

## \$690,500 in MIOSHA Fines

### Veltri Metal Products Faces \$690,500 in MIOSHA Fines for Failure to Correct Workplace Safety Hazards

The failure of a Royal Oak company to correct a range of workplace safety hazards and comply with commitments to improve overall safety and health for employees has resulted in proposed MIOSHA fines totaling \$690,500, the Michigan Department of Consumer and Industry Services (CIS) announced on March 13, 2003.

“Veltri Products has been given ample opportunity to correct serious hazards which are endangering their employees. Their refusal to protect their workers will not be tolerated,” said **CIS Director David C. Hollister**. “We are putting Veltri Products on notice that they must fulfill their obligations under the MIOSHA Act and provide a safe and healthy work environment for their employees.”

The responsibility for a safe and healthy workplace, by law, is that of the employer. MIOSHA standards, compliance inspections, consultation visits, and safety and health education and training programs and materials provide valuable contributions to workplace safety

and health—but the ultimate responsibility lies with the employer.

#### Scheduled Inspections of High-Hazard Industries

Veltri Metal Products, Inc., formerly known as Hawthorne Production Stamping, produces automotive metal stampings with 240 employees at the Royal Oak location. Employees are represented by Local 171 of the United Auto Workers (UAW). The Standard Industrial Classification (SIC) Code for this company is 3465 – Automotive Stampings, which is classified as a high-hazard industry. It is a targeted high-hazard industry under the MIOSHA Strategic Plan.

A scheduled inspection of the facility was conducted between January and March of 2000. MIOSHA scheduled inspections are targeted at establishments with high injury/illness rates and a high incidence of lost workday cases, based on Michigan data. The intent of the scheduled inspections is to identify hazardous conditions, so that the hazards can be corrected **before** injuries and illnesses occur. In Michigan the average injury/illness case rate is 7.8 per 100 workers—while Veltri’s rate is 16.5 per 100 workers. In Michigan the lost workday case rate is 3.9 per 100 workers—while Veltri’s rate is 8.4 per 100 workers.

“In Michigan we take workplace safety seriously,” said **Governor Jennifer M. Granholm**. “Protecting our workers plays a critical role in ensuring the strength of Michigan’s economy.”

The company was selected for a scheduled inspection in 2000 under the

*Cont. on Page 17*



*Despite a formal settlement agreement, Veltri Metal Products failed to abate identified hazards and refused to comply with obligations to improve overall safety and health conditions for their employees.*

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## From the Bureau Director's Desk



## Helping to Protect Workers: The Next Five Years

*By: Douglas J. Kalinowski, Director  
Bureau of Safety & Regulation*

There are many benefits for employees and employers in states where the occupational safety and health programs are administered by the state. Two very important ones are the ability to focus on issues important to the people within the state, and the relative ease and utility of getting input from stakeholders.

The perspectives and skills of **David Hollister**, the new Director of the Michigan Department of Consumer and Industry Services will enhance these benefits. (His bio is on page 3.) Mr. Hollister, formerly the Mayor of Lansing and a long-time state legislator, has shown what can be accomplished through a combination of hard work, cooperative approaches and dedicated people.

The MIOSHA Program is currently in the fifth year of our five-year strategic plan. This plan was developed around MIOSHA's mission: To help assure the safety and health of Michigan workers. The plan was designed to guide our resources in helping to protect worker safety and health in Michigan, and to measure the program's impact using a balanced combination of enforcement and outreach approaches.

### The MIOSHA Strategic Plan

The three overall goals of the MIOSHA Strategic Plan are:

1. Improve workplace safety and health for all workers, as evidenced by fewer hazards, reduced exposures, and fewer injuries, illnesses and fatalities.

2. Increase employer and employee awareness of, commitment to, and involvement with safety and health to effect positive change in workplace culture.

3. Secure public confidence through excellence in the development and delivery of MIOSHA's programs and services.

In a previous column, I outlined some of the strategies that MIOSHA pursued to address these overall goals.

