



MIOSHA

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Top 10 Most Frequently Cited MIOSHA Standards

The Bad News: Last year in Michigan, 37 workers went to work healthy and whole, and were killed on the job. Each death takes a terrible toll on the family, the workplace and the community.

The Good News: Workplace injuries, illnesses and fatalities are preventable. And the costs of reacting to workplace injuries and illnesses far exceed the costs of preventing them from happening. According to the 2008 Liberty Mutual Workplace Safety Index, the direct and indirect costs of occupational injuries are estimated between \$170 and \$255 billion.

Standards are Minimum Requirements

The Michigan Occupational Safety and Health (MIOSH) Act (Act 154 of 1974, as amended), requires employers to provide a safe and healthy workplace, free from recognized hazards. The purpose of MIOSHA safety and health standards is to set minimum requirements and provide guidelines for identifying and correcting the hazards contributing to injuries and fatalities.

Worksites that implement the safety standards appropriate to their industry can minimize or eliminate employee exposure to hazards such as:

- Electric shock, electrocution;
- Being caught in or between objects and equipment;
- Being struck by or against objects or equipment;
- Falls from heights;
- Slips, trips, and loss of balance; and
- Exposure to harmful materials.

MIOSHA Compliance Inspections

The MIOSHA program is required to monitor the safety and health conditions in workplaces covered by the MIOSH Act. Our inspection scheduling system focuses on Michigan workplaces with the highest injury and illness rates. We want to target worksites where we can do the most good.

However, MIOSHA standards must be complied with, whether an employer is inspected or not.

Most employers comply with the standards to protect their employees, not simply to avoid the consequences of an inspection.

If during the inspection there are violations found, MIOSHA generates a report that is compiled into citations and sent to the employer. MIOSHA citations can carry monetary penalties and will contain time requirements for correcting the violation(s).

MIOSHA citations are classified according to the seriousness of an injury that might occur if an accident were to happen due to the violation of a MIOSHA standard. A *Serious Violation* is defined as: A hazardous condition exists that has a substantial probability of causing serious physical harm or death to workers.

Top 10 Most Cited MIOSHA Standards

Below are the *Top 10 Most Frequently Cited MIOSHA Construction, General Industry, and Occupational Health Standards*. These are the serious violations most frequently cited by the General Industry Safety and Health Division and the Construction Safety and Health Division in Fiscal Year 2011 (October 1, 2010, through September 30, 2011).

This list was compiled to provide an overview of the most common hazards identified by MIOSHA during safety and health inspections. The list can help employers identify serious hazards which could result in workplace injuries and fatalities.

Employers are encouraged to use the Top 10 lists as a tool to improve safety and health at their worksites. If a standard listed on the Top 10 list applies to your workplace, review the specific requirements of the standard to assess how well your safety and health system is addressing these issues. MIOSHA standards can be downloaded from the MIOSHA website at www.michigan.gov/mioshastandards.

A comprehensive safety and health management system is the best framework to help employers comply with MIOSHA standards. The key elements are:

- Management commitment,
- Employee involvement,
- Workplace analysis,
- Hazard prevention and control, and
- Safety and health training.

Help is Available

Information on specific hazards is available on our website, www.michigan.gov/miosha, along with fact sheets to help recognize and eliminate workplace hazards.

For compliance and enforcement information, contact the General Industry Safety and Health Division at 517.322.1831 and the Construction Safety and Health Division at 517.322.1856. For inquiries about education and training services, contact the Consultation Education and Training (CET) Division at 517.322.1809.



Top 10 Most Cited MIOSHA Standards General Industry Safety - FY 2011

Part	Standard	Citations
01	General Provisions	269
85	Lockout/Tagout	228
07	Guards for Power Transmission	206
33	Personal Protective Equipment	177
26	Metalworking Machinery	156
39	Design Safety Standards/Elec. Sys.	136
21	Powered Industrial Trucks	127
02	Floor and Wall Openings	120
24	Mechanical Power Presses	112
27	Woodworking Machinery	79

Top 10 Most Cited MIOSHA Standards Construction Safety - FY 2011

Part	Standard	Citations
45	Fall Protection	797
12	Scaffolds and Scaffold Platforms	674
17	Electrical Installations	343
06	Personal Protective Equipment	343
09	Excavation, Trenching & Shoring	271
11	Fixed and Portable Ladders	271
19	Tools	193
32	Aerial Work Platforms	177
20	Demolition	127
21	Guarding/Walking & Working Areas	108

Top 10 Most Cited MIOSHA Standards Occupational Health - FY 2011

Part	Standard	Citations
602	Asbestos for Construction	308
603/310	Lead (Construction & GI)	129
92	Hazard Communication	95
451	Respiratory Protection	87
554	Bloodborne Infect. Diseases	61
472	Medical Services and First Aid	53
433	Personal Protective Equipment	53
90/490	PR Confined Spaces	53
380	Noise Exposure	52
305	Asbestos for General Industry	36



Martha Yoder
Director

Every Life is Precious!

It has been a busy time for us at MIOSHA. There have been many events and activities during the past three months that have served as excellent reminders of just how precious each life is.

April 28th is designated each year as **Workers Memorial Day**. It is a day to pay tribute to the lives lost on the job during the past year. I had the opportunity to participate in a Worker Memorial Tribute in Lansing. It was very moving to stand outside on a cold, windy April morning and listen to the stories of men and women who have lost their life while working during the past year in Michigan.

