dirt weighs approximately 2,700 pounds;
- the time to think about trench cave-in protection is before the digging begins; and
- the “competent person” is the key to a safe trenching or excavation.

Visit www.dli.mn.gov/OSHA/FactSheets.asp to view a Minnesota OSHA fact sheet about trenching and excavation safety, as well as other MNOSHA fact sheets about workplace safety and health issues.

Agency experts available for speaking engagements

Department of Labor and Industry (DLI) staff members regularly speak to community, industry and school groups about issues that affect employees, employers and other DLI stakeholders.

As part of its outreach efforts to stakeholders, DLI's speakers bureau can provide interested parties with a knowledgeable speaker in an array of topics. Visit www.dli.mn.gov/Speakers.asp for more details.

Minnesota's newest **MNSTAR** worksites

Two Minnesota worksites recently earned Minnesota STAR (MNSTAR) Program status: Norbord Minnesota in Solway and GE Water and Process Technologies in Minnetonka. Each worksite was recognized by the Minnesota Department of Labor and Industry for its achievement. There are currently 33 approved MNSTAR Program worksites.

The MNSTAR Program is a Minnesota Occupational Safety and Health Administration program

that recognizes companies 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. The program is modeled after federal OSHA's Voluntary Protection Program (VPP).

Learn more about the MNSTAR Program online at www.dli.mn.gov/Wsc/Mnstar.asp.



Norbord Minnesota in Solway, Minn.



GE Water and Process Technologies in Minnetonka, Minn.

Reminder: First GHS deadline approaches



The first deadline to provide the necessary training to employees about the new label elements and safety data sheet format following the 2012 adoption of the revised Hazard Communication standard (HCS) is Dec. 1, 2013. The revised HCS incorporates many of the recommendations of the United Nations' Globally Harmonized System for Classification and Labeling of Chemicals (GHS). Training can be blended with employers' annual Right-to-Know training; simply update the training outline and records to reflect that the information was covered.

Both a PowerPoint presentation and a PDF file about the new requirements are available as training tools at www.dli.mn.gov/Wsc.asp (click on the "Presentations" tab and see "HazCom training | PDF.")

Sample labels and safety data sheets that can be shown during training, plus additional information about the revised standard, is on federal OSHA's website at www.osha.gov/dsg/hazcom.

Standards update: cranes and derricks in construction

On Sept. 23, 2013, Minnesota OSHA published in the *State Register* a proposal notice to adopt the following federal standards by reference. The comment period closes Oct. 23, 2013.

- Cranes and Derricks in Construction: Underground Construction and Demolition; Final rule. See the *Federal Register* available online at www.osha.gov/FedReg_oshapdf/FED20130423.pdf.
- Cranes and Derricks in Construction: Revising the Exemption for Digger Derricks; Final rule. See the *Federal Register* available online at www.osha.gov/FedReg_oshapdf/FED20130529.pdf.



JAN. 29, 2014

'Record' the date: OSHA log recordkeeping review

There will be a half-day training session about OSHA recordkeeping requirements on Jan. 29, 2014, from 9 to 11:30 a.m., at the Minnesota Department of Labor and Industry in St. Paul, Minn.

Topics will include a review of the fundamental requirements of OSHA recordkeeping and will expose the most common OSHA log errors. Participants may meet with DLI recordkeeping experts to ask questions about their own recordkeeping situations and receive tips about how to improve the accuracy and usefulness of the injury and illness log.

Additional details will be posted at www.dli.mn.gov/OSHA/Recordkeeping.asp as they become available. There will be a statewide recordkeeping webinar in February 2014 as well.

Call, email, walk in or send a note: MNOSHA answers all

By Gary Robertson, MNOSHA Training Officer

In the past five years, Minnesota OSHA (MNOSHA) has responded to 23,284 phone calls asking for some type of assistance. Employees, employers and the general public also contact MNOSHA via mail, email, fax and in person. Many of the inquiries – but not all – result in MNOSHA conducting a workplace inspection.



To provide the best customer service, MNOSHA assigns two staff members during each eight-hour workday to answer phone calls. Each of these staff members has been extensively trained to help all stakeholders with the variety of workplace safety and health concerns that may arise.