**Under Goal 1**, we addressed three significant injuries and illnesses that were occurring in Michigan and we also focused our resources on industries with elevated injury and illness rates, as well as construction-related fatalities.

**Under Goal 2**, we worked very hard to promote and increase the number of implemented safety and health programs in this state and also ensured that targeted outreach plans were developed and carried out for all significant MIOSHA initiatives.

**Under Goal 3**, the program identified service areas where improvements would be beneficial based on input and feedback that we had received from employers and employees in Michigan.

### The Next Five Years

Well, where will the MIOSHA Program go from here? We are currently developing the next five-year plan.

Some areas will look similar simply because there is still more work to be done in those areas. These include ergonomic-

related problems, amputations and noise. However, using Bureau of Labor Statistics data and information about the number of employers and employees in certain industries, our specific areas of focus will change.

Some of the new areas currently being considered include transportation equipment, industrial machine manufacturing, furniture manufacturing, and primary metals manufacturing. Improving safety and health programs across state government is also likely to be addressed over the next five years.

In the current plan, the general goals were to reduce injuries, illnesses and fatalities by 15 percent. In the draft for the next five years, we have proposed 20 percent reductions for most goals in these areas.

Improvements in the services provided by MIOSHA will be a continuing goal of this program. Some of the issues in this area will include the following:

- Further improvements in the response to and resolution of employee complaints and employers requests for help,
- Broadening and enhancing MIOSHA's capabilities in sharing and receiving information through the Internet, and
- Developing new relationships and solidifying long-standing partnerships and alliances with associations, organizations and other groups.

You will also see that we plan to continue to address emergency preparedness strategies and information to help ensure that employers and employees have the necessary knowledge and readiness to respond to threats and to ensure that MIOSHA is prepared to assist in the event of a catastrophic incident.

### Stakeholder Input

Near the time that you receive this issue of the MIOSHA News, the draft MIOSHA Strategic Plan for the next five years should be available for review and comment on the BSR Website, [www.michigan.gov/miosha](http://www.michigan.gov/miosha). We would greatly appreciate your input, comments and suggestions.

We are also planning on presenting this plan formally to stakeholders late this spring or early summer, just as we did before finalizing our current plan. All of the feedback that we receive is very important to the MIOSHA Program.

As I indicated earlier, two important benefits of a state plan state are the ability to focus on issues that are important to the employees and employers in this state, and the ability for our stakeholders to be involved with our approaches, strategies and outcomes.

In that context, I hope you will review the draft MIOSHA Strategic Plan and share with us your safety and health needs and priorities. Working together, we can make Michigan a safer and healthier place to work.

*Douglas J. Kalinowski*

# Road Worker Electrocuted

Right Rail Inc. Cited for Failure to Protect Employees During Guardrail Installation

By: Paul Wrzesinski, Regional Supervisor  
Construction Safety Division

On Nov. 6, 2002, Richard E. Green, a 23-year-old equipment operator employed by Right Rail Inc. was part of a crew installing guardrails along M-65 Highway in Iosco County. Green was operating a machine used to drive guardrail posts into the ground at the side of the road.

While Green was standing alongside the machine with his hand on the control lever, it was moved forward. The top of the 22-foot-high mast made contact with a 14,000 volt electric power line, and he was immediately electrocuted.

The Construction Safety Division conducted an investigation of the fatality from Nov. 8 to Dec. 19, 2002. On March 14, 2003, citations, including alleged Willful/Serious violations of the MIOSHA Act were issued to the company. These violations, with combined penalties totaling \$77,000, resulted from the inspection of the fatal incident.

## Right Rail Exposed Workers to Electrical Hazards

A similar incident occurred to Green three months earlier as Right Rail Inc. installed guardrail in Calhoun County. At a road improvement project on M-60 at Union City on Aug. 7, 2002, Green received an electric shock as he operated the same machine when its mast struck a 5,000 volt overhead line. Green was admitted to the hospital, treated for burns to his feet and released after 24 hours.