A few weeks later, I participated in a conference where workers from around the country were remembered

“These worker deaths serve as powerful reminders that being proactive is well worth the effort and the pay back is, as the advertisement says, ‘priceless.’”

by their coworkers. The stories were of precious lives – all talented, all irreplaceable. There was not a dry eye in the room as one by one people remembered someone who they had worked with every day.

All these accidents could have been prevented. These worker deaths serve as powerful reminders that being proactive is well worth the effort and the pay back is, as the advertisement says, “priceless.”

MIOSHA Strategic Plan

MIOSHA uses a five-year strategic plan to guide program activities. The current plan covers Fiscal Years 2009 – 2013. The plan has three over-arching goals: to reduce injuries, exposures, and deaths; promote proactive systems; and increase public confidence in MIOSHA programs and services. For a summary of the plan, visit www.michigan.gov/miosha and click “Inside MIOSHA.”

MIOSHA will soon begin the process of developing a new plan cover-

ing Fiscal Years 2014 – 2018. Historically, a draft plan has been shared for stakeholder input by posting on the MIOSHA webpage and through direct feedback at a stakeholders meeting. In addition, we will explore soliciting stakeholder input at the beginning of the process – before a draft plan has been developed.

We are interested in hearing what stakeholders see as MIOSHA’s role in the future, where we can make the biggest impact in improving workplace safety and health, and what specific products and services you need from us. We plan to hold stakeholder focus groups to solicit this input and are looking for employers, employees, and organizations to share their ideas with us. If you’re interested in being a part of this new process, please email me at yoderm@michigan.gov.

ORR Update

MIOSHA now reports to LARA Deputy Director **Rob Nederhood** who also provides oversight to the **Office of Regulatory Reinvention (ORR)**. Previously he was an associate in a Detroit law firm and prior to that a legislative assistant in the Michigan House of Representatives. Deputy Director Nederhood is join-

ing MIOSHA leadership in many workplace safety events and awards. He has a strong interest in workplace safety and health. His leadership is truly appreciated.

My previous column included a detailed summary of action to address workplace safety and health rules by the ORR. MIOSHA has received direction to proceed with preparing updated rule sets and documents required to promulgate changes.

Since the report included 624 recommendations for change, the revisions are being completed incrementally in small batches starting with the construction safety rules. Once the rules are in the promulgation process, the proposed amended rule sets are posted on the ORR website at www.michigan.gov/orr.

As always there is lots happening at MIOSHA and it all has the goal of helping to create the safest and healthiest workplaces possible. Wishing you a safe summer!

Connecting through the MTI

The MIOSHA Training Institute (MTI) is one of the best values you will find for workplace safety and health training. It began with a formal alliance between MIOSHA and Macomb Community College and has grown to involve 30 cosponsors.

The MTI helps further MIOSHA’s mission of protecting the safety and health of Michigan’s workers through innovative training for both the public and MIOSHA staff. MTI is where employers, employees, manufacturers, contractors, union members, safety and health personnel, and college students, to name a few, can participate in the same training provided to MIOSHA staff.

MTI delivers consistent, participant-driven and informative training programs based on the most up-to-date industry standards in an environment that is interactive and hands-on. In some courses, the MTI has access to equipment and machinery that enables the trainers to provide demonstrations on the application of the safety and health standards MIOSHA enforces. MTI provides the opportunity for participants to engage in open discussions regarding MIOSHA standards with those that administer them.

MTI Certificate Program

MTI offers a certificate program that provides participants an opportunity to be recognized for their educational efforts. The MTI courses also offer continuing education credits or maintenance points. There are two levels of certificate programs.

Level One certificates are offered for the “*General Industry Safety and Health Program*” and the “*Construction Safety and Health Program*.” *Level One* courses are tailored for an individual interested in general safety and health information and allows participants to begin the process of developing safety and health management systems.

Level Two certificates are offered in three tracks. One track is “*Safety and Health Management Systems*,” which provides more in-depth training and information on the implementation and management of workplace safety and health systems. The other two tracks result in certificates in “*MIOSHA Compliance General Industry*” and “*MIOSHA Compliance Construction*.” The focus of the compliance tracks is more in-depth techni-



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cal training on MIOSHA standards.

Since 2007 there have been over 11,000 total participants in MTI courses. More than 470 graduates have been awarded certificates including 344 General Industry Level One certificates, 94 Construction Level One certificates, and 32 Level Two certificates in Safety and Health Management Systems.

MTI Adds Value

One great value of MTI is the networking opportunity it provides. MTI participants have the opportunity to network with others outside of their organizations to exchange information about best practices and learn how to leverage resources.

MIOSHA, Macomb Community College, and the other cosponsors have worked diligently to keep the cost of the MTI courses as low as possible. While costs for other workplace safety and health training sessions can be more than \$1,000 per day, MTI costs range from \$75 for half-day workshops up to \$225 for three-day seminars. So you can attend three days of MTI courses for a quarter of the cost of one day of training elsewhere, a true value!

In addition to keeping the costs as low as possible, MTI established a scholarship program in 2009. The purpose is to provide an additional financial incentive for employers and individuals to attend MTI courses and provide a significant reduction in cost for unemployed workers seeking workplace safety and health training through MTI.