Most of the time the phones are staffed by MNOSHA investigators because they can better assist with questions about MNOSHA standards, rules and statutes. MNOSHA also has access to interpreters that cover most any language.

The Minnesota Occupational Safety and Health Act ensures the right of an employee to file a complaint about unsafe working conditions. Any employee or representative of employees who believes a violation of a safety or health standard exists that threatens physical harm, or that an imminent danger exists, may request an inspection.

MNOSHA Compliance is also aware that its stakeholders may be seeking information or an opinion about what must be done to be in compliance with MNOSHA standards to assure worksite safety for their employees. They may need help in the interpretation of a standard or need to know how and when MNOSHA will be enforcing a new standard. They may make requests for outreach speakers, for safety handouts or for help with resolving a safety concern; these are a few of the many types of assistance requests received daily by MNOSHA.

MNOSHA assigns two staff members during each eight-hour workday to answer phone calls

MNOSHA is also often contacted by people who have witnessed and want to report a dangerous workplace hazard. Many times these are imminent danger situations and investigators are dispatched immediately to stop the hazard and protect the employees.

If you have a workplace safety concern or would just like help clarifying a standard, contact MNOSHA Compliance, Monday through Friday, 8 a.m. to 4:30 p.m. at (651) 284-5050, 1-877-470-6742, osha.compliance@state.mn.us or Minnesota Department of Labor and Industry, Minnesota OSHA Compliance, 443 Lafayette Road N., St. Paul, MN 55155. Many helpful resources are also available online at www.dli.mn.gov/MnOsha.asp.

After business hours, call federal OSHA's 24-hour, toll-free number, 1-800-321-6742. The federal OSHA website is online at www.osha.gov.

Workplace fatality statistics released; injury, illness rates to follow

By Brian Zaidman, Research and Statistics

Statistics from the Census of Fatal Occupational Injuries (CFOI) are now available on the Department of Labor and Industry (DLI) and U.S.

Department of Labor websites. Minnesota 2012 CFOI tables are available at www.dli.mn.gov/RS/StatFatal.asp. National

fatality figures from the CFOI program are available at www.bls.gov/iif/oshcfoi1.htm.



- Trade, transportation and utilities recorded the second-highest number of worker fatalities, with 15 cases, an increase from 10 cases in 2011.

- The number of fatalities in manufacturing increased from three in 2011 to nine fatalities in 2012.

The 2012 estimated numbers and rates of nonfatal work-related injuries and illnesses by industry are scheduled to be released Nov. 7. These will be followed by the release of the case and demographic statistics for cases with days away from work.

Minnesota statistics will be available at www.dli.mn.gov/RS/StatWSH.asp. The *Minnesota Workplace Safety Report 2011*, which presents the 2011 fatality tables and nonfatal work-related injury and illness estimates is available at www.dli.mn.gov/RS/WorkplaceSafety.asp.

Fatality statistics

The CFOI program shows a preliminary total of 70 fatal work-injuries in Minnesota in 2012, an increase of 10 cases from the final count of 60 fatal work-injuries in 2011, but the same number as in 2010. The 2012 total is above the average of 66 cases a year for 2007 through 2011. Final 2012 data from the CFOI program will be released in spring 2014.

The CFOI also provided the following statistics for Minnesota's workplace fatalities during 2012.

Industries

- Agriculture, forestry, fishing and hunting had the highest number of fatalities, with 20 cases, compared to 19 cases in 2011, which was also the highest number of fatalities. Most of the fatalities were caused by transportation incidents or contact with object and equipment.

Types of incidents

- Transportation incidents accounted for 28 fatalities, the most for any incident type. Ten of these fatalities occurred in the agriculture, forestry, fishing and hunting industry sector and nine fatalities occurred in trade, transportation and utilities.

- Contact with objects and equipment was the second most frequent fatal work-injury event in 2012, with 14 fatalities. Most of these cases involved the worker being struck by an object or equipment.

- There were 11 fatalities resulting from violence in 2012, compared with five fatalities in 2011. Nine of the fatalities were homicide by shooting.

Worker characteristics

- Men accounted for 65 of the 70 fatally injured workers in 2012.

- Workers age 55 and older accounted for 25 fatalities, with 12 of these fatalities in the agriculture, forestry, fishing and hunting industry sector.

