

## Forklift Fatalities

### Employers Urged to Step-Up Efforts to Ensure Safe Powered Industrial Truck Use

This special edition of the MIOSHA News focuses on preventing injuries and deaths among workers who operate or work around powered industrial trucks (PIT). This year in Michigan, five workers have died from PIT-related incidents. This edition of the MIOSHA News contains a variety of informational articles and references to help increase awareness of hazards and safe work practices.

*By: Martha Yoder, Acting Director  
MIOSHA Program*

It's easy to see why jobs driving powered industrial trucks—also known as forklifts, fork trucks, pallet trucks, rider trucks, hi-los, lift trucks and other names—are highly sought after in workplaces throughout Michigan. It just looks like fun! But like any other powered vehicles, operating powered industrial trucks is serious business.

The National Institute for Occupational Safety and Health (NIOSH) estimates that each year in the United States, nearly 100 workers are killed and another 20,000 are seriously injured in PIT-related incidents. From 1980 to 1994, there were 1,021 worker deaths due to traumatic injuries suffered in PIT-related incidents.

The NIOSH investigations of PIT-related deaths indicate that there are workers and employers who may not be aware of the risks of operating or working near powered industrial trucks. Nationally, the three most common PIT-related fatalities involve:

- Forklift overturns,
- Workers on foot struck by forklifts, and
- Workers falling from fork lifts.

NIOSH investigations of these accidents indicate that contributing factors include the factory environment, the PIT, and operator actions can all contribute to fatal injuries. In addition, many workers assigned to drive forklifts are not aware of the safety procedures necessary to reduce the risk of injury and death.

#### Forklift Fatalities in 2006

During 2006, Michigan has experienced five worker deaths as a result of powered industrial truck accidents. These tragic accidents are summarized below.

#### Forklift Driver – Age 35: Pinned by overturned truck.

The employee worked at a production welding facility producing automotive parts, and had been on the job less than one month as a second-shift forklift driver.

The employee was loading the truck at the dock with empty parts bins. The employee drove his truck outside to retrieve

*Cont. on Page 18*



*A utility operator drove off a loading dock in reverse, and was fatally pinned when the truck overturned.*

### In This Issue

Director's Column	2
MIOSHA Fatality Alert	3
Great Lakes SHARP Award	4
Herman Miller MVPP Award	5
Forklifts – General Industry	6
Fork Trucks – Construction	7
Forklifts – CO Hazards	8
Safe PIT Operations	9
“Take a Stand” Companies	10
Home Builders Alliance	11
Construction CET Award	11
CET Awards	12
Education & Training Calendar	13
Standards Update	14
Tree Trimming Initiative	16
Variances	16
MIOSHA News Quiz	17

## From the MIOSHA Director's Desk

By: *Martha B. Yoder,  
Acting Director*



## New Initiatives To Improve Safety & Health Excellence

It is a privilege to “step-in” for Doug Kalinowski during the next few months while he serves as Acting Deputy Director of the Department of Labor and Economic Growth. In this interim position, he is responsible for a variety of programs that impact the workplace. Acting Deputy Director Kalinowski is responsible for Michigan’s unemployment, wage and hour, workers’ compensation, and MIOSHA program areas. We know the programs under his leadership will benefit from the same passion for excellence and doing the right thing that he has demonstrated in MIOSHA.

### Special MIOSHA News Issue

This special issue of the MIOSHA News provides a number of articles and a quiz focusing on the safety and health issues of powered industrial truck use. Can there be any more frequently used piece of equipment across industries? Powered industrial trucks have greatly improved the ability of workplaces to handle and move bulky, heavy, and large loads quickly.

Unfortunately, each year in Michigan we see worker deaths involving this equipment both in general industry and construction environments. This issue is intended to raise awareness of the requirements for safe use and operation, as well as the potential hazards. We hope it is the springboard for discussions and action in your workplace that will keep workers safe.

### Tree Trimming and Removal

This issue includes an article announcing a new MIOSHA initiative focusing on increasing safety diligence in the tree trimming and removal industry. To date in 2006, there have been four worker deaths related to tree trimming and removal. In response, MIOSHA developed a special mailing to the industry that includes a fact sheet of industry hazards and precautions, a PowerPoint presentation for employer to use in their in-house training efforts, and applicable MIOSHA standards.

It is also anticipated that enforcement presence will increase within the next few months. The goal is to raise awareness, and identify and correct hazards, to keep workers safe while performing tree trimming and removal work.

### “Connecting MIOSHA to Industry”

MIOSHA has adopted a new coordinated approach for fiscal year 2007, “Connecting MIOSHA To Industry,” to increase MIOSHA effectiveness.

No matter what strategy MIOSHA implements or the workplaces visited, the mission is the same: To improve the safety and health of working men and women. The goal of this new strategy is to ensure that MIOSHA interventions are educational, informative, and useful, whether conducted by consultation or enforcement staff.

### Target Employer List

This new approach calls for one list of workplaces identified for MIOSHA visits that will be used by both enforcement and consultation for scheduling general industry workplace visits. The list was com-

plied using information from a variety of data sources including workers’ compensation, unemployment, the federal OSHA Data Initiative, employer directories and other sources.

It focuses on priorities identified in the MIOSHA Strategic Plan: Furniture and fixtures, primary metal industries, fabricated metal products, industrial machine and equipment manufacturing, transportation equipment production, and other workplaces experiencing higher numbers of worker injuries and illnesses.

General Industry Safety and Health Division compliance staff will use the assignments for routine, planned inspections. Consultation Education and Training (CET) staff will use the assignments to call on workplaces to offer voluntary safety and health assistance.

### Employer Notification

To introduce the strategy, a letter will be sent to employers included on the target employer list. The letter is intended:

- To alert them that their workplace is included,
- To encourage proactive steps to review their existing safety and health management systems, and
- To offer MIOSHA consultation services.

Internally, the directors of the consultation and enforcement divisions drafted a protocol to provide guidance on how CET and enforcement activities will be coordinated when visits to workplaces overlap.

### Increased Communication

To assist staff in moving toward greater information sharing, MIOSHA is working with a professional facilitator aimed at increasing our effectiveness when explaining requirements and sharing information.

With the help of the facilitator, we hope to:

- Acquire a better understanding of various corporate cultures and organizational structures.
- Improve communication and ability to assist high-hazard employers develop safety and health systems.
- Develop and share safety and health success stories of Michigan workplaces.

This coordinated, comprehensive approach will allow MIOSHA to reach more Michigan workplaces with information that enhances current efforts to protect their workers.

Through “*Connecting MIOSHA to Industry*” we are making it our goal to spread the message that taking time to follow MIOSHA regulations can prevent workplace tragedies and enhance the overall corporate bottom line. We believe this emphasis on information sharing and outreach will have impressive results by encouraging lasting safety and health improvements.

Previous columns have emphasized the critical role that communication plays in MIOSHA’s future and in the work of safety and health professionals. Through proactive sharing of information, experiences and best practice successes—important and lasting changes can be made that will “*Make a Difference*” in eliminating fatalities, injuries and illnesses.

*Martha B. Yoder*

# MIOSHA Fatality Alert

## MIOSHA Urges Employers to Proactively Protect their Workers

### Worker Protection

Through September 25, 2006, there have been 34 program-related fatal workplace accidents in Michigan. MIOSHA is reminding employers and workers that workplace deaths can be prevented.

The 34 program-related fatal workplace accidents is an increase from last year. Through August 2005, there were 27 deaths. The calendar year total for 2005 was 36.

Employers have a legal obligation to provide a safe and healthy work environment for employees. The MIOSHA Act requires employers to provide "a workplace free of recognized hazards that are likely to cause death or serious physical harm to the employees." The purpose of MIOSHA safety and health rules is to set minimum requirements and provide guidelines for identifying and correcting the hazards contributing to injuries, illnesses and fatalities.

The MIOSHA program is required to monitor the safety and health conditions in workplaces covered by the MIOSHA Act. Our inspection system focuses on Michigan workplaces with the highest injury and illness rates. We want to target worksites where we can do the most good. In addition, consultation activities are focused where the greatest potential for improvement exists.

MIOSHA urges proactive attention to safety and health diligence in all workplaces. Fatal accidents can be prevented when employers develop and implement safety and health management systems. These systems include not only following MIOSHA rules, but emphasize the need for ongoing strong leadership support, employee involvement, worksite monitoring, and training. Effective worker safeguards must be applied at every jobsite.

### August 2006 Fatalities

Work-related injuries and disease take a significant human and economic toll.

According to the National Institute for Occupational Safety and Health (NIOSH), each day in the U.S., an average of 9,000 workers sustain disabling injuries on the job, 16 workers die from an injury sustained at work, and 137 workers die from work-related diseases.

The Liberty Mutual Research Institute for Safety estimates 3.7 million workplace injuries in 2004 cost businesses more than

\$150 billion in direct and indirect costs.

Ten Michigan workers lost their lives on the job during August 2006. This compares to three during August 2005. The ultimate right of every worker is to return home safely.

The 10 Michigan MIOSHA-related fatal accidents in August 2006 are:

**August 6** – Escanaba – A **Carnival Ride Attendant**, age 36, was pinned between the trailer fender well and tire while loading carnival rides.

**August 7** – Cassopolis – An **Electrician**, age 34, received a fatal electric shock while installing a spotlight from a ladder.

**August 8** – Ruth – A **Laborer**, age 40, was struck by a truck that was backing up during a road milling operation.

**August 9** – Farmington Hills – The **Part-Owner** of a Construction Company, age 54, was crushed between the front end and the bucket of an earth-moving machine.

**August 9** – Ontonagon – A **Concrete Truck Driver**, age 30, was found pinned between a front-end loader and a conveyor.

**August 21** – Flint – A **Welder**, age 23, was pinned between a powered industrial truck and a vehicle.

**August 24** – Battle Creek – A **Process Operator**, age 36, was killed when a piece of equipment used to make cereal exploded.

**August 28** – Roseville – A **Tool and Die Maker**, age 42, was struck by a die while moving the die with an overhead crane.

**August 30** – Flint – A **Truck Driver**, age 59, was pinned between a truck and the loading dock while helping another driver.

**August 31** – Moline – A **Carpenter**, age 62, fell while installing J-channel from a roof.

While nothing can ever replace a life lost—one way to honor these workers is to thoroughly investigate the circumstances surrounding the accident and to use the findings to make sure a similar tragedy is prevented.

### Hazard Prevention

Most employers take their workplace safety and health responsibilities very seriously. Employers are encouraged to analyze their workplace and to adopt a

safety and health program that addresses their specific hazards and needs.

Worksites that implement safety standards appropriate to their industry can minimize or eliminate employee exposure to hazards. A comprehensive safety and health management system is the best framework to help employers protect their workers and comply with MIOSHA standards.