If you have not taken advantage of MTI, I encourage you to find more information by visiting the MIOSHA website.



MTI graduates at the 2012 Michigan Safety Conference.

Heat Illness and Death are Preventable

By: Harvey Johnson, CIH, Industrial Hygienist
Consultation, Education and Training Division

Although heat illness and death are preventable, each year in the U.S., thousands of workers become ill and approximately 30 die from heat exposure. Workers in Michigan are no exception and the occupations at highest risk of heat illness include agricultural, construction, foundry, kitchen and landscaping workers.

Heat Index

The main environmental factors that determine whether employees may be in danger are the air temperature, the humidity and air movement at the workplace. The best single measure of these factors for outdoor or indoor work is the **Heat Index**, which combines temperature and humidity. This is reported by the **National Weather Service** and can be obtained at www.noaa.gov.

From the table, you can see how employees can be placed in extremely dangerous conditions by the combination of high temperature and humidity. As humidity and temperature can change, employers may recognize the conditions in their fields or factories.

It is recommended that employers pay close attention to the Heat Index of their workplace, especially during summer months. A temperature and humidity reading device can be obtained at many stores for approximately \$20 and displayed in the workplace as a guide to employees and managers.

Heat Illness

If employees are exposed to high Heat Index conditions, they may experience heat illness. Heat illness begins with symptoms such as weakness

and headache and can progress to nausea and extreme sweating. These types of symptoms are called **heat exhaustion**.

If an employee's body cannot get rid of excess heat, they may develop **heat stroke** which is the most severe heat illness. Heat stroke can be fatal if not immediately recognized and treated. The human brain and other organs cannot function above approximately 104 degrees Fahrenheit (F). If a person's brain reaches this temperature or above, it will stop functioning. This means that normal automatic body functions (such as sweating) can stop and the person's temperature will go even higher. Even if the person is quickly cooled and survives, they still may have damage to the brain or other organs.

The main **human factors** that influence whether an employee will develop heat illness are differences in:

- Work level (low to high activity which generates heat);
- Age, weight, and degree of physical fitness;
- Degree of acclimatization;
- Use of alcohol or drugs, and medical conditions; and
- Clothing (light cotton vs. heavy barriers that do not allow sweat to evaporate).

Heat Stress Program

Employers with employees at risk of heat illness should develop a basic heat stress program that includes:

- Providing basic training to employees on the signs and symptoms of heat illness;

- Monitoring the Heat Index level of the workplace;
- Monitoring the employees for signs/symptoms of heat illness;
- Providing water or sports drinks and allowing employees easy access;
- Providing feasible controls such as fans and shaded areas;
- Adjusting work/rest schedule if Heat Index is above 90.

If you would like additional information on heat stress and heat illness prevention, a great resource is the OSHA website at www.osha.gov. You can also visit the **MIOSHA Consultation, Education and Training (CET) Division**, www.michigan.gov/cet or call 517.322.1809 for more information or for consultation and training services.

		Temperature (°F)															
		80	82	84	86	88	90	92	94	96	98	100	102	104	106	108	110
Relative Humidity (%)	40	80	81	83	85	88	91	94	97	101	105	109	114	119	124	130	136
	45	80	82	84	87	89	93	96	100	104	109	114	119	124	131	137	
	50	81	83	85	88	91	95	99	103	108	113	118	124	131	137		
	55	81	84	86	89	93	97	101	106	112	117	124	130	137			
	60	82	84	88	91	95	100	105	110	116	123	129	137				
	65	82	85	89	93	98	103	108	114	121	128	136					
	70	83	86	90	95	100	105	112	119	126	134						
	75	84	88	92	97	103	109	116	124	132							
	80	84	89	94	100	106	113	121	129								
	85	85	90	96	102	110	117	126	135								
90	86	91	98	105	113	122	131										
95	86	93	100	108	117	127											
100	87	95	103	112	121	132											

Likelihood of Heat Disorders with Prolonged Exposure or Strenuous Activity
 Caution ■ Extreme Caution ■ Danger ■ Extreme Danger

Revised Hazard Communication Standard

By: Mike Mason, Health Manager, Construction Safety and Health Division

The U.S. Department of Labor's Occupational Safety and Health Administration (OSHA) published a revised **Hazard Communication Standard (HCS)** on March 26, 2012. When federal OSHA publishes a revised standard, MIOSHA must also develop a comparable standard applicable to both the private and public (state and local government employees) sectors within six months of the publication date of the revised standard (September 22, 2012).

Because the comparable standard must be "at least as effective" as the revised OSHA standard, **MIOSHA plans to adopt the revised HCS as written**. During the transition periods to the effective completion dates noted in the revised standard, chemical manufacturers, importers, distributors and employers may comply with MIOSHA's existing HCS requirements, the revised standard, or both.

Globally Harmonized System

Federal OSHA revised the HCS to conform to the United Nations' *Globally Harmonized System of Classification and Labeling of Chemicals (GHS)*. This GHS requirement will increase worker protection by improving the quality and consistency of information provided to employers and employees regarding chemical hazards and protective measures.

Besides making it safer for workers to do their jobs, it will also make it easier for employers to stay competitive. The new GHS is being implemented by countries throughout the world, including Canada, the European Union, China, Australia, and Japan.