- Self-employed workers accounted for 21 fatalities, including 16 fatalities to workers in agriculture, forestry, fishing and hunting and three in construction. There were 25 fatalities to self-employed workers in 2011.

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. Where can I get the most recent OSHA publications and find other resources?

A. Many free Minnesota OSHA (MNOSHA) publications and other resources are available online at www.dli.mn.gov/OSHA/Information.asp. As part of federal OSHA's ongoing effort to help employers become compliant before enforcement intervention, it created a Web page to highlight new additions to its website. Links to the newest publications, hazard alerts, information bulletins, and Safety and Health Topics pages are all featured at www.osha.gov/dcsp/compliance_assistance/new_ca_products.html. Federal OSHA also produces *OSHA QuickTakes*, a twice-monthly e-newsletter. For more information, to view past editions or to subscribe, visit www.osha.gov/as/opa/quicktakes/qtpostcard.html.

Q. Is online safety training acceptable?

A. Yes, with qualifiers. The training content must be designed to reflect the actual conditions and hazards within the specific workplace. Most software packages are “canned” programs and, while they may do a good job of covering general terms or providing an overview of the topic at hand, the employee also needs to be trained about the specific hazards to which they are exposed, the safety equipment they will use and the procedures and rules specific to the workplace. Employees must also be able to ask questions during the course. Some OSHA standards, such as HAZWOPER and Permit-Required Confined Space Entry, require hands-on training that would not be possible through computerized training only.

Q. What are some of the resources available about crystalline silica exposure?

A. Federal OSHA just released a series of seven fact sheets addressing different operations in construction involving silica exposure. Topics include jackhammers, tuckpointing and vehicle-mounted drilling rigs. Another resource is a 72-page booklet, *Controlling Silica Exposures in Construction*, which covers the same seven processes, plus includes sections about drywall finishing, housekeeping and dust suppressants. Links to all the OSHA silica-related publications are online at www.osha.gov/pls/publications/publication.athruz?pType=Industry&pID=192.

Both federal OSHA and the National Institute for Occupational Safety and Health (NIOSH) have safety and health topics pages about silica: www.osha.gov/dsg/topics/silicacrystalline; and www.cdc.gov/niosh/topics/silica. MNOSHA offers both a booklet and a compliance directive. The *Health Considerations for Workplace Exposure to Silica* booklet is based on the initial documentation for the federal special emphasis program and is available for download at www.dli.mn.gov/OSHA/PDF/silica.pdf; the compliance directive, *STD 3-2.2 Enforcement of Permissible Exposure Limit for Silica in Construction* is also available online at www.dli.mn.gov/OSHA/PDF/directives/STD_3-2.2_Silica.pdf.

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.

Minnesota's newest **MNSHARP** worksites



Two worksites were recently recognized by the Minnesota Department of Labor and Industry for their achievement as Minnesota Safety and Health Achievement Recognition Program (MNSHARP) worksites: **ATMI** in Minneapolis and **Central Boiler** in Greenbush.

MNSHARP is a Minnesota Occupational Safety and Health Administration program that recognizes 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. There are currently 37 MNSHARP worksites in Minnesota.

ATMI is a global leader in enabling process materials and process technology for semiconductor, display and life science industries.

Central Boiler, established in 1984, manufactures quality outdoor furnaces. Its Greenbush, Minn., plant is one of the largest manufacturers in northwestern Minnesota.

Learn more about MNSHARP at www.dli.mn.gov/Wsc/Mnsharp.asp.



ATMI in Minneapolis



Central Boiler in Greenbush, Minn.

Occupational Safety and Health Advisory Council meets in Duluth

For its Aug. 2 meeting, the Occupational Safety and Health Advisory Council (OSHAC) traveled to Duluth, Minn. At right, John Hollingsworth, Minnesota Power safety specialist, discusses wind turbine safety issues.

Council members are appointed by the Department of Labor and Industry commissioner; there are three representatives each from management, labor, occupational safety and health professions, and the general public.

Learn more at www.dli.mn.gov/Oshac.asp.



SOII sauce Interesting findings from the
Survey of Occupational Injuries and Illnesses

By Brian Zaidman, Research and Statistics

**NAICS classifies business
establishments for data**

Editor's note: This brief presentation of the North American Industry Classification System (NAICS) uses information from the NAICS website and the 2012 NAICS manual.