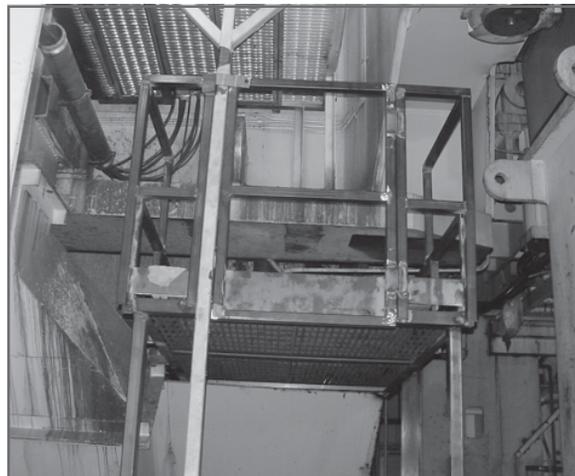
The key elements are:

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

The MIOSHA Consultation Education and Training (CET) Division has consultants available to help employers create safety and health systems, develop accident prevention programs, and implement long-term solutions. Companies can call the CET Division at 517.322.1809 for any of their safety and health needs. Information on MIOSHA outreach services can also be found on our website at: [www.michigan.gov/miosha](http://www.michigan.gov/miosha).

For more information on MIOSHA standards, companies can contact the Construction Safety and Health Division at 517.322.1856, or the General Industry Safety and Health Division at 517.322.1831.

MIOSHA's goal is to ensure that effective tools and training are available to employers and to help prevent workplace injuries, illnesses and fatalities. ■



*The company installed this new platform, after an employee climbed on a piece of plywood to service equipment, and fell to his death.*

# Congratulations Great Lakes!

## Great Lakes Pulp & Fibre Receives SHARP Award for Safety and Health Excellence



Martha Yoder, MIOSHA; Bill Shane, MIOSHA; Todd Clausen, Operations Mgr.; Rob Garland, President/CEO; Bob Swanson, DLEG Dir.; Bob Dayringer, MIOSHA; Jason Triest, Safety Mgr.; Rita Canady, DLEG Deputy Dir.; Rich Olson, Mill Mgr.; and Chris Passamani, MIOSHA.

On July 27th, Great Lakes Pulp & Fibre in Menominee became the sixth facility in the state to receive the prestigious SHARP Award for an exemplary safety and health management system. The award ceremony was part of the company's 10<sup>th</sup> Anniversary celebration.

### Recognizing 10 Successful Years

"This is an outstanding day for Great Lakes Pulp & Fibre—you are celebrating your 10<sup>th</sup> Anniversary and you are receiving an award few companies will achieve," said DLEG Director Robert W. Swanson. "Your decision to produce a high-quality product, while protecting your workers and the environment—makes you one of Michigan's *Economic All Stars*."

The Michigan Occupational Safety and Health Administration (MIOSHA) established the Michigan Safety and Health Achievement Recognition Program (SHARP) Award to recognize employers that have achieved safety and health excellence far beyond their peers. The MIOSHA program is part of the Michigan Department of Labor & Economic Growth (DLEG).

DLEG Director **Robert W. Swanson** and MIOSHA Acting Director **Martha B. Yoder** presented the award to **Robert C. Garland**, President & CEO; **Rich Olson**, Mill Manager; **Todd Clausen**, Operations Manager; and **Jason Triest**, Safety Manager; who accepted on behalf of all the mill's employees.

"Great Lakes Pulp & Fibre is a world class mill that produces high-quality recycled pulp. We place the safety and well-being of our employees above all else," said Garland. "This award is a reflection of our commitment to a

safe work environment and we are all very proud of this accomplishment."

### Providing Outstanding Protection

These public officials recognized the company on their outstanding achievement: **George Krah**, Mayor of Menominee; **Bob Harbick**, Mayor of Marinette; **Eric Strahl**, Menominee City Manager; **Darrell Eland**, President of the Marinette and Menominee Chamber of Commerce; **Tom Caspersen**, State Representative.

"We are honored to present this prestigious award to the employees and management of Great Lakes Pulp & Fibre," said Yoder. "We applaud your decision to make safety and health an integral part of your company culture. You are sending the message that protecting your workers is a sound business decision."

The Michigan SHARP Program targets small manufacturers—to help them develop, implement and continuously improve the effectiveness of their workplace safety and health management system. SHARP provides an incentive for employers to emphasize accident and illness prevention by anticipating problems, rather than simply reacting to them.

### Establishing Best Practices

The North American Industry Classification System (NAICS) Code for Great Lakes Pulp & Fibre is 322121 – Paper (except Newsprint) Mills, which is classified as a high-hazard industry. They employ 104 workers, and their incidence rates are well below the national average for their NAICS code. Their Total Case Incidence Rate was 2.9 in 2004—compared to 3.7 for the Bureau of Labor Statistics (BLS) industry average. Their Total Days Away/Restricted Cases (DART) was 0.0 in 2004—compared to 1.7 for the BLS industry average.

"The Michigan SHARP Program requires a comprehensive consultation visit, and the correction of all serious workplace safety and

health hazards," said Yoder. "Great Lakes Pulp & Fibre has developed a safety and health system that provides outstanding protection for their workers."

The company's safety and health management system incorporates each of the seven required elements: Hazard Anticipation and Detection; Hazard Prevention and Control; Planning and Evaluation; Administration and Supervision; Safety and Health Training; Management Leadership; and Employee Participation. The MIOSHA evaluation team consisted of **Bob Dayringer**, Onsite Senior Health Consultant, and **Bill Shane**, Onsite Senior Safety Consultant.

Some of Great Lakes Pulp & Fibre's best practices include:

- A hazard reporting system with required responses,
- A "Process and Equipment Change" procedure,
- An effective personal protective equipment (PPE) program,
- Review of near misses,
- An incentive program that has quarterly reviews tied to employee safety performance, and
- An active safety committee that conducts monthly inspections.

Great Lakes Pulp & Fibre is one of Menominee's major employers, and is a state-of-the-art de-inked pulp mill. At full capacity, the mill can produce over 163,000 metric tons per year of high-quality recycled pulp with characteristics that equal or exceed that of hardwood virgin fiber. Their guiding principle is: "Do not settle for mediocrity!" ■



Back: Joe Wondergem, Material Handler; Jason Triest, Safety & Health Mgr.; Don Ehlers, Millwright; Steve Tachick, Finishing Line. Front: Dawn Cain, Finishing Line; Daren Hunter, Wastewater Treatment Plant; and Carla Golueke, Process Operator.

# Congratulations Herman Miller!

## Herman Miller's 171<sup>st</sup> Facility Receives State's Highest Safety and Health Award

On July 21st, Herman Miller's 171st Avenue filing and storage manufacturing facility within the company's Spring Lake campus received the Michigan Voluntary Protection Program (MVPP) Star Award MIOSHA for workplace safety and health excellence.

"Herman Miller is an economic powerhouse that is helping to fuel Michigan's manufacturing recovery," said DLEG Director **Robert W. Swanson**. "Your exceptional leadership in safety, health and the environment sends a strong message that protecting workers makes good business sense."

### Creating Great Places to Work

MIOSHA Acting Director **Martha B. Yoder** presented the Star Award to the 171st Avenue Operations General Manager **Nancy Houghtaling**. State and local officials, corporate leaders and MIOSHA representatives were on hand to congratulate employees and management on their outstanding achievement.

"Our corporate mission and purpose is focused on creating great places to work—for our customers and also for our Herman Miller employees," said **Brian Walker**, Herman Miller's President and Chief Executive Officer. "A key element of that mission is creating a safe, healthy and productive work environment. Our employee owners are driving continuous improvement in these critical areas, and it is on the strength of their energetic commitment that we earn this award."

This is the most prestigious safety and health award given in Michigan. MIOSHA established the MVPP program in 1996 to recognize employers

actively working toward achieving excellence in workplace safety and health.

### Driving Continuous Improvement

"Every team member played an important part in this accomplishment and this award is evidence of their efforts," said Herman Miller's Casegoods General Manager **Nancy Houghtaling**. "Receiving this award is both exciting and motivating, as it is another step on our continuous improvement journey."

The incidence rates at the Herman Miller 171st Avenue filing and storage facility are well below the Michigan average for their industry SIC/NAICS code 2522/337214. Their total case incidence rate was 4.8 in 2002, 5.0 in 2003, and 4.8 in 2004—compared to the Bureau of Labor Statistics (BLS) Michigan industry average of 6.3 in 2002 and 2003, and 7.8 in 2004. The total day's away/restricted cases (DART) rate was 2.2 in 2002 and 2003, and 2.4 in 2004—compared to the BLS Michigan industry average of 3.7 in 2002 and 2003, and 4.6 in 2004.

"National VPP sites experience 60 to 80 percent less lost work day injuries than would be expected of an average site in their industry," said Yoder. "Not only does the MVPP program significantly reduce injuries and illnesses—it also has a tremendous impact on the bottom line."

### Reaching for Excellence

The 171st facility employs 800 workers on three shifts, and manufactures filing and storage products. The MIOSHA review team conducted 31 formal and 26 informal interviews during the site visit. The team examined each of the required elements of their safety and health management system, and found them to effectively address the scope and complexity of the hazards at the site. The MIOSHA review team consisted by **Doug Kimmel**, CET MVPP Specialist; **Fred Kirkland**, CET Health Consultant; and **Quenten Yoder**, CET Safety Consultant.

Areas of excellence include:

- **Safety Audit System.** The site General Manager, Site Safety



*The Herman Miller's 171<sup>st</sup> Avenue Spring Lake facility's Safety Team and MIOSHA staff celebrated their MVPP Star recognition.*

Specialist, Work Team Leaders, and team members conduct audits (assessments) monthly and quarterly. Areas audited include Housekeeping, Fall Prevention, PPE, Fire Prevention, Chemical Use and storage, Machines, Energy Source Lockout, Industrial Vehicles, Electrical Safety, Communication, and Administrative Requirements.

Checklists are used during the audit and when completed the information from the checklist is entered into the site's ETQ database. Queries can be made from the database for tracking performance by supervisor, department, and details such as proper use of PPE (safety glasses, etc). Annual evaluations are also conducted and the results are presented to General Managers, Corporate Directors and Operations Managers. Communication and Administrative Requirements as audited areas are true innovations.

- **Excellence Through Quality (ETQ) program.** This is the site "corrective action preventive system" for reporting and tracking of hazards. The ETQ program was originally developed through ISO 9000 requirements. Quality personnel monitor for timeliness and completion of necessary corrections.

Herman Miller helps create great places to work, heal, learn, and live by researching, designing, manufacturing, and distributing innovative interior solutions that support companies, organizations, and individuals all over the world. The company's award-winning products, complemented by furniture-management and strategic consulting services, generated \$1.74 billion in revenue during fiscal 2006. For additional information visit [www.HermanMiller.com](http://www.HermanMiller.com). ■



*Herman Miller's 171<sup>st</sup> day shift employees participated in their MVPP Star celebration. All shifts were served an ice cream sundae buffet in recognition of their safety and health achievement.*

# Powered Industrial Trucks

## General Industry Investigations

By: Eva Hatt, Safety Manager  
General Industry Safety and Health Division

Powered industrial trucks are one of the most commonly used pieces of equipment and are found in manufacturing, warehousing, retail, and marinas to name a few.