This incident was also investigated by



Richard E. Green, an equipment operator for Right Rail, was electrocuted while installing guardrails along M-65 in Iosco County.

the Construction Safety Division, and citations were issued as a result of the investigation. The company representative was advised of the MIOSHA standard requirements for power line clearances and the extreme hazard of working too close to overhead lines.

The company received the following citations for the Green fatality: two Willful/Serious, \$35,000 each; one Repeat Serious, \$4,000; and two Other-than-Serious, one at \$2,000 and one at \$1,000. The previous Union City incident involving the same hazardous conditions influenced the classification of the citation items, and the total proposed penalty amount of \$77,000.

## MIOSHA Rules Require Protection from Energized Lines

Electrocution is the second most frequent cause of construction worker death in Michigan. Employee deaths are disproportionately high in workplace accidents on road, bridge, and utility projects. Because of the hazardous conditions, construction work in road right-of-way is an inspection focus under the MIOSHA Strategic Plan.

Several construction safety standards, including: Part 16., Power Transmission and Distribution; Part 17., Electrical Installation; and Part 30., Telecommunication; cover construction employees exposed to electrical hazards. In situations not covered by specific standards, construction standard Part 1., General Rules, requires that employers shall not allow employees to work or be closer to energized electrical line, gear or equipment exposed to contact, than the minimum clearance of:

### Voltage Minimum Employee Clearances

Up to 50 kv	10 feet
Over 50 kv	10 feet, plus 4 inches per kv.

In circumstances like the one described in the fatality above, in which the energized line cannot be moved, the standard requires employers to find an alternate method of installation—such as using a truck with a shorter mast or digging the holes by hand.

Employers receiving MIOSHA citations have 15 working days from receipt of the citations and notices, to comply or contest the violations and penalties. The company has appealed all the citations. ■



David C. Hollister

## New CIS Director

City of Lansing Mayor David C. Hollister was appointed as Michigan Department of Consumer & Industry Services (CIS) Director in January, 2003, by Governor Jennifer M. Granholm. Mayor Hollister received bipartisan support of the state Senate, which voted unanimously in support of his confirmation. The Senate's vote of confidence emphasized the support of Gov. Granholm's request for Mayor Hollister to take the City of Lansing model to the statewide level to encourage investment, build partnerships and grow the entire state.

Mayor Hollister has dedicated his entire life to public service. He began his career as a high school teacher in the 1960s after graduating with honors from Michigan State University. His political career began during his tenure as a teacher in the Lansing Public Schools, when he was elected in 1968 as a Democratic Ingham County Commissioner, serving through 1974.

In 1974 David Hollister launched a successful campaign for the Michigan House of Representatives, where he served until 1993. As a Democratic State Representative, Hollister authored over 20 public acts (laws) in his career and played a key role in developing most major social, mental health, public health, and open government policy.

In 1993, Mayor Hollister ran a successful campaign for Mayor of the City of Lansing and was re-elected to his third term in a landslide victory in November 2001. As Mayor, Hollister created a vision that Lansing become a "World-Class City." To achieve this goal, he developed a three-part strategy of economic development, neighborhood improvement, and infrastructure investment.

Hollister's successes as Mayor included over \$2.9 billion in investments, including building a new regional transportation center downtown, bringing minor league baseball to Lansing, and the commitment by General Motors to consolidate operations and build two new state-of-the-art assembly plants.

# Lockout-Tagout

## Not Just for Manufacturing Workplaces

By: *Martha Yoder, Deputy Director  
Bureau of Safety and Regulation*

It is easy to associate the need to lockout equipment and machinery during servicing or maintenance with manufacturing environments where large industrial machines and equipment are in use. But, lockout is not just a requirement for manufacturing, it applies to all general industry workplaces where employees are required to service or perform maintenance on equipment.