Major Standard Changes

The revised HCS requires chemical manufacturers to use revised criteria for classification of chemical hazards, revised labeling provisions, and a specified format for safety data sheets. There are also revised requirements for employers to train their employees regarding labels and safety data sheets for hazardous chemicals.

Health Hazard	Flame	Exclamation Mark
 <ul style="list-style-type: none"> • Carcinogen • Mutagenicity • Reproductive Toxicity • Respiratory Sensitizer • Target Organ Toxicity • Aspiration Toxicity 	 <ul style="list-style-type: none"> • Flammables • Pyrophorics • Self-Heating • Emits Flammable Gas • Self-Reactives • Organic Peroxides 	 <ul style="list-style-type: none"> • Irritant (skin and eye) • Skin Sensitizer • Acute Toxicity • Harcokic Effects • Respiratory Tract Irritant • Hazardous to Ozone Layer (Non-Mandatory)
 <ul style="list-style-type: none"> • Gases Under Pressure 	 <ul style="list-style-type: none"> • Skin Corrosion/Burns • Eye Damage • Corrosive to Metals 	 <ul style="list-style-type: none"> • Explosives • Self-Reactives • Organic Peroxides
 <ul style="list-style-type: none"> • Oxidizers 	 <ul style="list-style-type: none"> • Aquatic Toxicity 	 <ul style="list-style-type: none"> • Acute Toxicity (fatal or toxic)

Below are the major changes to the HCS:

Hazard classification: Chemical manufacturers and importers are required to determine the hazards of the chemicals they produce or import. Hazard classification under the revised HCS provides specific criteria to address health and physical hazards as well as classification of chemical mixtures.

Labels: Chemical manufacturers and importers will be required to provide a label that includes a harmonized signal word, **pictogram**, and hazard statement for each hazard class and category. Precautionary statements must also be provided. Each pictogram consists of a symbol on a white background framed within a red border and represents a distinct hazard(s). The pictogram on the label is determined by the chemical hazard classification. HCS pictograms and hazards are shown below.

Safety Data Sheets: The new format requires 16 specific sections, ensuring consistency in presentation of important protection information.

Information and training: To facilitate understanding of the new system, the revised standard requires that workers be trained by **December 1, 2013**, on the new label elements and safety data sheet format, in addition to the current training requirements.

More information on the revised HCS can be found at www.osha.gov.

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Residential Fall Protection Solutions

By: Paul Wrzesinski, Safety Manager

On March 25, 2011, the Construction Safety and Health Division revised instruction CSHD-COM-04-1R1, *Residential Fall Protection Compliance Criteria*. These changes resulted from changes federal OSHA made to their enforcement policy. MIOSHA worked with industry partners to develop workable solutions for protecting residential construction workers.

Residential Forum

On March 29, 2012, MIOSHA held a forum with the Greater Lansing Home Builders and Remodelers Association and contractors to share best practices and solutions. The morning session was dedicated to framing contractors and poured concrete walls and foundation contractors. The afternoon session was dedicated to residential roofing contractors. Both sessions were presented jointly with contractors, manufacturers and MIOSHA staff. These sessions were well attended and included representatives from the Michigan Home Builders, the National Home Builders Association and the National Roofing Association.

Changes to the Instruction and Solutions

Previously an employer was not required to provide in writing a fall protection plan if the employer could prove infeasibility or a greater hazard. They are still allowed to use a fall protection plan, but **the plan must be in writing and site-specific**. The definition of "residential construction" was also revised and only applies to construction work meeting both of the following elements:

- The end-use of the structure being built must be used as a home, i.e. a dwelling; and
- The structure being built must be constructed using traditional wood frame construction materials and methods.

Listed below are **fall protection plan alternatives** that will be allowed for residential construction:

- Employers may use a fall protection plan during specific residential framing operations at heights up to 10 feet above lower levels.
- Employers may incorporate the use of slide guards in their fall protection plans during roof sheathing and roofing operations. This is only allowed on roofs with ground-to-eave heights less than 18 feet **and** do not exceed a 6:12 pitch.



MIOSHA Signs Two New Construction Partnerships

Christman/Kraus-Anderson

On May 1, 2012, MIOSHA became the first state to enter into a construction partnership with an Indian Nation. The **Pokagon Band of Potawatomi Indians, Christman/Kraus-Anderson**, a joint venture (CKA), LARA, MIOSHA, the Michigan and Southwest Michigan Building and Construction Trades Councils, and the Partnering Contractors signed a formal partnership to protect workers at the **Four Winds Casino New Buffalo Expansion Project**. The Pokagon Band is a Supporting Partner and strongly supports the partnership initiative to put respect for human



safety at the top of everyone's priorities.

The Pokagon Band is in the process of adding a nine-story hotel tower to its Four Winds Casino New Buffalo complex, which is located on Pokagon Band trust land in New Buffalo. CKA is serving as construction manager on the \$50 million expansion tower which will contain 251 suites and rooms. A new 1,600-seat, 70,000 square-foot multi-use event center is part of the expansion and also underway is a 13,000 square-foot Hard Rock Cafe Four Winds restaurant. MIOSHA and the Pokagon Band will continue to partner on future construction projects at this site.