Powered industrial trucks are also referred to as fork lifts, hi-los, fork trucks, mules, and tugs. They are used to carry, push, pull, lift, stack, or tier materials.

Due to the high use throughout a variety of industries, it is a piece of equipment that is found on almost every inspection conducted by the MIOSHA General Industry Safety and Health Division. Michigan has a specific safety standard, **Part 21, Powered Industrial Trucks**, that provides for employee and operator protection where they are being utilized.

MIOSHA also has an Occupational Health Standard, **Part 310, Air Contaminates**, that regulates occupational exposure to carbon monoxide which is created by propane fueled powered industrial trucks. MIOSHA standards and associated links can be viewed at [www.michigan.gov/mioshastandards](http://www.michigan.gov/mioshastandards).

### Complaint Investigations

The General Industry Safety and Health Division conducts investigations of employee complaints and accidents. Within the past nine months, MIOSHA has responded to 60 complaints related



*Bad Example—MIOSHA rules require use of a secured platform, with hand- and mid-rails, for employees working from fork trucks.*

to powered industrial truck issues. The complaint investigations resulted in citations for 98 rule violations, with total initial assessed penalties of \$28,150. Rule violations of 2154, 2176 and 2131 of the General Industry Safety Standard Part 21, Powered Industrial Trucks, constitute 57 percent of the violations issued.

**Rule 2154(1)** states: An employer shall provide the employee with a permit to operate a powered industrial truck only after meeting the requirements prescribed in 2151, 2152, and 2153. These are the rules that address operator selection, training and testing prior to issuing operator permits.

**Rule 2176** states: An employer shall ensure that a highway truck and trailer shall not be boarded by a powered industrial truck before the highway truck and trailer has its brakes set and not less than two wheels blocked or be restrained by other mechanical means installed in a manner that will hold the trailer from movement.

**Rule 2153** states: An employer shall test an employee before authorizing the employee to operate a powered industrial truck, except a motorized hand truck. The test shall check the employee's:

- (a) Operating ability.
- (b) Knowledge of the equipment.
- (c) Knowledge of state safety standard rules 2171 to 2193 of Part 21.
- (d) Knowledge of daily checks.

### Complaint Case Studies

Below are recent examples of employee complaint investigations resulting in citations for a variety of powered industrial truck violations.

#### Case 1—Exceeding Capacity

The complainant alleged that powered industrial trucks were being used over their rated capacity and being modified without manufacturer approval. Upon investigation it was learned that the powered industrial trucks were being used to lift materials exceeding the rated capacity by adding counterweights to the powered industrial truck. Holes had been drilled in the forks and attachments had been added to a set of forks. Powered industrial truck operators were found to have expired permits. Citations with initial assessed penalties of were issued for:

- Rule 2132(2) – Modifications that affect the safety of the truck made without manu-



*Bad Example—MIOSHA rules prohibit the use of counterweights in order to exceed the lifting capacity of fork lifts.*

facturer approval.

- Rule 2132(1) – Counterweights installed on the back of trucks.
- Rule 2154(1) – Truck operators not provided with valid operating permits.
- Rule 2193(d) – Trucks being used to lift materials beyond rated capacity.
- Rule 2131(1) – Horns or audible warning devices not operational on trucks.

#### Case 2—Leaking Oil

A worker at a manufacturing facility alleged the hi-los were leaking oil. The investigation revealed the following violations:

- Rule 2154(1) – Hi-lo operators did not have permits.
- Hi-lo leaking oil creating a slip hazards in violation of General Industry Safety Standard Part 1 General Provisions Rule 15(3).
- Rule 2131(1) – Horns or audible warning devices not operational on hi-lo.
- Rule 2163(3) – L.P. gas cylinders not restrained on hi-lo.

#### Case 3—Mechanical Issues

A complaint investigation at a major retail establishment resulted in violations of Part 21 being issued. The employee complaint listed various concerns with the operation of powered industrial trucks that included: defective or no brakes on fork lifts, broken gas pedal, battery cover missing, and lack of operator training. The following items were cited:

- Rule 2152(1) – Truck operator not trained in safe operation requirements.
- Rule 2171(2) – Truck missing gas pedal.
- Rule 2161(1)(a) – Brakes not functional on several trucks.

*Cont. on Page 19*

# Rough Terrain Fork Trucks

## Construction Industry Inspections

By Patricia Meyer, Safety Manager  
Construction Safety and Health Division

Rough terrain fork trucks have become a common piece of equipment in all aspects of the construction industry. Masons use them to load block onto scaffolds, carpenters use them to move lumber, and ironworkers use them to bolt up structural steel. Manufacturers have designed fork trucks with booms that will extend over 100 feet! Some fork trucks are even equipped with controls that can be operated from an attachable work platform.

### Accident Case Studies

Below are examples of MIOSHA Construc-



**Bad Example—Improper use of a fork truck to install roof trusses. Workers are not allowed to be transported with materials.**

tion Safety and Health Division accident investigations resulting in citations for a variety of rough terrain fork truck violations.

### Case 1—Repositioning Causes Fall

In September 2004, an employee was working out of a wooden trash-box that was elevated on the forks of a rough terrain fork truck. The employee was installing flashing at the roof level of a two-story home under construction. A second employee at ground level attempted to move the fork truck to a new location when the trash-box fell off the forks, along with the employee.

The employee fell approximately 20 feet to the ground suffering cuts and contusions to the head and the right side of the body. The trash-box was inappropriate for use as a scaffold platform and was not positively secured against the back of the forks with a mechanical device so that the platform cannot tip or slip. The employer was cited for several violations of **MIOSHA Part 12, Scaffolds and Scaffold Platforms**. This incident could

have resulted in a fatality!

### Case 2—Contact Causes Electrocutation

In November 2003, a 22-year-old construction worker was attempting to raise a portable generator onto the roof of a building using a rough terrain fork truck. The load on the fork truck came in contact with a power distribution line. In an attempt to get away from the hazard, the employee exited the cab of the fork truck. Upon contacting the wet muddy ground the employee received a fatal electric shock.

The employer was cited for violations of Part 1, General Rules, including operating the piece of equipment too close to power lines. Part 1, Rule 115, requires that a minimum distance of 10 feet be maintained from an energized power line. This minimum distance increases as the voltage of the electrical source exceeds 50 kilovolts.

### Case 3—Roll Over Causes Fatality

In January 2003, a 21-year-old construction worker was operating a rough terrain fork truck with the load raised. Having the load raised elevates the center of gravity of the fork truck and load, making the fork truck more susceptible to roll over. The fork truck was attempting to go around a car that was parked on site while traversing up an incline.

Due to the incline and the high center of gravity, the fork truck rolled over backward and then onto its side. The employee fell off and was crushed to death between the ground and the fork truck. The employer was cited for several violations of **MIOSHA Part 13, Mobile Equipment**, including inadequate training, the fork truck was not equipped with a seat belt, and the employee did not use a seat belt.

### All Three of the Above Accidents Could Have Been Prevented!

The possibilities for use of the rough terrain fork truck are endless. Along with all this newer technology and methods of using fork trucks, there are more reasons for safety concerns. The operators of fork trucks must have the appropriate training and skill to safely operate the specific type of lift they are using.

There is a vast difference when using a fork truck to move block from one area to another or to hoist lumber up through a second story window opening, compared to elevating an iron-

worker in a fork truck work platform 80 feet in the air to make a connection. It's imperative that the operators are properly trained and able to operate these pieces of equipment safely. The employer must provide this training and evaluate operators before they are allowed to operate a fork truck.

### Construction Safety Standard Part 13, Mobile Equipment

MIOSHA Part 13, references ASME/ANSI B56.1, Safety Standard for Rough Terrain Forklift Trucks. Therefore, when alleging a violation for deficiencies or improperly using a rough terrain fork truck, MIOSHA may issue a general duty violation with a reference to ASME/ANSI B56.1. However, the training requirements for operating a fork truck are located in Part 13, 1926.602(d). The training requirements for a fork truck with or without a personnel platform are the same as those for a powered industrial truck. **Construction Safety Standard Part 12, Scaffolds and Scaffold Platforms**

When using a rough terrain fork truck that is equipped with a work platform to elevate personnel, the rules that apply are located in Part 12, Rules 1243, 1244, 1245 and 1246.

### General Safety Practices when Operating Rough Terrain Fork Trucks

- Make sure back-up alarms are working properly. Use a signal person when the operator cannot visually see.

Cont. on Page 19



**Bad Example—This trash box fell over, severely injuring the employee, because it was not secured.**

# Powered Industrial Trucks Carbon Monoxide Hazards

By: *Eric Zaban, CIH*  
*Senior Industrial Hygienist*  
*Consultation Education and Training Division*

Agriculture, construction and general industry employees are exposed to carbon monoxide (CO) when using fuel-burning equipment indoors. This toxic gas may become dangerously elevated if the equipment is not maintained and ventilation is inadequate.

Employers are responsible for maintaining air contamination concentrations within the limits required by **Part 301, Air Contaminants**.

Powered industrial trucks, automobiles, manlifts, floor burnishers, generators, power washers, compressors, concrete cutters and concrete trawlers are some examples of fuel-burning equipment that emit this toxic gas. With a combination of engine tuning (periodic maintenance), mechanical exhaust ventilation, exposure monitoring, and employee training, employers can ensure exposures remain below Michigan's permissible exposure limit (PEL) of 35 ppm for an eight-hour time weighted average.

## Warning Signs of CO Poisoning

The National Institute for Occupational Safety and Health (NIOSH) has recommended the immediately dangerous to life and health (IDLH) concentration is 1200 ppm. This lethal poison is colorless, tasteless, odorless and non-irritating. Excessive exposures cause weakness and confusion and exposed individuals may have trouble seeking safety.

Indoor air contamination levels may rise

quickly, even in relatively open spaces with ventilation. Therefore, it is imperative that employers train employees to recognize sources and warning signs of CO poisoning; light-headedness, dizziness, nausea, headache, visual disturbances, changes in personality, and confusion.

In addition, employees who use fuel-burning equipment indoors should be made aware of the medical attention that may be required when employees become poisoned. Victims should be removed from the exposure and given oxygen. Placement in a hyperbaric chamber may be necessary in cases of severe poisoning.

## Maintaining Low CO Emissions

Carbon monoxide is one of many chemicals found in engine exhaust. Powered industrial trucks, because of their prevalence, are one of the chief sources of CO in the workplace. Generation rates vary with vehicle power and fuel type. When feasible, electric-powered vehicles or tools can be used. Liquid propane gas (LPG) and compressed natural gas (CNG) and diesel are better fuel choices than gasoline, although all produce CO.