In fact, during the past three years, MIOSHA has cited lockout in more than 275 nonmanufacturing workplaces, with 370 individual violations cited and more than \$165,000 in initial assessed penalties. These workplaces include restaurants, grocery stores, warehouses, repair shops, nursing homes, municipalities, scrap yards, lumberyards, department stores, dairies and bakeries, among others.

### Workplace Tragedy

A recent workplace fatality also underscores the important role of locking out. This fatality occurred at **Jeepers in Livonia**. Jeepers is an indoor amusement facility that provides a variety of attractions, such as mechanical rides, games, refreshment stands, and dining areas. The amusement manager was struck by the lead car of a five-car roller coaster while performing a maintenance inspection of the roller coaster track. The ride operator did not realize the amusement manager had entered into the area and did not immediately realize the car had struck the employee.

Passengers in the roller coaster indicated

they had made three circuits of the track when the employee knelt down in the track and appeared to be examining something near the track. A screwdriver was seen on the floor near the incident and a setscrew identical to those found on the ride was near the employee. The firm received a citation for failing to ensure that employees engaged in maintenance operations utilize lockout to prevent start-up of the roller coaster, and for not training employees.

Additionally, in recent years, the following workplace deaths where lockout was a factor have occurred at nonmanufacturing sites:

- The owner of a family-owned and operated bowling center went to fix a pin-setting machine for bowling pins. The power was not shut off. The owner had trained family members on lockout and placed warning signs on the back and top of the machines warning to shut off power before entering the machine. The owner was crushed by the machine and died of asphyxiation. The company was cited for failing to develop and utilize lockout procedures.

- A sales person/route driver of a dairy supply company was sent to repair a bulk cooler/washer at a farm. While making the repairs, the individual contacted live electrical wires and was electrocuted. The company was cited for lack of electrical lockout procedures and training.

- A maintenance mechanic at a commercial laundry climbed inside a commercial tumbler to dislodge an article stuck in the top section of the door. By closing the door, the tumbling cycle started while the worker was inside. When the tumbler finished the cycle, it emptied its load onto a conveyor belt. The employee was found approximately 25 minutes later, coming down the conveyor belt. The company was cited for failing to ensure that the equipment was provided with an energy-isolating device, the need to develop and implement lockout procedures, and to provide training to authorized and affected employees.

These tragic examples illustrate the critical need for lockout when performing service and maintenance work. No matter what type of workplace, when there are moving parts, equipment and machines in use,

people can be hurt. Employers must take the steps necessary to ensure that employees know when to use lockout, how to do it properly, and are provided adequate equipment and training.

### Energy Control Programs

MIOSHA Part 85, Control of Hazardous Energy Sources, requires employers to plan for the control of energy during servicing and/or maintenance of machines where unexpected energization or motion, start up, or release of stored energy could cause injury. It requires that employers plan for the control of energy by doing the following:

- Establish an energy control program;
- Develop, document and utilize lockout/tagout procedures;
- Provide employees appropriate training;
- Provide, at no cost to employees, equipment required by the lockout/tagout procedures;
- Ensure continued competency through inspections and retraining.

Part 85 covers servicing and maintenance of machines, equipment and associated activities. The purpose is to protect employees from injury due to unexpected or unintended motion, energization, start-up, or release of stored energy from the machine, equipment, or process. Energy sources include electrical, pneumatic, hydraulic, mechanical, thermal, and chemical. There may also be stored or residual energy that may remain once the primary energy source is shut down. Stored energy may result from steam, air pressure, compression of springs, electrical capacitors, or gravity.

Normal production-type operations are not covered by the standard. However, servicing and/or maintenance during normal operations are covered in the following circumstances:

- An employee is required to remove or bypass a guard or other safety device;
- An employee is required to place any part of his or her body into an area on a machine or piece of equipment where work is actually performed;
- An employee is exposed to an associated danger zone during a machine operating cycle.

In addition MIOSHA Part 40, Electrical Safety-Related Work Practices, addresses safe work practices including lockout where the hazard to the employee is electrical.