Barton Malow Company

On April 12, 2012, **Barton Malow Company**, LARA, MIOSHA, the Greater Detroit Building and Construction Trades Council, and the Partnering Contractors signed a formal partnership to protect workers at the **St. Joseph Mercy Oakland Campus Regeneration Project** located in Pontiac. The project is a \$129 million dollar investment for Trinity Health. Construction of the new, contemporary design, 8-story South Patient Bed Tower began in January 2012 and will be completed in December of 2013.

Grounding Requirements: Portable Welders, Light Towers & Generators

By: Brian Paul, Senior Safety Officer

Question: Are portable welders, light towers or generators required to be connected to an earthen ground?

Answer: Most manufacturers' manuals state the equipment is to be installed and grounded according to national, state and local codes. MIOSHA has two construction safety rules that address this type of equipment: Part 7, *Welding and Cutting*, Rule 744 (1); and Part 17, *Electrical Installations*, Rule 1728 (1).

However, the National Electric Code (NEC) states that an earthen ground (ground rod, building steel, etc.) is **not required** if the equipment (welder, light tower, and generator) meets **all** of the following requirements:

- The equipment is not hard wired to an electrical system;
- The auxiliary power output (120/240 volts) and the receptacles have a ground pin outlet available for the equipment that plugs into the receptacle;
- The equipment is portable or mounted on a truck or trailer;
- The auxiliary power is used by cord-and-plug-connection means through the equipment; and
- The equipment is mounted on a vehicle or trailer and the equipment frame is bonded to the vehicle or trailer frame.

The NEC is more specific to this type of equipment; therefore it is **the more applicable requirement**. To determine if the grounding and grounded conductors are bonded to the frame, look for an identifying sticker, or have an electrician check the equipment schematic and internal continuity.

ROOFER - ELECTROCUTION

In March 2012, two employees were performing roofing activities on a two-story building and were setting up a 40-foot aluminum extension ladder to gain access to the roof to install a cap on the brick. The employees lost control of the ladder which then contacted the 7600-volt overhead power lines that were located about eight feet from the building at 30-33 feet in height. One employee was electrocuted and the other employee received an electric shock.

MIOSHA Violations (not inclusive):

- Part 11, *Ladders*:
 - Rule 408.41112(1) - No training program provided to employees who use ladders.
 - Rule 408.41124(7) - A metal ladder was within the minimum of 20 feet between power transmission or distribution lines.

CASE SUMMARIES

IRONWORKER - CRUSHED

In June 2011, a 38-year-old ironworker was working alone installing structural steel bracing and painting. An employee from another company entered the work area and found the employee elevated, slumped over the controls of a boom-supported aerial work platform. The ironworker had been crushed between the work platform and a ceiling beam. Using the ground controls, the employee was lowered to the ground. He died from the injuries.

MIOSHA Violations (not inclusive):

- Part 32, *Aerial Work Platforms*:
 - Rule 408.43207(8) - Training not provided to employee.
 - Rule 408.43216(1) - Aerial work platform used improperly.

Heat and Agricultural Workers

By: Elaine Clapp, Health Manager

Scott Macfarlane, C.I.H. Senior Industrial Hygienist

Summer's here and Michigan's seasonal and migrant agricultural workers are performing a variety of hand labor tasks in agricultural fields under extreme weather conditions. Such workers perform a variety of tasks including planting, pruning, harvesting, and packing of fruits or vegetables.

One of the most serious hazards faced by these workers is exposure to extreme heat. Although Michigan has not recently experienced any heat-related deaths of agricultural workers, many have occurred in the United States. In California alone, since 2005, there have been more than 13 heat-related deaths of agricultural workers when the workers were working long hours in fields where there was no relief from the sun and inadequate supplies of drinking water.

Special Emphasis Program

The General Industry Safety and Health Division (GISHD) is in the fourth year of a special emphasis program whose goal is to protect agricultural hand laborers from hazards such as heat stress. These workers are covered under MIOSHA Standard, Part 500, *Field Sanitation*. This standard requires employers to provide adequate drinking water, appropriate toilet and handwashing facilities (and reasonable use of these facilities), and to

inform employees of the importance of good hygienic work practices.

Under the special emphasis program, GISHD responds within 24 hours to employee complaints or referrals alleging that agricultural workers are working in a field without adequate supplies of water, or without toilets and handwashing facilities. A lack of toilet and/or handwashing facilities not only poses a health hazard to the workers by spreading disease among workers, it can also result in contaminated food products which would pose a health hazard to the consumer. By protecting agricultural employees, MIOSHA also helps maintain healthy food products for farmers and Michigan citizens.



Safety Interpretation

Question: Is it okay to leave a powered industrial truck (PIT) turned on when the operator leaves it unattended if the operator is only a short distance away or gone from the PIT just a couple of minutes or less?

Answer: In order to answer this question the term "unattended" must first be defined. General Industry Safety Standard, Part 21, *Powered Industrial Trucks*, Rule 2110(9) defines an unattended truck as "... one which is beyond the vision or more than 25 feet from the operator." This means either beyond the vision of the operator OR more than 25 feet from the operator. If the operator is less than 25 feet away but has an obstructed vision of the PIT, it is unattended. The amount of time the driver is away from the PIT is not part of the definition.