To achieve good vehicle performance while maintaining low CO emissions, vehicle engines should be in good working condition and properly maintained. Employers should request lift truck maintenance providers tune their vehicles using an exhaust gas CO analyzer to limit CO emissions. Tuning fuel-burning equipment for substantial reductions in CO emissions can be accomplished with minimal reduction in power.

Specifically, periodic engine maintenance tuning should include:

- Use proper-sized carburetors designed for optimum air and fuel mixture balance,
- Service the air cleaner regularly.
- Adjust engine timing per manufacturer's specifications.
- Use a CO analyzer designed for tailpipe exhaust sampling when adjusting the fuel system.
- Since fuel economy is best when CO is near 0.5 percent, any CO above this level indicates wasted fuel.

## Preventing CO Poisoning

In 1996, NIOSH published an alert, *Preventing Carbon Monoxide Poisoning from Small Gasoline-Powered Engines and Tools*, with the following recommendations for employ-

ers and equipment users:

- Do not allow the use of gasoline-powered equipment inside buildings or partially enclosed areas unless exhaust is located outside.
- Learn to recognize the signs and symptoms of CO overexposure.
- Use personal CO monitors equipped with audible alarms to warn workers when CO is excessive.
- Substitute less hazardous equipment.
- If an employee has symptoms, turn off equipment and go outdoors. Call 911 for medical attention – **Do not drive a motor vehicle.**

## CET Division Case Study

A CET Division Onsite Health Program customer uses six LPG lift trucks to carry roll-formed aluminum siding. They own and maintain their own lift trucks, so our previous report recommended CO exposure monitoring during winter months. Recently, they requested a follow-up survey to confirm their progress.

During the morning opening conference, ambient levels of CO were over 50 ppm in production areas. This was in spite of the company providing significant general exhaust ventilation. Clearly, one or more of the lift trucks were emitting excessive CO. Until recent technological advances, industrial hygienists identified poorly tuned lift trucks using a copper tube and hand pump to fill sample bags.

Inexpensive color-change detector tubes were used to read the amount of CO in the test bag. Results were inexact but were accurate enough to determine which trucks were in most need of tuning. Now, MIOSHA's industrial hygienists are equipped with Blanke portable exhaust gas analyzers, providing a much more accurate method of assessing the hazards associated with lift truck exhaust.

We performed direct tailpipe testing for each lift truck. The last truck we tested was the culprit, emitting about 7 percent CO (70,000 ppm). That truck was immediately taken out of service. Then, we used a personal CO monitor to watch ambient CO levels drop to below 15 ppm. The hazards that employees would have faced as 70,000 ppm of CO was emitted could have been quite serious, even with typical dilution ventilation. This situation is not unusual and points to the need for routine maintenance for health reasons.

For more information, please contact the Consultation Education and Training (CET) Division at 517.322.1809. ■



*Eric Zaban, CIH, CET Division, demonstrates use of an exhaust gas analyzer for Jennifer Johnson, Human Resources Generalist, Great Lakes Industry, Inc., Jackson.*

# Powered Industrial Trucks

## Building a Safety Program

By: *Howard Simmons, Onsite Safety Consultant*  
*Quenten Yoder, Safety Consultant*  
*Consultation Education and Training Division*

MIOSHA General Industry Safety Standard, **Part 21, Powered Industrial Trucks**, has been in effect since 1971, yet serious employee injuries and near-miss incidents continue to occur each year involving the operation of powered industrial trucks.

To combat these serious occurrences, employers must take positive steps to address safe powered industrial truck (PIT) operations.

### A Team Approach to Safe Operations

Employers that proactively address the safety and health of their workplace, including powered industrial truck operation and pedestrian safety are successful in preventing accidents, injuries and deaths.

These employers build comprehensive safety and health systems addressing all aspects and conditions of the workplace. A comprehensive approach to powered industrial truck programs, like all workplace systems, requires active involvement by managers, supervisors, and employees.

**Top management** must make a commitment of time and resources to ensure effective training, follow-up and monitoring takes place. Supervisors must be held accountable for the performance of employees operating powered industrial trucks.

A person knowledgeable of PIT capabilities and limitations should be included in the selection process to avoid selection of a PIT that is not compatible with the environment or capable of safely performing the needed lifts.

As with all aspects of a quality system, rules, policies and instructions for powered industrial truck operations should be documented, periodically reviewed, and monitored for continued effectiveness.

**Supervisors** have front line responsibility to insure that vehicles are adequately equipped, properly operated and that operators maintain the required abilities and knowledge to safely perform the assigned tasks prior to the issuance of an operating permit.

**Employees** designated as powered industrial truck operators should consider the assignment as a serious responsibility that should not be taken lightly. Powered industrial truck operators have an obligation to ensure the safety of all others in the immediate area.

Operators must stay alert, respect areas designated for pedestrian traffic, and stay aware of their surroundings at all times. Operator responsibilities include following load rating charts, lifting restrictions, and manufacturers and company instructions for safe operation.

### Frequently Asked Questions

Below are common questions MIOSHA's consultation staff receives frequently on safety requirements for powered industrial trucks.

#### Equipment and Operating Practices

##### What is considered a powered industrial truck?

Part 21 defines a powered industrial truck as a mobile, power driven vehicle used to carry, push, pull, lift, stack, or tier material. This includes forklifts, high-lift trucks, motorized hand trucks, industrial tractors, low-lift trucks, and reach trucks. The appendix of Part 21 includes diagrams of the types of trucks covered.

##### Is seat belt use required on a PIT?

Part 21 does not require seat belt use on a powered industrial truck. However, when a truck is equipped with a seat belt, it is recommended the belts be worn.

##### Can an employer make modifications to a powered industrial truck?

Yes, with the written approval of the manufacturer of the truck or an engineer knowledgeable of the subject.

##### Who is responsible for chocking trailers?

Part 21 requires that two wheels be chocked and the brakes set, before entry by a fork truck. It does not specify this as an operator responsibility. Many employers post signs stating that two wheels must be chocked. It is recommended that operators visually check prior to entry, to assure that chocks are in place before entry.

#### Operator Selection

##### Is there an age restriction on PIT operators?

Yes, employees under 18 years of age may not drive a PIT. Employers should consult with the DLEG Wage & Hour Division, for information on appropriate work for employees under 18 years of age.

##### Does an employee need a valid Michigan driver's license?

No. However, the vision screening given as part of issuing a Michigan driver's license

can be used to meet the visual acuity requirement. In the absence of a driver's license, other testing must be completed prior to issuing a PIT license. An important component of visual acuity for driving a PIT is peripheral acuity equivalent to that required for a driver's license.

##### What are the physical requirements for PIT operators?

An operator must have normal physical capabilities, which means effective use of all four limbs. Operators must be of a sufficient height and have coordination of eyes, hands, and feet. (A prosthetic device is considered a limb when it can be used to operate the controls.)

##### Who can train and issue permit to powered industrial truck operators?

Many employers are under the impression that the state certifies trainers to train people in the operation of PITs. This is not the case. Probably this misconception has arisen because MIOSHA's Consultation Education and Training (CET) Division frequently offers Powered Industrial Truck Train-the-Trainer courses. MIOSHA offers this training to employers to provide information that will assist in their responsibility to provide PIT training.

It is left to each employer to determine who is qualified in the organization, or to contract with someone from outside who the employer deems qualified. When selecting the right person to appoint as the designated trainers, past experience, training, and operational skills should be considered.

*Cont. on Page 19*



*Good Example – SMW Automotive, in Port Huron, has a very good PIT safety program, including daily documented inspections for all forklifts and annual operator refresher training.*

# MIOSHA “Take a Stand Day”



*Koegel's Meats, Inc., participated in “Take a Stand Day.” From left are Mark Richard, MIOSHA Senior Safety Officer; John Koegel, President, Koegel's Meats; John Hodgson, MIOSHA District Supervisor; and James Lay, General Manager, Koegel's Meats.*



*Lahti Fabrication, Inc., in Royal Oak, participated in “Take a Stand Day.” From left are Joe LeBlanc, MIOSHA Safety Officer; Kirk Peterson, General Manager; and George Lahti, President.*



*Howard Simmons, MIOSHA Onsite Safety Consultant (not pictured), conducted a hazard survey at Hydro Aluminum, in Cedar Springs. Chris Bennett, Quality Manager/Safety Director, and John Smith, EDM Technician, discuss lockout procedures.*

Across the state, 133 employers participated in “Take a Stand Day” for workplace safety and health on August 16th!

In this second annual campaign, MIOSHA dedicated more than 110 professional staff to visit Michigan high-hazard industries targeted by our Strategic Plan.

MIOSHA safety and health professionals—including compliance staff, outreach consultants, managers, and supervisors—were scheduled on “Take a Stand Day” to provide one-on-one consultations. There were no citations or fines for participating workplaces. However, participants agreed to correct all serious conditions.

This unique campaign offered employers the opportunity to partner with MIOSHA—without fear of fines or penalties—to improve their work environment.

During the consultation visit, MIOSHA staff worked cooperatively with the companies to recognize hazardous conditions and to address safety and health issues. MIOSHA staff focused on areas of direct concern to the employers.

“These participating companies understand that a strong safety and health system is an important part of being successful in today’s global economy,” said MIOSHA Acting Director **Martha Yoder**.

MIOSHA sent information to over 20,000 employers statewide, with more than 220 companies responding. MIOSHA could not schedule all the responding companies on “Take a Stand Day,” however; all companies were scheduled for a consultation visit from the Consultation Education and Training (CET) Division.



*Wyandotte Industries, Inc. requested a “Take a Stand Day” visit. From left are Terry Eichenberg, MIOSHA Safety Officer; Charles Collier, MIOSHA Senior Safety Officer; Jerry Szpondowski, Owner; and Christine Szpondowski, Sales/Safety Director.*



*Bill Shane, MIOSHA Senior Onsite Safety Consultant (center), conducted a hazard survey at Cambron Engineering, Inc., in Bay City. From left are Steve Sheppard, President, and Dave Ferrio, Vice President.*

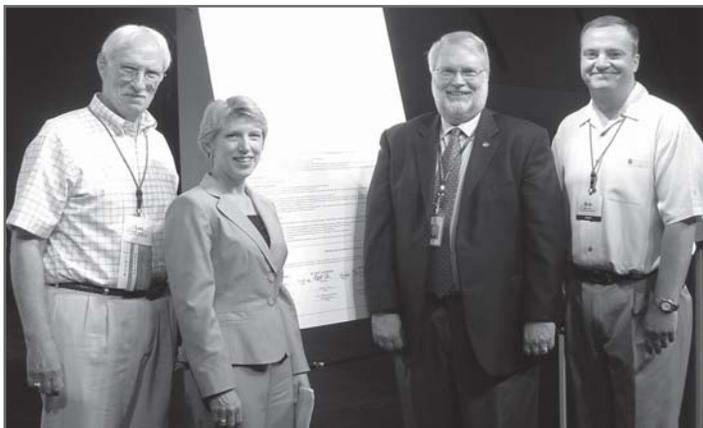


*Gerry Dike, MIOSHA Health Officer Specialist (center), visited Judson Center, in Royal Oak. From left are Margaret Frausto, VP of Organizational Development, and Sue Monterosso, Director of Administrative Services.*



*MIOSHA Senior Safety Officer Chuck Slavik, with Randy Gawel, Plant Manager, Progressive Stamping Company (D.E.), Inc., in Royal Oak. The company requested a comprehensive wall-to-wall inspection.*

# Michigan Association of Home Builders Alliance



*Lee Kitson, MAHB President, (Lee Kitson Builder Inc.); Martha Yoder, MIOSHA Acting Director; Robert Swanson, DLEG Director; and Robert Filka, MAHB CEO.*

On July 27th, DLEG Director Robert W. Swanson announced the signing of a strategic alliance between the Michigan Association of Home Builders (MAHB) and MIOSHA to protect the safety and health of workers in Michigan's residential construction industry.