Other MIOSHA standards may apply to specific processes or industries that may also contain lockout requirements that go beyond Part

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*A manager was killed at Jeepers, an indoor amusement facility in Livonia, while performing a maintenance inspection on a five-car roller coaster.*

# A ROADWAY WORKZONE TRAGEDY

By: *Richard J. Mee, Chief  
Construction Safety Division*

The unthinkable happened late on a Friday afternoon last August. This was the last day Tanya and Bill were to work at the site and their weekend off work was about to begin. The time was about 6:00 pm as they were completing the installation of a *Dynamic Lane Change System*, traffic controls designed to enhance the safety of highway workers and motorists passing through the construction area on the I-94 freeway in Macomb County.



*Tanya Loewen was killed instantly, and Bill Hattan was critically injured in this accident on the I-94 freeway in Macomb County.*

Tragedy struck when a car apparently left the traveled lanes of the pavement and slammed into the signal trailer being installed on the shoulder of the road. The car and the trailer were destroyed in the collision. **Tanya Loewen**, a 26-year-old engineer from Saskatchewan, Canada, was killed instantly. **Bill Hattan** was critically injured in the impact and then hurtled down the adjacent embankment. The driver and passenger of the car were not seriously injured.

## The Irony

That Tanya and Bill were installing traffic control devices designed to enhance the safety of the workers in the workzone while improving the safety of the motorists driving through the affected area when they were struck is not the only irony. Tanya, a young engineer, had devoted much of her career to traffic safety and Bill had established himself as an icon in workzone safety issues.

These two workers were not only laboring to improve roadway workzone safety but had both devoted a large part of themselves to creating designs, devices, and public policies to make road construction and maintenance safer for

worker and motorist alike. Ironically, Bill's career focus involved technological workzone safety improvements such as the system they were installing at the time of the accident. While Tanya had made contributions to safety during her career (see the Fall 2002 issue cover story of the *MIOSHA News*), this story is about Bill.

## What Did He Do Wrong?

Some may wonder if the accident that mid-summer afternoon was the result of a shortcut made to hurry the job as the day passed into late afternoon. Others may be critical of even working on the shoulder of a freeway late in the afternoon (as if any time is better). Then there are the Monday-morning quarterback types who can conjure up a seemingly endless number of scenarios of things that could have been done differently to avoid the tragedy. One fact, however, is certain. The MIOSHA investigation revealed no violations of traffic control requirements.

Bill Hattan had spent much of his career in the "roadbuilding" sector of the construction industry. To say that he has been a workzone safety advocate would be a colossal understatement. Not only did Bill advocate workzone safety, he pushed the established limits in so many areas. He has been an active member of the Michigan Road Builders Association (MRBA) and contributed his service to Michigan Department of Transportation (MDOT) and Michigan Occupational Safety and Health Administration (MIOSHA) committees for several years.

Bill was instrumental in the creation, development, and production of the new state "Traffic Regulator" (Flagger) video. He worked on the "Give 'Em a Brake" coalition, a group dedicated to promoting driver awareness to the hazards of passing through roadway workzones. When the state legislature was considering passage of Andy's Law, Bill was there to testify in support. The passage of Andy's Law, effective Oct. 1, 2001, increased the penalties and included prison time for motorists who strike and injure or kill road workers.

## Why Bill?

Bill received serious injuries to his legs, pelvis, hands, and face. For weeks after the accident he remained in a coma. He spent months in the hospital enduring several surgeries and

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## Don't Be a Workzone Statistic

In 2001, the most recent year complete figures were available, 1,079 people died across the nation in workzone crashes. Over 40,000 more were injured.

Drivers make up about 80 percent of the fatalities in workzones. In 2001, 150 of the deaths were road workers.

## The Toll Seems to Increase with Each Passing Year

2001	1,079 Workzone Deaths
2000	1,026 Workzone Deaths
1999	872 Workzone Deaths

## When Driving Through Workzones

Stay alert.

Slow down – Observe posted speed limits.

Don't use cell phones.