The annual Survey of Occupational Injuries and Illnesses (SOII) is structured to sample establishments and produce statistics for industries based on the North American Industry Classification System (NAICS). NAICS was developed under the auspices of the Office of Management and Budget and adopted in 1997 to replace the Standard Industrial Classification (SIC) system. NAICS is the standard used by federal statistical agencies in classifying business establishments for the purpose of collecting, analyzing and publishing statistical data related to the U.S. business economy. If a business establishment uses an incorrect NAICS code, it may be comparing its injury and illness rates to the wrong set of benchmarks.

NAICS is an industry classification system that groups establishments into industries based on the similarity of the processes used to produce goods or services. An establishment is defined as the smallest operating entity for which records provide information about the cost of resources employed to produce the units of output. An establishment is generally a single physical location where business is conducted or where services or industrial operations are performed. NAICS is a comprehensive system covering all economic activities. There are 20 economic sectors and 1,065 industries in the NAICS 2012 revision.

An establishment is classified to an industry when its primary activity meets the definition for that industry. For establishments that are engaged in more than one activity, the industry code is assigned based on the establishment's principal product or group of products produced or distributed or services rendered.

In Minnesota, the Department of Employment and Economic Development (DEED) assigns NAICS codes to each establishment. Minnesota companies provide DEED with quarterly reports, often referred to as the unemployment insurance tax reports, about the employment and wage data assigned to their NAICS code(s). Employers concerned about their NAICS classification can contact Larry Boschee of DEED at (651) 259-7381 or larry.boschee@state.mn.us.

More information about NAICS, is available at www.census.gov/eos/www/naics.

Federal OSHA Hazard Alerts address specific hazards

By Diane Amell, MNOSHA Training Officer

Since 2011, federal OSHA has been issuing a series of Hazard Alerts to warn employers and employees about hazards that are specific to an industry, process or substance. While a few, such as those about diesel exhaust and grain handling, have been featured in previous editions of *Safety Lines*, here are four more that readers should be aware of.

1-Bromopropane (1-BP)

The usage of this solvent has increased during the past 20 to 25 years, as a replacement for ozone-depleting chlorofluorocarbons (CFCs) and other chlorinated solvents. It has been used as a degreasing fluid, as a replacement for methylene chloride in adhesives and other formulations, and as a substitute for perchloroethylene (also known as tetrachloroethylene) for dry cleaning. However, the chemical can cause central nervous system effects, such as headaches, dizziness, loss of consciousness, slurred speech, confusion, difficulty walking, muscle twitching and loss of feeling in the arms and legs. These effects may become permanent even if exposure ends. The chemical can also be absorbed by the skin. 1-BP is also being investigated as a possible carcinogen and reproductive hazard.

There is no OSHA permissible exposure limit (PEL) for 1-BP, but the American Conference of Governmental Industrial Hygienists (ACGIH) has set a threshold limit value (TLV) of 10 parts per million (ppm) as an eight-hour time-weighted average, which may be lowered to 0.1 ppm.

This alert, published jointly by OSHA and the National Institute for Occupational Safety and Health (NIOSH) in July, recommends first evaluating employee exposure and then controlling it. Methods of control include: elimination or substitution; engineering controls, including isolation, ventilation and properly maintaining or modifying equipment using 1-BP; administrative controls, such as limiting the time of employee exposure, limiting amounts of 1-BP in the workplace and proper handling; and personal protective equipment, including respirators.



Student worker killed while filming football practice from a scissor lift

This timely alert revisits the 2010 fatality of a student employee at the University of Notre Dame who died when the scissor lift he was filming football practice from toppled over in high winds.

The alert first identifies some possible hazards associated with scissor lift use and offers recommended abatement measures, including: inspecting the lift before use; using the lift only on firm, level surfaces, away from electrical lines and equipment; operating the lift only in good weather; not moving the lift while extended unless otherwise recommended by the manufacturer; setting the brakes and stabilizing the lift before extending it; not overloading the lift; using the guardrails properly; and addressing any malfunctions that may occur. All employees using scissor lifts must be trained on the proper use of the lifts. Scissor lifts should be inspected and maintained in accordance with the manufacturer's recommendations.