"We are proud to sign this alliance and embrace its primary goal—to provide a safe and healthy work environment for all employees in the residential construction industry," said Swanson.

Signing the alliance were: **Lee Kitson**, MAHB President (Lee Kitson Builder Inc.); **Robert L. Filka**, MAHB CEO; **Robert W. Swanson**, DLEG Director; and **Martha B. Yoder**, MIOSHA Acting Director.

"As an industry we need to improve our safety record; as an association we owe it to our members to help them make their job sites safer," said Kitson. "This alliance is an important step in bringing needed safety education and training to our members."

"We are pleased to team up with MIOSHA to make an important difference in construction safety—one with lasting and far reaching effects," said Filka. "Educating employers and workers is the first step to ensuring everyone on the job site returns home safely each evening."

The MAHB is the voice of the building industry in Michigan. They are a professional trade association, comprised of local home builder associations and their builder and associate members.

The key goals of this alliance include:

- Provide the means to a safe and healthy work environment for all employees in the residential construction industry;
- Significantly reduce the number of work site accidents within the residential construction industry;
- Promote increased awareness of worker safety and health benefits to MAHB members;
- Work with local home builders associations to promote worker safety and health through CET Division education and training opportunities;
- Provide CET safety and health hazard surveys at participating jobsites; and
- Increase communication and collaboration between MIOSHA and the residential construction industry.

While participation by individual employers is voluntary, MIOSHA anticipates that contractors, who embrace the goals of the partnership and who strive to provide a safe and healthy workplace, will experience a decrease in workplace accidents and illnesses, and a decrease in workers' compensation costs.

# CET Awards

## Walbridge Aldinger

### One of the Nation's Top Construction Companies Receives Prestigious Gold Award

On August 29th, Walbridge Aldinger received the Gold Award from MIOSHA for an outstanding safety and health record. On every Walbridge project is a banner displayed with the company motto that reads: "If it is not safe—I won't do it, and I won't let others do it."

**Walbridge Aldinger has worked more than 34 months and over three million hours—without a lost time accident.**

Presenting the award were DLEG Director **Robert W. Swanson** and MIOSHA Acting Director **Martha B. Yoder**. Accepting on behalf of all Walbridge employees were Group Vice President and CFO Vincent DeAngelis and Assistant VP of Safety Health and Environmental **Stephen B. Clabaugh**.

I am honored to present this award today to Walbridge Aldinger," said Swanson. "Throughout Michigan, North America and worldwide—Walbridge is recognized as a leader in the construction industry. Your commitment shows worker protection goes hand-in-hand with quality services."

"This award was earned by every Walbridge employee, including our union trades personnel, who have worked on projects the last 34 months and over three million hours without a lost time injury," said Walbridge CEO and Chairman **John Rakolta, Jr.**

"Walbridge shares a common vision to provide all employees and subcontractors with a healthful and safe workplace," said Clabaugh. "Walbridge's safety program has total commitment on all management levels and receives top priority."

The active integration of Walbridge's Safety and Health Program, along with enforcement of safety policies and recognition for implementation of the program, endorses the ultimate goal of zero injuries. It is key that design through construction is done with safety policies and procedures to support the quality of life on all Walbridge projects by ensuring that, "**Everyone goes home the way that they came to work.**"

The award was presented at Walbridge's United States Postal Service Northeast Metro Processing and Distribution Center construction project. Walbridge Aldinger has a long and distinguished history covering over 89 years of service in the construction industry.



*Walbridge employees celebrated working over 34 months and three million hours—without a lost time accident.*

# CET Awards

MIOSHA recognizes the safety and health achievements of Michigan employers and employees through CET Awards, which are based on excellent safety and health performance.



*BorgWarner's Cadillac facility was recognized with the Bronze Award for safety and health diligence. Plant Manager Jeff Addison and the Safety Team accepted the award on behalf of all employees.*

## BorgWarner – Cadillac

On July 24th, BorgWarner Thermal Systems' Cadillac facility received the **Bronze Award** from MIOSHA for an outstanding safety and health record.

"BorgWarner is one of our *Automotive All Stars!* Since 1928, your name has been synonymous with automotive innovation—you power the cars that power America," said DLEG Director **Robert W. Swanson**.

Director Swanson presented the award to Plant Manager **Jeff Addison** and the **Safety Team**, who accepted on behalf of all employees. Day shift employees, elected officials and invited guests attended the ceremony and luncheon.

"No issue is of more fundamental importance to our company, our productivity and our ability to meet the increasing challenges of our industry, than the health and safety of BorgWarner employees," said Addison.

The Cadillac plant employs nearly 270 workers and produces fan clutches and drives, shutters, and control systems for automotive applications. Auburn Hills-based BorgWarner Inc. is a product leader in highly engineered components and systems for vehicle powertrain applications worldwide.

## Textron Fastening Systems – Holly

On August 15th, Textron Fastening Systems' North Holly Road Operations received the **Silver Award** from MIOSHA for an outstanding safety and health record.

MIOSHA Acting Director **Martha B. Yoder** presented the award to **Larry Harris**, Operations Manager, and Safety Committee members: **Ken Mayer**, **Brandt Brownrigg**, **Doug DuBois**, **Brad Booth**, **Dave Farner**, **Jim O'Dea**, and **Jim Devine**.

"Our safety performance has been achieved through teamwork. Everyone has made significant contributions—so we would like to recognize every employee for this achievement," said Harris.

North Holly Road Operations' outstanding safety and health record came from several areas, including: a solid Multi-Year Plan geared towards safety; daily safety shift huddles with all employees; weekly supervisor audits with employee involvement; and monthly training during plant meetings.

The plant employs 70 employees, and manufactures internally and externally threaded fasteners for the automotive industry. Headquartered in Troy, Textron Fastening Systems Inc. is a leading provider of engineered fastening systems.



*(Front) Ken Mayer, Larry Harris, Doug DuBois, MIOSHA Acting Director Martha Yoder, and Brad Booth. (Rear) Brandt Brownrigg, Dave Farner, and Bill Barrett.*

## TEREX|SIMPLICITY – Durand

On August 23rd, TEREX|SIMPLICITY of Durand received the **Bronze Award** from MIOSHA for an outstanding safety and health record.

DLEG Acting Deputy Director **Doug Kalinowski** and MIOSHA Acting Director **Martha Yoder** presented the award to General Manager **Jason Adams**, who accepted on behalf of all employees. **Eric Bauer**, Director, Occupational Health & Safety, TEREX, congratulated the company on its achievement.

"Our team members are our most important asset and their safety is our top priority. Without their dedication and commitment, we would not be in a position to receive this award," said Adams.

The plant's safety performance is attributed to the safety awareness of all employees. They achieved this through weekly safety talks and monthly safety audits with corrective actions. UAW Local 743, Region 1-C, represents production employees.

Since 1921, TEREX|SIMPLICITY has been a leader in the manufacture of heavy-duty screens and feeders for the construction industry. Terex Corporation is a diversified global manufacturer with 2005 revenue of \$6.4 billion.



*Workplace safety is one of TEREX|SIMPLICITY-Durand's core values. They qualified for the Bronze Award because team members incorporate safety into their continuous improvement efforts.*

# Education & Training Calendar

Date	Course Location	MIOSHA Trainer Contact	Phone
<b>December</b>			
4 & 5	MIOSHA 10-Hour for Construction Adrian	Patrick Sullivan Adriane Truss	517.371.1550
5	Supervisor's Role in Safety and Health Niles	Jerry Swift Chris Smith	269.687.5648
5	Machine Guarding, JSA, and Operator Training, Lockout/Tagout Warren	Richard Zdeb Holger Ekanger	586.498.4100
5	Top Ten Occupational Health Violations: How To Avoid Them Holland	Dave Humenick Brian Cole	800.690.0314
11 & 12	MIOSHA 10-Hour for Construction Traverse City	Tom Swindlehurst Adriane Truss	517.371.1550
12	MIOSHA Recordkeeping for Construction Brighton	Karen Odell MJ Takagi	810.227.6210
13	General Fall Protection Bloomfield Hills	Patrick Sullivan Patricia DuFresne	248.972.1133
13	Excavations: The Grave Danger & Mobile Equipment Hazards Bloomfield Hills	Patrick Sullivan Patricia DuFresne	248.972.1133
14	Recordkeeping of Occupational Injuries and Illnesses Warren	Lee Jay Kueppers Lisa Spagnuolo	586.498.4100
19	Excavations: The Grave Danger & Mobile Equipment Hazards Warren	Patrick Sullivan Holger Ekanger	586.498.4100
21 & 22	MIOSHA 10-Hour for Construction Gladstone	Jim Dykes Adriane Truss	517.371.1550
<b>January</b>			
4	Recordkeeping of Occupational Injuries and Illnesses Howell	Karen Odell Janie Willsmore	517.546.3920
9	Fall Protection for Residential Construction Brighton	Patrick Sullivan MJ Takagi	810.227.6210
9 & 10	MIOSHA 10-Hour for Construction Sault Ste Marie	Jim Dykes Brian White	906.228.2312
11	Recordkeeping of Occupational Injuries and Illnesses Lansing	Debra Gundry Suzy Carter	517.394.4614
11	Health Issues In Construction Sault Ste Marie	Jim Dykes Brian White	906.228.2312
11, 18 & 25	MIOSHA's Fundamentals of Safety and Health Warren Lisa Spagnuolo	Lee Jay Kueppers 586.498.4100	
16	Powered Industrial Truck: Train-The-Trainer Onaway	Doug Kimmel Shelly Hyatt	231.546.7264
16	Supervisor's Role in Safety and Health Warren	Richard Zdeb Holger Ekanger	586.498.4100
16 & 17	MIOSHA 10-Hour for Construction Port Huron	Patrick Sullivan Bonnie DiNardo	810.989.5788
16 & 17	MIOSHA 10-Hour for Construction Ironwood	Jim Dykes Brian White	906.228.2312

Co-sponsors of CET seminars may charge a nominal fee to cover the costs of equipment rental, room rental, and lunch/refreshment charges. For the latest seminar information check our website, which is updated the first of every month: [www.michigan.gov/miosha](http://www.michigan.gov/miosha).