Eliminate distractions – Eating, drinking, radio, maps.

## When Working In/Next to Roadways

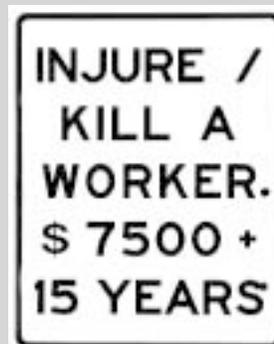
Stay alert to traffic movement.

Advance signing as required.

Use proper tapers and channelization.

Utilize lighting when appropriate.

Consider a shadow vehicle/attenuator as appropriate.



# HEARTLAND HEALTH CARE CENTER—UNIVERSITY A CASE STUDY IN BACK INJURY PREVENTION

Nursing homes and long-term care facilities are taking a new approach to resident transfers to reduce back-related injuries

*By: Suellen Cook, Safety Consultant  
Consultation Education & Training Division*

Nursing homes and long-term care facilities have high nonfatal injury rates when compared to other industries. Providing care to nursing home residents is physically demanding work. Nursing home residents often require assistance to walk, bathe, or perform other normal daily activities.

On average, the incident rate per 100 employees is 14.2 in long-term care facilities, versus 6.7 cases per 100 workers in manufacturing. OSHA research has shown that long-term care workers are injured 51 percent of the time when handling residents, and 42 percent of those recordable injuries are back strains and sprains.



*HCR ManorCare University employees Shirley Whithy and Tiffany Oliver, Restorative Nursing Assistants, are demonstrating a bed-to-chair transfer. Ms. Whithy is demonstrating the Sara lift, and Ms. Oliver is operating the lift assist equipment.*

In response to these rates, a performance objective of the five-year MIOSHA Strategic Plan focuses on nursing homes and long-term care facilities, with the goal of reducing injuries and illnesses in this industry by 15 percent.

The experience of many nursing homes suggests that injury prevention efforts focused on resident lifting and repositioning methods can have success in reducing work-related injuries and associated workers' compensation costs.

Providing a safer and more comfortable work environment has also resulted in additional benefits for some facilities, including reduced

staff turnover and associated training and administrative costs, reduced absenteeism, increased productivity, improved employee morale, and increased resident comfort.

### No-Lift Policy

Heartland Health Care Center (HHCC)—University in Livonia adopted and implemented a no-lift policy for resident transfers in 2000. A no-lift policy means that rather than have staff members manually lift and transfer residents, lift assist equipment is used to minimize or eliminate manual handling whenever possible.

A zero-lift policy is one in which caregivers use lifting devices such as Hoyer lifts, Maxi lifts and/or Sara lifts to transfer residents from the bed to a chair, or from a chair to a toilet. There are lifts that can move residents from the floor to a bed, or even from a bed to a bathtub. These devices minimize exposure to staff members, thus reducing injuries to caregivers' backs and shoulders.

Another valuable benefit is that manual transfers such as a "hook and toss" where caregivers lifted the resident under the armpit area during a transfer have been eliminated. The hook and toss method of transfer exposed residents to shoulder or armpit injuries and also caused skin tears to those residents with fragile skin.

### Corporate Commitment

**Rosalind Ferrone**, Administrator of the 175-bed licensed facility, explains that the extensive safety program and no-lift policy implemented at HHCC—University started with the corporation's philosophy to "keep employees healthy and safe and on the job."

Ms. Ferrone made it clear that there are no budgetary constraints when it comes to employee and resident safety, and that "all HHCC centers strive to be lift free." At Heartland Health Care Center—University, only nine percent of the recordable cases in 2002 were back-related cases, which is significantly below the 42 percent seen in the long-term care industry.

**Valerie Strzelecki**, Assistant Director of Nursing, explained that all staff are oriented

upon hire to the lift assist equipment. Staff members practice lifting and transferring each other safely before ever transferring a resident. Additionally, mandatory in-service training on the lift assist equipment is conducted annually and all staff are tested on their ability when operating the equipment.