Falls and other hazards to workers removing snow from rooftops and other elevated surfaces

Winter will soon arrive, and with it, snow and ice. This alert focuses on snow removal from heights, whether for prevention of overloading or collapse, or to facilitate work on the roof itself. Sometimes enough snow can be knocked off by simply using a snow rake from ground level, but other times employees must go up on the roof, a ladder or an aerial lift to shovel or blow snow off. Conditions can be brutal, with extreme cold, high winds or icy surfaces.

Falls are the most common, but not the only, hazard to workers. Other hazards include use of snow blowers or other mechanized equipment; entrapment and suffocation from being buried in snow; electrical shock from contact with power

lines or damaged extension cords; frostbite and hypothermia; and overexertion. Most of the alert is a discussion about how to abate these hazards. The alert features a sort of checklist with questions to be answered before the snow flies.

Methylene chloride hazards for bathtub refinishers

This joint OSHA/NIOSH alert is the result of multiple fatalities nationwide in the past few years where workers were overcome by methylene chloride fumes from chemical strippers used to remove the old surface finish on a bathtub prior to applying a new finish.

Bathrooms and the interior of bathtubs are usually small, poorly ventilated spaces where methylene chloride fumes can collect. Furthermore, methylene chloride's odor threshold is higher than the permissible exposure limit, so employees can be overexposed without recognizing it. Even worse, methylene chloride causes olfactory fatigue, which causes the fumes to be even less noticeable after a time. Methylene chloride can be absorbed through the skin, further adding to the

employee's total exposure. In most of the fatalities, respirators were not used or were inadequate to provide proper protection.

In this Hazard Alert, the health effects of methylene chloride are discussed, with special emphasis about the additional risk to employees with heart disease.

Abatement can include: substitution with methylene chloride-free stripping agents; using alternative methods, such as sanding; adequate ventilation (the alert emphasizes that windows and standard bathroom ventilation do not provide enough ventilation by themselves); and the use of methylene chloride-resistant gloves and clothing.

Employees must also be trained about the hazards of methylene chloride and its use.

The complete text of all the federal hazard alerts can be found on the Hazard Alerts, Letters to Employers page on the federal OSHA website at www.osha.gov/ooc/alerts-letters.html.

Safe patient-handling

Practitioners invited to facilitated discussion in November

Minnesota OSHA Workplace Safety Consultation (WSC) will continue its facilitated discussion series about safe patient-handling in hospital settings with a free event Wednesday, Nov. 6, from 1 to 3 p.m., at the Minnesota Department of Labor and Industry in St. Paul, Minn. This meeting will focus on clinics, but the meetings are structured to allow participants to discuss safe-patient-handling issues openly and share information that improves patient-handling outcomes for all.

There was a similar event Aug. 14 at the Department of Labor and Industry. WSC also worked with the Minnesota Safety Council to present the Safe Patient Handling and Movement conference on May 14, in association with the council's annual safety conference, where discussed topics included guru training, tracking of injuries, equipment selection and availability, as well as competency returns on training.

For more information about the facilitated discussion series or to suggest agenda items, contact Breca Tschida at (651) 284-5343 or breca.tschida@state.mn.us.



Tree felling is hazardous; training, proper techniques help

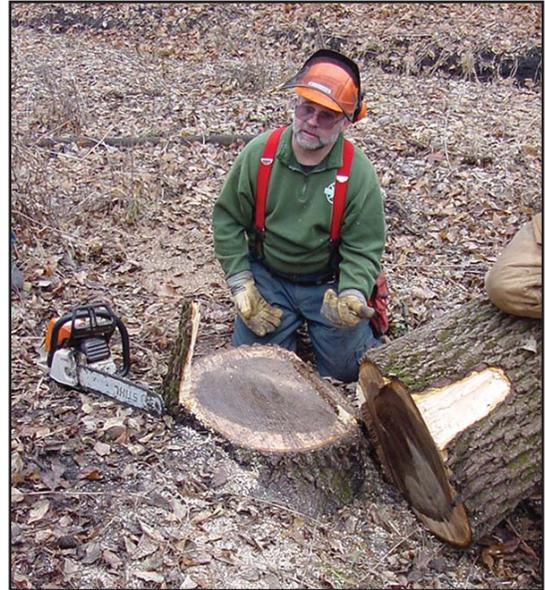
By Ed LaFavor, Training Officer, LogSafe Program, MNOSHA Workplace Safety Consultation

Tree felling with a chain saw accounts for 75 percent of all logging fatalities nationwide. The main causal factor in these fatalities is lack of training and improper felling techniques.