**Construction Safety Standards Commission**

*Labor*

- Mr. D. Lynn Coleman
- Mr. Patrick "Shorty" Gleason
- Mr. Gregg A. Newsom
- Mr. Larry Redfearn\*\*

*Management*

- Mr. Donald V. Staley
- Mr. Peter Strazdas
- Ms. Valerie J. Warren
- Mr. Timothy B. Wise\*

*General Public*

Vacant

**General Industry Safety Standards Commission**

*Labor*

- Mr. Dwayne F. Betcher\*
- Mr. William L. Borch
- Mr. Karl E. Heim
- Mr. Jeffrey Radjewski

*Management*

- Mr. Dennis M. Emery
- Mr. Thomas J. Pytlik\*\*
- Mr. George A. Reamer

Vacant

*General Public*

Vacant

**Occupational Health Standards Commission**

*Labor*

- Dr. G. Robert DeYoung\*
- Ms. Margaret Robinson Faville
- Chief Ricardo L. Longoria
- Ms. Margaret Vissman\*\*

*Management*

- Mr. David L. Glynn
- Mr. John E. Miller
- Mr. Gary R. Novak
- Mr. Ronald J. Torbert

*General Public*

Mr. Satyam R. Talati

\*Chair \*\*Vice Chair

# Standards Update

## New Standards – Hexavalent Chromium

The Occupational Health Standards Commission directed MIOSHA to adopt the new OSHA regulations on occupational exposure to hexavalent chromium for construction and general industry. The following new standards were effective on August 7, 2006:

- Occupational Health Standard, Part 604, Chromium (VI) in Construction,
- Occupational Health Standard, Part 315, Chromium (VI) in General Industry.

The new standard lowers MIOSHA's permissible exposure limit (PEL) for hexavalent chromium, and for all chromium (VI) compounds, from 52 to 5 micrograms per cubic meter of air as an 8-hour time-weighted average.

Hexavalent chromium compounds are a toxic form of the element chromium and are man-made and widely used in many different industries. Employees can inhale airborne hexavalent chromium as a dust, fume or mist. The major health effects associated with exposure to hexavalent chromium includes lung cancer, skin ulcerations, and allergic/ irritant contact dermatitis.

Hexavalent chromium compounds are widely used in the chemical industry as ingredients and catalysts in pigments, metal plating and chemical synthesis welding on stainless steel or hexavalent chromium painted surfaces.

Michigan employers with 20 or more employees must comply with these rules by November 27, 2006. Employers with 19 or fewer employees must comply by May 30, 2007, except for engineering controls. All employers are required to have engineering controls implemented no later than May 31, 2010. There are some exemptions for low exposure, portland cement and pesticides.

MIOSHA's Consultation, Education and Training (CET) Division will develop outreach programs for employers covering the protective provisions of the new hexavalent chromium standards.

You can print a copy of these standards from our website, [www.michigan.gov/mioshastandards](http://www.michigan.gov/mioshastandards). If you would like to be put on our electronic mailing list for future notifications of changes, send an email to [listserv@listserv.michigan.gov](mailto:listserv@listserv.michigan.gov).

## Rule Delayed – Slip Resistance

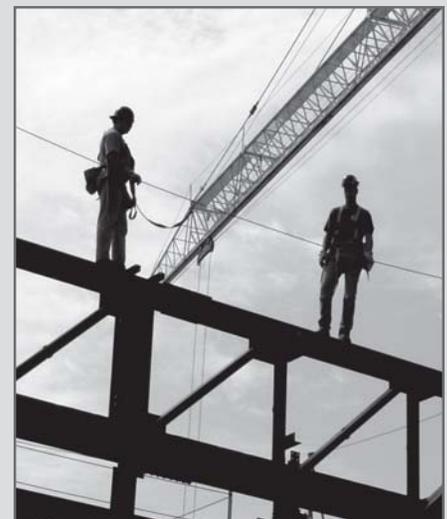
### MIOSHA Delays Requirement for Slip Resistance on Skeletal Structural Steel

MIOSHA Construction Standard, Part 26, Steel Erection, Rule R 408.42616(3), states that slip resistance of skeletal structural steel must meet a specified level of slip resistance when measured using American Society for Testing and Materials (ASTM) test methods. This provision addresses the slip resistance of walking surfaces of coated structural steel members.

The technical developments that needed to occur for employers to comply with the provision by its effective date, July 18, 2006, have not occurred. The ability to comply with the slip resistance provision depends upon two technical developments: (1) completed industry protocols for slip testing equipment, and (2) the availability of suitable slip resistant coatings.

ASTM may withdraw the test methods altogether because they are brand-specific rather than generic. Lack of completed test methods has delayed the development of suitable slip resistant coatings. In addition, there has not been adequate testing of coatings to determine whether they have sufficient durability in the variety of applications in which they will be used, especially in corrosive environments.

MIOSHA will continue to monitor the status of the slip resistance provision.



To contact any of the Commissioners or the Standards Section, please call 517.322.1845.

# Status of Michigan Standards Promulgation

(As of August 29, 2006)

## Occupational Safety Standards

### General Industry

Part 05.	Scaffolding (Joint w/GI-58 & CS-32)	At Advisory Committee
Part 08.	Portable Fire Extinguishers	Amended, effective 5/15/06
Part 17.	Refuse Packer Units	Approved by Commission for review
Part 19.	Crawler, Locomotive, & Truck Cranes	Approved by Commission for review
Part 20.	Underhung Cranes & Monorail Systems	Approved by Commission for review
Part 50.	Telecommunications (Joint)	Final, effective 10/11/05
Part 58.	Vehicle Mounted Elev. & Rot. Platforms (Joint w/GI-5 & CS 32)	At Advisory Committee
Part 62.	Plastic Molding	Approved by Commission for review
Part 79.	Diving Operations	Approved by Commission for review
Pending	Ergonomics (Joint)	At Advisory Committee

### Construction

Part 01.	General Rules	Approved by Commission for review
Part 02.	Masonry Wall Bracing	Approved by Commission for review
Part 12.	Scaffolds & Scaffold Platforms	Approved by Commission for review
Part 22.	Signals, Signs, Tags & Barricades	Submitted to JCAR 8/8/06
Part 26.	Steel Erection	Public hearing 9/25/06
Part 28.	Personnel Hoisting in Steel Erection	Public hearing 9/25/06
Part 29.	Communication Towers	At Advisory Committee
Part 30.	Telecommunications (Joint)	Final, effective 10/11/05
Part 31.	Diving Operations	Approved by Commission for review
Part 32.	Aerial Work Platforms (Joint w/GI 58)	At Advisory Committee

## Occupational Health Standards

### General Industry

Part 301.	Air Contaminants for General Industry	Approved by Commission for review
Part 315.	Chromium (VI) for General Industry	Amended, effective 8/7/06
Part 504.	Diving Operations	Approved by Commission for review
Part 526.	Open Surface Tanks	Reviewed by internal staff
Part 528.	Spray Finishing Operations	Reviewed by internal staff
Part 529.	Welding, Cutting & Brazing	Approved by Commission for review
Pending	Diisocyanates	Submitted to SOAHR for review
Pending	Ergonomics (Joint)	At Advisory Committee
Pending	Latex	Approved by Commission for review

### Construction

Part 601.	Air Contaminants for Construction	Submitted to SOAHR for review
Part 604.	Chromium (VI) for Construction	Amended, effective 8/7/06
Part 681.	Radiation in Construction - Ionizing and Nonionizing	Final, effective 10/10/05

*The MIOSHA Standards Section assists in the promulgation of Michigan occupational safety and health standards. To receive a copy of the MIOSHA Standards Index (updated March 2006) or for single copies and sets of safety and health standards, please contact the Standards Section at 517.322.1845, or at [www.michigan.gov/mioshastandards](http://www.michigan.gov/mioshastandards).*

RFR Request for Rulemaking  
 SOAHR State Office of Admn. Hearings and Rules  
 LSB Legislative Services Bureau  
 JCAR Joint Committee on Administrative Rules

# Tree Trimming Initiative

Employers in the tree trimming and removal industry are encouraged to step-up efforts to protect workers on the job.

As of August 31, 2006, four of 19 MIOSHA General Industry program-related workplace fatalities involved workers in tree trimming and removal. Because of the number of workplace fatalities, MIOSHA is proactively providing information and increasing enforcement resources in this industry.

- A 22-year-old male was electrocuted after making contact with a live power line during a power line clearance operation.

- A 35-year-old male was electrocuted after making contact with a live power line while trimming from a tree.

- A 49-year-old male was pinned under a tree that fell due to an incorrect cutting technique.

- A 49-year-old male was struck in the head when a rope being used to lower a limb broke.

MIOSHA is launching an extensive awareness campaign to alert employers in the tree trimming and removal industry that they must provide appropriate training and protection.

Three MIOSHA General Industry Safety Standards impact the industry: Part 53, Tree Trimming and Removal; Part 33, Personal Protective Equipment; and Part 58, Vehicle Mounted and Rotating Work Platforms.

MIOSHA Occupational Health Standard Part 380, Occupational Noise Exposure for General Industry, also affects the industry. MIOSHA standards can be viewed at [www.michigan.gov/mioshastandards](http://www.michigan.gov/mioshastandards).

A PowerPoint presentation, *Tree Trimming and Power Lines*, can be accessed on the MIOSHA website at [www.michigan.gov/miosha](http://www.michigan.gov/miosha), by selecting "Tree Trimming" in the "Spotlight" section. To receive consultation or training on this subject, please call the Consultation Education and Training (CET) Division at 517.322.1809.



*A worker was electrocuted after making contact with a live power line while trimming from this tree.*

# V a r i a n c e s

Published October 23, 2006

**Following are requests for variances and variances granted from occupational safety standards in accordance with rules of the Department of Labor & Economic Growth, Part 12, Variances (R408.22201 to 408.22251).**

## Variances Requested Construction

**Part number and rule number from which variance is requested**

Part 10: Lifting & Digging Equipment - Rule R408.41005 a(2), Rule 1005 a(2); Reference ANSI Standard B30.5 "mobile and Locomotive Cranes". 1994 Edition; Section 5-3.2.1.2b

**Summary of employer's request for variance**

To allow employer to rig certain loads to the load line of a crane above the overhaul weight in accordance with certain stipulations.

**Name and address of employer**

John E. Green Company

**Location for which variance is requested**

Fowlerville High School, Fowlerville

**Part number and rule number from which variance is requested**

Part 32: Aerial Work Platforms - R408.43209, Rule 3209; R408.43209, Rule 3209 (8)(b); and R408.43209, Rule 3209 (9)

**Summary of employer's request for variance**

To allow employer to firmly secure a scaffold plank to the top of the intermediate rail of the guardrail system of an aerial lift for limited use as a work platform provided that certain stipulations are adhered to.