Rule 2174 (1) lists steps that must be taken if a PIT is unattended for any amount of time: "When leaving a powered industrial truck unattended, an operator shall fully lower the forks flat to the floor, neutralize the controls, set the brakes and shut the power off when the PIT is unattended." Subsection (2) of this rule also requires that if the unattended PIT is on an incline, the truck wheels shall be blocked and the steering wheel turned toward the curbing, wall, or railing.

CASE SUMMARIES

RESTAURANT PREP COOK – HEAT STRESS

In July 2011, a 37-year-old employee was working in the restaurant kitchen where temperatures were reported to be over 100 degrees. He reported feeling disoriented and dizzy. He left the restaurant and went to his home, which was not air-conditioned. He later died due to hyperthermia.

MIOSHA violations:

- Act 154, Section 11(a) – Employees exposed to hazards associated with working a hot environment during cooking and kitchen job tasks that could lead to serious hurt or death to employees.

- Part 11, *Recordkeeping*, Rule 1139(1) – The employer did not report a work-related incident resulting in a fatality of an employee within 8 hours.

TREE TRIMMER – FALL

In September 2011, a 49-year-old employee was suspended and tied off 40 feet in the air cutting off a tree's last branch. After making the cut, the branch swung around and hit the tree about 15 feet below where the employee was tied on. The tree trunk broke in half, causing the employee to fall to the ground receiving fatal injuries.

MIOSHA violations:

- Part 53, *Tree Trimming and Removal*, Rule 5334(1) – Employer did not evaluate the tree to ensure it could take the strain of branch being removed aloft.

- Part 11, *Recordkeeping*, Rule 1139 (1) – The employer did not report a work-related incident resulting in a fatality of an employee within 8 hours.

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High Hazard Industry Focus

By: Gerry Dike, Industrial Hygienist Specialist

Merchant Wholesalers, Nondurable Goods (NAICS 424) is one of the 13 high-hazard industries targeted for injury and illness rate reduction during 2009-2013. The non-fatal occupational injury and illness incidence rate for this industry in Michigan in 2010 was 6.3 cases per 100 full-time workers, compared to 4.2 cases for all private employees in Michigan. The goal is to reduce the injury and illness rate in this industry to at least 4.5 by the year 2013.

Merchant wholesalers sell merchandise to other businesses. Nondurable goods are items with a normal life expectancy of less than three years. This industry operates warehouses. The industry sectors include paper and paper products, chemicals and allied products, drugs, textiles, grocery products, farm products, and alcoholic beverages.

Industry Hazards

Warehouses that store perishable items such as food and grocery items in freezers operate ammonia refrigeration systems. Facilities with refrigeration systems containing 10,000 pounds or more of anhydrous ammonia are required to comply with Part 591, *Process Safety Management of Highly Hazardous Chemicals*, to prevent employee exposure to anhydrous ammonia.

Other workplace hazards in the industry are:

- Overhead storage, which can result in injuries when workers fall from heights or overhead materials fall on employees;
- Material handling vehicles that can flip over or hit employees;
- Carbon monoxide exposure from propane-powered forklift trucks that can cause headache, unconsciousness and possible death;
- Acid splashing at battery charging stations for electric forklift trucks which can result in chemical burns to the eyes and body; and
- Lifting of heavy objects that can cause overexertion injuries.

The health and safety standards for the hazards applicable to this industry include Parts 1, 6, 8, 17, 21, 33, 39, 40, 78, 85, 301, 430, 433, 472, 520, and 591, and Act 154 for the MIOSHA general duty clause.



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Best Practices Identified After Incident

By: Doug Kimmel, MVPP Program Specialist

The findings from a recent incident investigation at the **OxyChem Calcium Chloride** plant in Ludington truly exemplify the ideals of the Michigan Voluntary Protection Program (MVPP). Although it is never good when an employee is injured on the job, the steps taken to identify root cause(s), implement corrective measures, and leverage the knowledge obtained can help to ensure that no one else is injured due to the same type of incident.

Incident Description

The incident involved a contract employee who was injured during a sheet piling installation operation. After the incident a thorough investigation was performed jointly by representatives of **OxyChem** and the contractor, **Hardman Construction**.

The incident occurred when a sheet piling (a large, interlocking sheet of metal) was raised by a crane from a stack of sheet pilings. Each sheet piling was 37' long by 2.5' wide and weighed 1500 pounds. As one of the sheet pilings was raised it released from the lifting shackle attached to it. During the hoisting the release line caught under the tire of a front-end loader parked nearby, which pulled on the shackle pin.

The job foreman saw the release line tighten and signaled to the crane

operator to stop, and lower the load. As the crane operator began lowering, the sheet piling slipped from the lifting shackle and dropped back onto the stack. It slid off of the stack, striking the side of the ground man's foot.

Root Cause Investigation

After the injured employee had been cared for, a root cause investigation (RCI) was initiated. The findings from the RCI revealed:

- The shackle release line was not properly managed resulting in it getting snagged under the tire of the front end loader. (The ground man is responsible for ensuring that the line remains "free.")

- The ground man failed to stay adequately clear of the line of fire. (He failed to properly anticipate the distance and direction the partially hoisted sheet could move.)

- The release line was improperly attached to the shackle release pin and the pull wire was incorrectly assembled.

The first two findings are the result of inadequate employee training and operator error. The third finding is the one that has potential to impact an entire industry. Through the RCI it was discovered that the shackle release line safety ring assembly on the shackles being supplied to Hardman were not assembled correctly. The safety ring was inadvertently being tied directly to the release line, resulting in improper use by the employees.