When felling a tree, there are a few factors that must first be determined before the process starts:

1. What are the hazards specific to the tree?
2. Which way does the tree *lean* in relationship to the direction of the fall?
3. What direction is the escape route?
4. How much hinge is required to safely fell this tree?
5. What is the felling plan?

In addition to those five factors, included among the possible tree-specific hazards are: a dead branch suspended in the upper limbs; a dead top; a rotten trunk; wind and other weather factors; and the area surrounding the tree.



A tree may lean in the direction of the intended fall, and most trees will be felled in the leaning direction, but the crown of the tree also needs to be observed. Trees with most of the crown on one side of the tree should be handled as if the tree was leaning in that direction.

The retreat path or escape route should go away from the direction of the fall at a 45-degree angle. The retreat path should never be to the rear of the tree and needs to be determined before the cutting begins. The path needs to be cleared, with no obstacles in the feller's path. **Never** stay next to the tree as the tree is falling; after hitting the ground, trees can jump up, sideways or backward several feet. A safe distance is about 10 to 20 feet from the stump as the tree is falling.

The hinge holds the tree to the stump as it is falling. The size or thickness of the hinge should be about 10 percent of the diameter of the tree at breast height (DBH). A tree with a 20-inch diameter would need a hinge that is 2 inches thick. This size is for a fully canopied tree; the size of the hinge will change with certain species and based on whether the tree is alive or dead.

The cutting plan will include the direction of the fall, the escape route, how much hinge will be required to fell the tree safely, what type of hinge will be used and what type of backcut will be used. Don't be afraid to change the plan as the conditions change. Trees are "like a box of chocolates" – a person doesn't always know what to expect. After cutting the notch in the tree, the loggers may find conditions that were not expected, such as rot, splits, etc. The plan may not work under the new conditions. This is where a lot of people get into trouble, because they continue on with the plan and do not revise it to meet the new conditions.

There are three notches or undercuts that are used on trees:

1. a conventional notch is a 45-degree notch with the 45-degree bevel going upward into the tree;
2. the humbolt notch is also a 45-degree notch with the 45-degree opening going down into the stump; and
3. the open-faced notch is a 70- to 90-degree open notch, with 45-degrees going upward and 45-degrees going downward.

With a conventional or humbolt notch, when the tree closes up the notch gap, the hinge has to be severed for the tree to continue the fall. When the hinge is broken or cut off, you have lost any control of the tree. With the open-faced notch having an opening of 70 to 90 degrees, the tree stays attached to the stump for most of the fall, retaining control of the tree.

When making any notch, both sides of the notch cut must meet evenly.

Common mistakes in tree felling, which can be fatal, include:

1. not identifying or recognizing the hazards present;
2. improper notching – making a poor notch, not making the notch-opening large enough or making a bypass notch with one side of the notch going past the other side;
3. making a back cut that does not meet the hinge at the proper height;
4. making too thin of a hinge (the hinge does not have enough material to hold the tree); and
5. cutting a tree that the logger does not have the experience or training to cut safely.

Minnesota OSHA has developed a Hazard Alert about tree felling that is available on the Department of Labor and Industry website at www.dli.mn.gov/OSHA/PDF/hazalert_treefelling.pdf. Another excellent source of information is the Logging eTool on the federal OSHA website at www.osha.gov/SLTC/etools/logging.

3M issues product advisories: body harness, lens assembly

By Diane Amell, MNOSHA Training Officer

On Aug. 19, 3M issued a product recall for its SafeLife full-body harness, model number 10910. The recall affects a limited number of harnesses manufactured last summer. Some of the recalled harnesses may not meet the CSA Z259.10 test requirements for independent harness strength.

The recall covers those products with W/O numbers 30502770, 30510681, 30511698 and 30519806. 3M requests these harnesses be removed from service immediately; those with the harnesses are also asked to call or email 3M for further instructions. The complete notice is available at http://multimedia.3m.com/mws/mediawebserver?mwsId=SSSSSuH8gc7nZxtU5Y_Z5Yt1evUqe17zHvTSevTSeSSSS SSS--&fn=Product%20Recall%20Model%2010910%20-%20Cus.