**Name and address of employer**

Bumler Mechanical, Inc.

**Location for which variance is requested**

Bosch New Office and Lab, Plymouth

**Name and address of employer**

John E. Green Company

**Location for which variance is requested**

Henry Ford Hospital, West Bloomfield

**Name and address of employer**

Limbach Co., LLC

**Location for which variance is requested**

MGM Grand Casino, Detroit

**Name and address of employer**

Midwest Steel, Inc.

**Location for which variance is requested**

DCX WTAP, Warren

## Variances Granted Construction

**Part number and rule number from which variance is requested**

Part 32: Aerial Work Platforms - R408.43209, Rule 3209; Rule 3209 (8); Rule 3209 (8)(b); and Rule 3209 (9)

**Summary of employer's request for variance**

To allow employer to firmly secure a scaffold plank to the top of the intermediate rail of the guardrail system of an aerial lift for limited use as a work platform provided certain stipulations are adhered to.

**Name and address of employer**

Dee Cramer, Inc.

**Location for which variance is requested**

Univ. of Michigan Cardio Vascular Center, Ann Arbor

**Name and address of employer**

John E. Green Company

**Location for which variance is requested**

Little River Casino, Manistee

**Name and address of employer**

Michigan Mechanical Insulation, Inc.

**Location for which variance is requested**

Univ. of Michigan Cardio Vascular Center, Ann Arbor

**Name and address of employer**

Midwest Steel, Inc..

**Location for which variance is requested**

T. R. E. MGM Detroit Grand Casino, Detroit

Barton-Malow Providence Park Hospital, Novi

**Name and address of employer**

Monroe Plumbing & Heating

**Location for which variance is requested**

Univ. of Michigan Cardio Vascular Center, Ann Arbor

**Name and address of employer**

Superior Electric Great Lakes Company.

**Location for which variance is requested**

GM Powertrain, Pontiac

## Variances Requested General Industry

**Part number and rule number from which variance is requested**

Part 17: Refuse Packer Units: Rule 1732(1)

**Summary of employer's request for variance**

The employer has requested to utilize an interlocked gate in conjunction with stop bars and uniform trash carts in lieu of the fixed barrier.

**Name and address of employer**

Knape & Vogt

**Location for which variance is requested**

2700 Oak Industrial Park Dr NE, Grand Rapids

**Part number and rule number from which variance is requested**

Part 14: Conveyors

**Summary of employer's request for variance**

The employer has requested to use a cable system to secure laundry bags when bags are being conveyed in lieu of a pan or screen type guard over walkway, passageway or work areas.

**Name and address of employer**

Arrow Uniform Rentals

**Location for which variance is requested**

6400 Monroe, Taylor

## Variances Granted General Industry

**Part number and rule number from which variance is requested**

Part 17: Refuse Packer Units: Rule 1732(1)

**Summary of employer's request for variance**

The employer has requested to utilize an interlocked gate in conjunction with stop plates, uniform trash containers placed by powered industrial trucks in lieu of the fixed barrier.

**Name and address of employer**

ODL Inc. Plant 1 & 2

**Location for which variance is requested**

215 E Roosevelt Ave., Zeeland

# MIOSHA News Quiz

## Topic: Powered Industrial Trucks

### Questions

1. True or False – There is a standard that requires ventilation in a warehouse when a propane powered industrial truck (PIT) is used.
2. True or False – Powered industrial truck trainers must be certified by MIOSHA to provide training.
3. Operator instruction must include:
  - A. Lecture, discussion, interactive computer programs, video, written materials, or similar formal approaches.
  - B. Practical training on use of the equipment.
  - C. Testing of the operator's performance.
  - D. All of the above
4. True or False – An employer may issue permits that can be used by more than one person and that are valid for up to five years.
5. A permit must include which of the following:
  - A. Firm and employee name.
  - B. Employee's date of birth.
  - C. Employee's date hired.
  - D. Maximum speed that PIT may be driven.
6. True or False – When an employee has a valid PIT operator permit issued by a previous employer, it is still necessary to provide formal and practical training and testing before issuing a new permit.
7. True or False – The proper way to drive a PIT when the load blocks the driver's forward visibility is to drive with the load trailing.
8. True or False – It is acceptable to allow another person to "hitch" a ride on a PIT for short distances.
9. True or False – When electric trucks are used, employers must provide both appropriate personal protective equipment and suitable facilities for quick drenching or flushing of eyes and body.
10. True or False – Additional counterweights can only be added to a PIT with written approval of the PIT manufacturer.
11. Special areas for refueling a PIT must be posted and located at least how far from a source of open flame or spark:
  - A. 15 feet
  - B. 20 feet
  - C. 25 feet
  - D. 30 feet
12. True or False – An employer must determine whether there are hazardous areas in the workplace where gases or vapors, combustible mixtures, or ignitable fibers are present that require a truck specially

equipped for the environment.

13. PIT operators must receive refresher training when:

- A. Observed operating in an unsafe manner.
- B. Involved in an accident or a near-miss incident.
- C. An evaluation reveals that the operator is not operating the truck safely.
- D. Assigned to a different type of truck or conditions change in the workplace.
- E. All of the above.

14. True or False – A platform attached to the forks to lift employees is not required for lifts under 10 feet.

15. True or False – The PIT daily checks that are required at the beginning of each shift must be in writing.

### Answers

1. True – Ventilation is covered by MIOSHA Occupational Health Standard, Part 520. Propane powered trucks should be tuned periodically to maintain low carbon monoxide (CO) emissions, and CO levels should be measured in truck exhaust and in the ambient air regularly to ensure that the permissible limits for CO are not exceeded.
2. False – It is the employer's responsibility to authorize an individual to train who has "the knowledge, training, and experience to train and evaluate the competence of the operator." The standard does not speak to certification. Rule 2152.
3. D – Training must include both formal and practical training and testing per Rule 2152(4). False – A permit must be issued to each operator and is valid for not more than three years. Rule 2154.
5. A – Rule 2154(6) lists eight items that must be included on a permit including the firm and employee name.
6. False – An employee who has a valid PIT operator permit issued by another employer may be tested without first meeting the training requirements of the standard. Rule 2153(3).
7. True – Rule 2185.
8. False – No employee except the operator is allowed to ride on a PIT unless the truck is specifically provided with a passenger seat located under the overhead guard.
9. True – When there is a potential for employee exposure to injurious corrosive electrolyte solutions (e.g. sulfuric acid) associated with battery powered industrial trucks. Rule 2164.

10. True – The manufacturer must provide assurance that the truck will meet the stability requirements of ANSI B56.1-1993, "Safety Standard for Low Lift and High Lift Trucks." Rule 2132.

11. C – 25 feet. Rule 2163(2).

12. True – PITS operating in an environment containing the substances above must be equipped as prescribed in NFPA 505-2996, "Type Designations, Areas of Use, Conversions, Maintenance, and Operation of Powered Industrial Trucks." Rules 2155 and 2178.

13. E – 2152 (3).

14. False – An employee shall only be lifted when there is a platform attached to the forks by enclosed sleeves, a safety chain or a mechanical device in a manner that the platform cannot tip or slip. Rule 2167(1).

15. False – Daily checks are not required to be documented in writing, although it is a recommended best practice. Rule 2171(1).

All MHSOIA standards are available at [www.michigan.gov/miosha/standards](http://www.michigan.gov/miosha/standards).

## PERMANENT MIOSHA LOCATION

Effective November 8, 2006

MIOSHA will be returning to our permanent location in the General Office Building.

During our remodeling project, the Lansing offices were moved temporarily to the Hollister Building in downtown Lansing.

Our physical address is:  
State Secondary Complex  
General Office Building  
7150 Harris Drive  
Lansing, Michigan 48913

For all correspondence—please continue to use our post office boxes.

Phone numbers will remain the same.

For phone numbers and mailing addresses, please visit our website, [www.michigan.gov/miosha](http://www.michigan.gov/miosha).

**Forklift Fatalities**

*Cont. from Page 1*

more empty parts bins, but did not return. When co-workers noticed and went to check, they found the forklift outside, lying on its side near the empty parts bin storage area.

The employee was pinned under the upper frame. There were no witnesses to the incident. There was no load on the forks and the mast was telescoped up. It was speculated by the investigating police that speed might have been involved.

Based on MIOSHA and police findings, it was determined that travel through the yard to the empty bins required a right turn, then a left turn to approach the stack of empty bins. Photos showed an arc path going into the second turn. Apparently during travel the center of gravity changed and the vehicle carried over onto its right side. The front wheel of the vehicle left a rotational mark on the ground.

As the truck tipped over, the employee left the seat and was crushed by the outside of the upper rear cage. A second forklift on site was used to lift the downed vehicle and remove the employee. The truck was new at the beginning of 2006 and documentation of preventive maintenance was provided and reviewed.

The employer was cited for two Serious violations of Part 21, Powered Industrial Trucks. A violation was cited for failing to provide training, testing or a permit. The second citation was for failing to prohibit travel with the load engaging means elevated.

**Millwright – Age 59: Employee struck by a falling piece of equipment**

The employee worked at an automotive manufacturing plant, and sustained a fatal head

injury when a crated transfer conveyor component, weighing approximately 816 pounds, fell off the truck and struck the employee in the head.

An employee was assigned to unload a semi-trailer of equipment. The first pick was from the driver’s front side. The second pick was an electrical panel box from the front passenger side. The third pick was on the passenger side and was a 19-foot section of straight conveyor. The employee lifted the fourth pick and proceeded to back about 25 feet, then lowered the forks when coming to a stop.

Another employee was standing on the ground at the driver’s side rear tire area, directing the unloading operation. The next load was tilting toward this employee. The employee threw his hands into the air as if to stop the load. It fell off on top of the employee, crushing his body and head into the road.

All millwrights had extensive training to include lifting and rigging. The investigation revealed no violations of MIOSHA standards and no citations were issued.

**Utility Operator – Age 46: Employee found with forklift on top of him.**

The employee worked at a manufacturing plant that produces ball bearings. The deceased, a third-shift utility worker, drove off the receiving loading dock. It was the employee’s first week on the third shift. Operating the forklift was part of his job duties. The deceased was trained and certified through the employer’s on-site training program and had previous years of experience at another employer.

The employer had documentation supporting training and testing for the employee. There were not witnesses to the accident or events prior. The deceased was discovered by another employee who was traveling through the receiving area, and noticed lights shining on a wall and the truck’s forks up against a wall in the truck well. The observing employee called another worker and they discovered the victim.

The operator was found pinned face down between the truck and the concrete floor with the overhead guard across his back. The other employees freed the deceased by manually lifting the truck enough to slide him from under it. Paramedics pronounced him dead at the scene.

Based on the position of the truck, it appears the operator drove off the dock while traveling in reverse. The counterweights were broken off and laying to the side. The forks were up and leaning against a wall. The vehicle was approximately three and a half feet from the end of the dock. This distance gives the appearance that the truck was traveling at a fairly fast rate.