Since the incident, it has been discovered that many other employers throughout the industry have been using the shackle release lines incorrectly, while believing they were using them correctly because of the way that they had been received (incorrectly assembled).

Based on the findings, Hardman Construction retrained all of its crews and passed the information along to industry associations so they can inform their members of the potential hazard.



The contract employee was injured here.

03/01/12 – IHC Inc. – Detroit – SHARP Award. Since 1962, IHC has been a leader in the anodizing industry focusing on chromic, sulfuric and hardcoat anodizing. They're ISO 9002 and QS 9000 certified, and NADCAP accredited. They have a company culture that promotes management commitment, employee involvement, and a desire to excel in safety and health.

MIOSHA Awards



05/23/12 – Herman Miller Hickory Spring Lake Facility – MVPP Star. The Hickory facility is the fifth Herman Miller facility to receive the Star Award. This award is an excellent reflection of Herman Miller's commitment to environmental, health and safety excellence and of the dedication of the 390 Hickory Operations employees who helped make it possible.



06/08/12 – DTE Energy River Rouge Facility – MVPP Star. DTE has key corporate goals to make sure all employees have a safe and healthy work environment. DTE River Rouge is recognized for their commitment to safety, environmental stewardship and community involvement. In 2011 the facility became the first power plant to receive the CET Platinum Award.



MIOSHA Announces First Webcast

MIOSHA is very pleased to announce the release of our 1st webcast: **Residential Fall Protection**.

On March 25, 2011, the MIOSHA Construction Safety and Health Division revised CSHD-COM-04-1R1, Residential Fall Protection Compliance Criteria, to comply with federal OSHA rule changes (See Page 4).

MIOSHA and the Michigan Association of Home Builders (MAHB) then launched a **Residential Fall Protection Initiative** with the purpose of working together to provide training and help residential builders come into compliance with rule changes and the revised instruction.

As a result of the initiative, MIOSHA and MAHB conducted more than 60 Residential Fall Protection seminars and 75 presentations. The demand for the seminars became so great that MIOSHA produced a video of the seminars that participants could access on the web. CET Construction Safety Consultants



Jason Griffin and Bryan Renaud conducted the web training.

The **Residential Fall Protection webcast** consists of three separate modules, quizzes, a Q&A segment and a link to additional fall protection resources. At any point in the webcast viewers may email a question to MIOSHA. The question will be responded to by a MIOSHA construction safety consultant within two business days.

For **Licensed Residential Builders**, satisfactory completion of the modules and quizzes will fulfill the competency requirement for one hour of safety training. The web address for the training is: <http://miosha.mihealth.org>.

MIOSHA Social Media Sites

For more frequent updates on MIOSHA activities, visit our Social Media sites on **Facebook** at www.facebook.com/MichiganOSHA and on **Twitter** at www.twitter.com/MI_OSHA.

MIOSHA CET Division Services

To learn more about the free services offered by the MIOSHA CET Division:

- Call the Lansing office at 517.322.1809 or 800.866.4674.
- Submit a request for services electronically at www.michigan.gov/cetrca.
- Visit the CET Division website at www.michigan.gov/cet.

Dawn C. M. Jack, Director
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Circuit Court Decision EES Coke Battery LLC

By: Dawn C. M. Jack, Director

On January 6, 2012, a Circuit Court Judge issued an Opinion and Order affirming the decision issued by the Administrative Law Judge (ALJ) that upheld four serious rule violations against EES Coke Battery LLC totaling \$16,800 in penalties

MIOSHA Investigation and Violations

The violations stemmed from a fatality investigation conducted by the General Industry Safety and Health Division. An employee was crushed by a door cleaner while working with a coworker to replace a leaking cylinder on a pusher machine. The employees were inexperienced in completing this task, and used incorrect tools and methods in lifting and securing the door cleaner to gain access to the cylinder. When these tools and methods failed to hold the door in place, the employee was crushed.

The serious rule violations were:

- Part 1, Rule 408.10034(12) – Secondary support system not used;
- Part 38, Rule 408.13845(1) – Chain fall or hoist used beyond rated capacity;
- Part 85, Rule 1910.147(c)(4)(i) – Inadequate lockout, did not lock out hydraulics or protect against mechanical and gravity energy sources; and
- Part 85, Rule 1910.147(c)(7)(iii)(A) – Retraining not provided for new hazard/task.

ALJ Determination

The employer asserted it had no knowledge of the hazardous conditions, nor that experienced millwrights would use such ineffective tools and methods in completing the task. The ALJ determined that the employer knew, or with the exercise of reasonable diligence should have known, the hazards presented by the unsafe tools and methods used by the employees.

The ALJ relied on facts that the supervisor:

- Had assigned the employees the task;
- Knew no prior work orders or procedures existed describing how the task was to be safely performed;
- Requested the employees complete their own Job Hazard Analysis (JHA);
- Did not review the JHA with the employees to ensure the proper tools and methods were identified; and
- Failed to inform the employees of the weight of the door cleaner to ensure properly-rated tools were used.

The employer has an application to appeal the decision with the Michigan Court of Appeals.