Earlier this year, 3M issued a user advisory notice regarding its model number 6898 Lens Assembly used with some of its 6000 Series full facepiece and Powerflow brand powered air purifying respirators (PAPRs). The advisory includes the 6700, 6800 and 6900 filtering facepiece respirators and the models 6800PF and 6900PF Powerflow PAPRs. A limited number of these lenses may separate from the center adaptor on the facepiece, adversely affecting the respirator seal. As a precaution, 3M requests users inspect their respirators using the methods described in the notice.



The complete notice, plus videos showing how to test the respirator/lens seal and how to properly replace the lens, are online at http://solutions.3m.com/wps/portal/3M/en_US/3M-PPE-Safety-Solutions/Personal-Protective-Equipment/safety-management/safety-news/safety-product-notifications (click on “Advisories”).



MNOSHA Compliance signs safety, health partnerships

Minnesota OSHA (MNOSHA) Compliance recently signed Level 3 Cooperative Compliance Partnership agreements with Shingobee and with M.A. Mortenson Company.

Level 3 is the peak level of the partnerships, with applicants striving to be an industry leader with very comprehensive safety and health programs. To qualify, participants must have reached Level 2 and remained there for at least one year.

Shingobee is the first Level 3 Cooperative Compliance Partnership agreement through MNOSHA's safety initiative with the Minnesota Chapter of Associated Builders and Contractors (MN ABC). The project is the International School of Minnesota Residence Hall in Eden Prairie, Minn., scheduled for completion in June 2014.

M.A. Mortenson is the fifth Level 3 Cooperative Compliance Partnership

agreement through MNOSHA's safety initiative with Associated General Contractors (AGC) of Minnesota, known as Construction Health and Safety Excellence (CHASE) Minnesota. The project is the Walker Art Center Brick Replacement in Minneapolis, scheduled for completion in November 2013.

The partnerships acknowledge the importance of providing a safe, healthful work environment in construction and seek a working relationship that creates mutual trust and respect among all parties – including project owners and construction workers – involved in the construction process.



Shingobee



M.A. Mortenson Company

MNOSHA spreads safety message at free Construction Seminars

Minnesota OSHA Compliance offers free (and citation-free) opportunities for those in the construction industry to learn more about a specific topic, ask questions, discuss specific situations or simply revive their focus on worksite safety and health during the Construction Seminar series.



This year's five seminars are at a new location less than 20 minutes north of downtown St. Paul, with ample free parking – the MnDOT Training and Conference Center, 1900 W. Cty.

Attendees at the Minnesota OSHA Compliance Construction Seminar, Sept. 17, take part in a discussion about vehicle safety, with panelists Glad Felter and Lisa Kons, Minnesota Safety Council; Sgt. Scott Wahl, Minnesota Highway Patrol; and Thomas Udelhoven, CNA.

Road I, Shoreview, MN. Doors open at 6:30 a.m. and the program begins at 7 a.m., lasting about two hours.

This year's seminars are all planned to be panel discussions. MNOSHA Compliance and the Construction Seminar Steering Committee hopes to encourage more interaction with the audience, offer better understanding and provide more practical learning for those who attend.

The changing workforce -- Wednesday, Nov. 20

During the November seminar, the panel will try to encompass the many issues – and provoke beneficial discussion – about construction safety and the changing workforce.



Older employees often have greater construction experience, but may have health issues that come into play on the worksite, while younger employees usually have less on-the-job experience with safe practices, but may have greater energy and stamina.

Prejudices toward gender, different nationalities and different customs may cause controversy and confusion on worksites, plus there may be language barriers in the mix, leading to a breakdown of the safety procedures that are already in place.

The workforce *is* changing, so how do employers and employees keep construction worksite safety and health a priority? Join the discussion and share your ideas and experiences.

Future dates, topics

- Jan. 21, 2014 – MNOSHA statistics and update
- March 18, 2014 – Excavation inspection/utilities
- May 20, 2014 – Fall protection

Visit www.dli.mn.gov/OSHA/ConstructionSeminars.asp for complete information or to be added to the email list for announcements about the seminars.