The MIOSHA Safety Officer verified that daily checks of the truck were done. The union verified that the employer provides adequate training and responds to employee safety training and requests. Monthly meetings are held

covering various topics.

There were no MIOSHA issues found directly related to the fatality. The employer was cited an Other-than Serious violation with no penalty for not having the victim’s permit properly filled out to indicate a restriction for glasses. Two safety recommendations were also provided to the employer suggesting that documentation be maintained for daily checks and that rear view mirrors be installed on the trucks.

**Welder/Yard Helper – Age 23: Employee pinned between forklift and a vehicle.**

The employee worked at an outdoor advertising company. The employee was pinned while trying to stop the powered industrial truck from hitting a vehicle. This fatality remains under investigation by MIOSHA.

**Owner – Age 33: Run over by forklift.**

The deceased was the owner of a metal fabrication shop. The owner of the business was run over by a powered industrial truck while charging the battery. Investigation of this fatality is not yet complete.

**Proactive Culture Can Prevent Tragedies**

It’s hard to image a work world without forklifts. Use is commonplace throughout a wide range of industries, regardless of size. If a workplace has material to be moved, it’s a pretty sure thing there is a powered industrial truck on site to help. These devices have made it possible to handle and move large loads efficiently.

While nothing can ever replace the lives lost through the workplace tragedies described above, the memory of these workers can be honored through proactive measures that ensure needless deaths do not happen.

To ensure these types of accidents do not happen to other employees, MIOSHA is urging proactive measures by all employers using powered industrial trucks. Employers should review their program, instructions, and operations to ensure that adequate protection is provided.

A solid powered industrial truck program includes worker training, testing and licensing; inspections and maintenance; techniques for load lifting and travel; and pedestrian safety. In addition, employers should consider other environmental hazards such as lighting, and engineering controls that move workstations, control panels, and equipment away from aisles.

Through strong proactive measures, employers can ensure the safety and health of powered industrial truck operators and pedestrians. For more information on how to establish programs and create safe work environments, see additional articles and resource references in this addition of the MIOSHA News.

For information on MIOSHA standards, companies can contact the Construction Safety and Health Division at 517.322.1856, or the General Industry Safety and Health Division at 517.322.1831. ■



*A newly hired hi-lo driver was fatally injured when his truck tipped over during travel with the forks fully extended.*

## Building a PIT Safety Program

*Cont. from Page 9*

### Operator Training

#### What must be covered in operator training?

Training must be specific to cover capacities of the equipment and the attachments that will be used, as well as the purpose, use, and limitations of controls. Operators must be trained on how to make daily checks.

#### Will formal training alone, such as watching a video, be sufficient?

No, practical training and a performance test is also required. A potential operator may work for 30-days, under the close supervision of an authorized individual.

#### Once initial training is completed, when is additional training required?

When there is a change in the work environment; the equipment used; or the operator is not conforming to safe operational practices, such as driving too fast, dropping loads, or violating other work rules.

### Testing and Permits

#### Does MIOSHA require any specific topics to be covered on the test?

Yes, operator tests must include operating ability, knowledge of the equipment, information on Part 21 rules, and how to perform daily checks. The CET Division has a sample operator test available to employers, but it is recommended that employers customize the test to cover their own, unique conditions.

#### Is it required that the test be in writing?

While Part 21 does not specifically require that the test be in writing, it is highly recommended that written tests be given and maintained by the employer for verification and tracking purposes.

#### How long is a PIT operator permit valid?

An operator permit is valid for a period of three years. At the end of the three years, employers must retest operators and renew the permit. It is also recommended that refresher training be provided.

#### Is specific information required on the permit?

Part 21 specifies information that must be included on the permit in Rule 2154(6). The permit must include: the firm name; operator name; operator I.D. number (if any); name of issuing authority; type of truck authorized to operator; operator restrictions, including the nature of the restrictions (if any); the date issued; and the expiration date. A sample permit is included in the standard. In addition, the CET Division has a sample permit that can be used.

### Additional Resources

Additional information, resources and upcoming training sessions on safe operation and MIOSHA requirements for powered industrial trucks, are available on the MIOSHA website at [www.michigan.gov/miosha](http://www.michigan.gov/miosha) or by calling the Consultation Education and Training (CET) Division at 517.322.1809. ■

## Construction Industry Inspections

*Cont. from Page 7*

- An operator must wear a seat belt at all times when operating the fork truck.

- Take care when traveling on uneven ground and slopes. Keep the boom and load as low as possible when traveling.

- Maintain proper power line clearances.

- Don't allow any riders on the equipment.

- Be sure to lower the boom, shut off the engine, and engage the parking brake when exiting the operator's station.

- Do not park the fork truck on an incline and leave it unattended. If you must park on an incline, block the wheels.

- Do not leave the fork truck unattended. (Truck is unattended when the operator is 25 feet or more away and in view, or at anytime the truck is not in view of the operator.)

- Do not allow anyone to stand or pass under the elevated portion of a fork truck, whether empty or loaded.

- Do not exceed the rated load of the machine or the forks.

- Make sure all loads are secured.

- Drive slowly and in accordance with conditions at the site.

### Safety Practices when Elevating Personnel

- A pre-lift meeting must be conducted.

- Securely attach the work platform to the back of the forks.

- The work platform must be in compliance with Rule 1243(5):

1. Continuous guardrail system with toeboard.

2. Safety factor of four times the maximum intended load.

3. Wood planking, steel plate or grating bolted or welded to the bottom of the platform.

4. Permanent sign that specifies the maximum number of passengers, ID number, and the maximum rated load.

5. High-visibility color or marking.

- The length of the work platform can only be the distance between the forks plus 10 inches on either side of the wheelbase.

- The elevated personnel must wear a harness and lanyard that is attached to a suitable anchorage point.

- The operator of the fork truck must remain in the operator station while an employee is elevated.

- No horizontal movement (driving) while an employee is elevated. Employees must exit before repositioning the fork truck.

- Don't use the guardrails to climb on, support materials, or support other work platforms.

- Don't use ladders, planks, railings, or other material to gain more height or reach.

For more information on workplace hazards please visit the MIOSHA website at [www.michigan.gov/miosha](http://www.michigan.gov/miosha). ■

## General Industry Investigations

*Cont. from Page 6*

### Case 4—Inadequate Training

An employee of a small manufacturing firm alleged inadequate training for handling L.P. gas cylinders and defective trucks being used in the firm. The investigation resulted in citations being issued for:

- Not training employees in the proper use and handling of L.P. gas cylinders under the Hazard Communication standard, Rule 1910.1200(h).

- Rule 2131(1) – No horn or audible warning device provided on truck.

- Rule 2134(2) – Defective tires on trucks.

- Rule 2154(1) – Truck operators had permits issued from a previous employer.

- Rule 2171(1) – Daily truck safety checks not being performed at beginning of shift.

### Case 5—Carbon Monoxide Issues

An employee complaint alleging dust and blue smoke at a small industrial firm was recently investigated. The investigation revealed an over-exposure to carbon monoxide due to the use of propane-fueled lift trucks. This investigation resulted in citations being issued for violations of the Air Contaminants Health Standard, Part 310, and Hazard Communication Health Standard, Part 430:

- Rule 3(a)(iii) – Employee exposed to carbon monoxide exceeding the allowed limits in 8 hours.

- Rule 3(a)(iii) – Employees exposed to a concentration of carbon monoxide in excess of the ceiling limits.

- Rule 1910.1200(h)(1) – Employees not trained in the hazards of carbon monoxide produced by propane fork trucks.

Employers are reminded that, like all aspects of their workplace safety and health system, powered industrial truck programs need monitoring and regular review to avoid developing the kinds of issues outlined above. ■

## State Minimum Wage Increased on October 1st

Michigan's minimum wage increased to \$6.95 per hour on October 1, 2006. The increase covers nearly all Michigan workers. The minimum hourly wage will increase further on July 1, 2007, to \$7.15, and on July 1, 2008, to \$7.40.

Detailed information about the increase and other changes to Michigan's minimum wage law is on the state's Wage & Hour Division website: [www.michigan.gov/wagehour](http://www.michigan.gov/wagehour). You can also call the Wage & Hour Division with your minimum wage questions at **517.335.0400** on weekdays between 8:00 a.m. and 5:00 p.m.

# How To Contact MIOSHA

**MIOSHA Hotline** 800.866.4674  
**Fatality/Catastrophe Hotline** 800.858.0397  
**General Information** 517.322.1814  
**Free Safety/Health Consultation** 517.322.1809  
**Injury & Illness Recordkeeping** 517.322.1848

**Acting Director** 517.322.1814 **Martha Yoder**  
**Acting Deputy Director** 517.322.1817 **John Peck**

DIVISION	PHONE	DIRECTOR
Appeals	517.322.1297	Jim Gordon
Construction Safety & Health	517.322.1856	Bob Pawlowski
Consultation Education & Training	517.322.1809	Connie O'Neill
General Industry Safety & Health	517.322.1831	John Brennan
Management & Technical Services	517.322.1851	Ron Ray (Acting)

OFFICE	PHONE	MANAGER
Asbestos Program	517.322.1320	George Howard
CET Grant Program	517.322.1865	Louis Peasley
Employee Discrimination Section	248.888.8777	Jim Brogan
Management Information Systems Section	517.322.1851	Bob Clark
Standards Section	517.322.1845	Marsha Parrott-Boyle

Website: [www.michigan.gov/miosha](http://www.michigan.gov/miosha)

If you would like to subscribe to the MIOSHA News, please contact us at 517.322.1809. Also if you are currently a subscriber, please take the time to review your mailing label for errors. If any portion of your address is incorrect, please contact us at the above number.

The Department of Labor & Economic Growth is an equal opportunity employer/program. This newsletter will be made available in alternate formats on request.



**Michigan Occupational Safety and Health Administration**  
**Acting Director: Martha Yoder**

The MIOSHA News is a quarterly publication of the Michigan Occupational Safety and Health Administration (MIOSHA), which is responsible for the enforcement of the Michigan Occupational Safety and Health (MIOSH) Act.

The purpose is to educate Michigan employers and employees about workplace safety and health. This document is in the public domain and we encourage reprinting.

Printed under authority of the Michigan Occupational Safety and Health Act, PA 154 of 1974, as amended. Paid for with the state "Safety Education and Training Fund" and federal OSHA funds.

Editor: Judith M. Shane

**Michigan Department of Labor & Economic Growth**  
**Director: Robert W. Swanson**

Michigan Department of  
 Labor & Economic Growth  
 Michigan Occupational Safety  
 and Health Administration  
 P.O. Box 30643  
 7150 Harris Drive  
 Lansing, Michigan 48909-8143

PRESORTED  
 STANDARD  
 US POSTAGE PAID  
 LANSING MI  
 PERMIT NO 1200

(25,000 copies printed at a cost of \$11,158 or \$0.45 per copy.)