Variations

Variations from MIOSHA standards must be made available to the public in accordance with Part 12, Variations (R408.22201 to 408.22251). MIOSHA variations are published in the MIOSHA News website: www.michigan.gov/mioshavariations

Ron Ray, Director
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Standards Update

Office of Regulatory Reform (ORR) Update

The previous issue included a summary of the recommendations of the Workplace Safety Advisory Rules Committee and the ORR. MIOSHA has received direction to proceed with preparing updated rule sets and documents required to promulgate changes. Once the rules are in the promulgation process, the proposed amended rule sets are posted on the ORR website at www.michigan.gov/orr.

Other Rules Promulgation

The following MIOSHA rules are in the promulgation process. They are being revised to be "as effective as" federal OSHA regulations and standards; or for clarity, consistency and updating reference documents.

Construction Safety Standards

- Part 06 – Personal Protective Equipment
- Part 10 – Lifting and Digging
- Part 22 – Signals, Signs, Tags and Barricades
- Part 32 – Aerial Work Platforms
- Part 42 – Hazard Communications

General Industry Safety Standards

- Part 33 – Personal Protective Equipment
- Part 58 – Aerial Work Platforms
- Part 69 – Compressed Gases
- Part 74 – Fire Fighting
- Part 92 – Hazard Communications

Occupational Health Standards

- Part 301 – Air Contaminants in General Industry
- Part 430 – Hazard Communications
- Part 433 – Personal Protective Equipment
- Part 529 – Welding, Cutting and Brazing
- Part 601 – Air Contaminants in Construction
- Part 602 – Asbestos Standards for Construction
- Part 603 – Lead Exposure in Construction

For information go to www.michigan.gov/mioshastandards, or call the Standards Section, 517.322.1845.

Jack Finn, Director
Wage & Hour Division
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Wage and Hour Investigation Procedures

By: Jack Finn, Director

The Wage and Hour Division (WHD) of MIOSHA is the entity assigned to educate on and enforce the *Payment of Wages and Fringe Benefits Act*, Act 390 of 1978 (MCL 408.471 et. seq.). This law was enacted to provide employees a law and procedure that investigated claims of non-payment of wages and fringe benefits and determined if monies were due and to enforce such a determination.

When an employee files a claim, WHD assigns the claim to an investigator who sends a notification letter to the employer, noting the filing and seeking records for the time period. Upon investigation, the investigator determines if any money is due and provides the parties a findings letter or other form of notification.

Determination Order

If the employer agrees to pay, the matter is considered informally resolved and no other action is taken, provided a check is issued. However, when a party disagrees with the findings, the investiga-

tor proceeds to develop a determination summary, which is provided to the supervising manager for approval. Subsequently, a determination order will be issued, giving the employer a time period to pay the money found due, with interest of 10 percent per annum, starting the day the employer was notified of the claim.

If the employer or employee disagrees with the determination order, they may file an appeal to the Michigan Administrative Hearing System (MAHS). Upon a hearing, the administrative law judge issues a decision affirming, reversing or modifying the WHD finding. Finally, either party may appeal an ALJ decision to Circuit Court. Nearly 80 percent of the claims have been informally resolved.

More information is available on our website, www.michigan.gov/wagehour. The website includes a brochure on Act 390 and frequently-asked questions.

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MIOSHA TRAINING INSTITUTE (MTI)

MIOSHA Training Institute Highlights

By: Sheila Ide, CET Supervisor

The popularity of the MTI continues to grow providing students a credible means for enhancing their safety and health knowledge as well as identifying tools that will positively impact their company's bottom line. Graduate students surveyed overwhelmingly reported that the MTI courses were immediately useful in improving their job skills.

Recent MTI graduates were invited to attend graduation ceremonies at the **82nd Michigan Safety Conference** at the DeVos Center in Grand Rapids. They were recognized by MIOSHA Director Martha Yoder and MIOSHA Deputy Director Bart Pickelman during the MIOSHA Update program.

New Classes

Seminar planning began in April with 40 different classes being assigned to 30 cosponsor sites throughout the entire state including the Upper Peninsula. New this year is **"Parts 2, 3 & 4"** (*Floor & Wall Openings, Stairways & Skylights, Fixed and Portable Ladders*). This course completes the *General Industry Level Two Compliance* certificate track and eager students have already filled the pilot class to capacity.

Other courses added to the General Industry compliance track as electives include: **"Robot Safety"** and **"Laser Safety."** All students who have successfully completed these courses previously will be offered the opportunity to receive credit towards their certificate upon payment of the database fee.

As of October 1, students will be required to successfully complete **"Health Issues in Construction"** in addition to the other required courses and electives to receive their *Level One Construction* certificate. This change addresses the large numbers of construction workers that succumb to diseases related to construction materials and practices as they become older.

Also inaugurating October 1 is a new certificate track for *Occupational Health*. Students who successfully complete: **"Hazard Communication/RTK"; "Occupational Noise Exposure"; "Medical Services & First Aid, Bloodborne Infectious Diseases"; "Respiratory Protection";** along with either **"Permit Required Confined Spaces"** or **"Ergonomics";** will be eligible for the track certificate.



MTI Level Two graduates at the 2012 Michigan Safety Conference.

MTI website: www.michigan.gov/mti



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The Mission of the MIOSHA Program is:
To Protect Employee Safety, Health and Worker Rights.

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Website: www.michigan.gov/lara
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