Heartland Health Care Center—University has approximately 170 employees, and has the following lift equipment available for staff use: one Maxi lift, three Maxi moves, three Sara lifts, two Encore lifts, one Vander lift, a chair scale and a bath scale. The Vander lift has the ability to transfer residents weighing up to 1000 pounds.

The parent company, HCR Manor Care, is the leading owner and operator of long-term care centers in the United States. They operate more than 500 centers across the nation, the majority of which are under the names Heartland, ManorCare, Arden Courts and Springhouse. HCR Manor Care has a unique "philosophy of care" which has made them one of the most respected names in health care.

### Vendor Assistance

Ms. Ferrone credits part of the success of their program to their vendor representative for lift assist equipment, **Gregg Anderson** of ARJO. Mr. Anderson has conducted extensive assessments and training programs assisting HHCC—University with the implementation of a Back Injury Prevention Program (BIPP).

With BIPP, the ability of the resident is assessed before a lift assist device is assigned. A competency checklist is created for employees and all equipment is physically demonstrated before being released for use in the facility.

In order to meet each resident's individual needs at HHCC—University, stickers are placed on a resident's door to indicate the type of lift assist equipment needed for transfer, such as ML (maxi lift) or SA (Sara lift). Additionally, all slings are color coded to the size of the sling required for that resident, and a color-coded sticker is placed near the resident's name on the door, so the correct sling can be selected for every transfer.

Residents and staff alike are pleased with the results of the policy implemented in 2000. Staff reported fewer injuries and greater ease in lifting residents. Ms. Strzelecki credits the success of the program to the fact that it was not just one person nominated to coordinate the pro-

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## The Bottom Line

## Workplace Safety and Health Makes Good Business Sense

# Aztec Manufacturing Corporation

Aztec Manufacturing Corporation has been a supplier of quality machined parts to the automotive industry for more than a decade. Founded by **President Francis Lopez**, the company has earned a reputation for consistently delivering high-quality components, in high volume, at extremely competitive prices.

Located in Romulus, Aztec operates as a tier-one, full-service supplier of medium- and high-volume machined castings and forgings to the automotive industry. Aztec specializes in designing, prototyping and testing ductile iron and aluminum brackets, mounts, braces, tow hooks and various other components. Aztec's manufacturing capabilities include drilling, tapping, reaming, broaching, milling, welding, light assembly and packaging.

### Aztec Quality Commitment

Aztec is committed to meeting or exceeding their customer's expectations through striving to achieve continuous improvements in: Safety, Quality, Cost, Delivery, Waste reduction, and Pollution prevention.

For Aztec, quality is a continuous process that integrates people and technology. It begins with quality raw materials, and continues through the contribution that each member of their operation makes, from president to machine operator.

Aztec's largest customer, Ford Motor Company, bestowed the prestigious Q1 Certification on the company. In 1997 Aztec earned QS-9000 certification, and achieved ISO-14001 environmental certification in October 2002. These certifications, along with Aztec's product development, engineering and manufacturing support, has qualified Aztec as the Preferred Minority Supplier of machined components to Ford Motor Company.

### Safety a Top Priority

Aztec began to make safety a high priority in 2001 and has seen dramatic results in the past two years. Aztec's commitment to safety is best described in its safety policy statement: "Aztec Manufacturing Corporation believes that employee safety and the prevention of loss is of utmost importance. Our concern for safety exceeds our concern for quality, cost and productivity."

They have developed specific procedures to promote safety continuously. Aztec procedures to combat workplace accidents include: a revamped safety program, continuous safety training, an ergonomics program and a strong commitment by management to make safety a priority.

Their ergonomics program was strengthened through the work of the ergonomics team, which included: workplace accident reviews, creating a mat cleaning rotation, adding tool balances, and adjusting machines to ergonomically fit machine operators. In the

front office, the team helped employees make ergonomic improvements in their workstations, and taught them wrist-strengthening exercises to help prevent carpal tunnel. They also conducted training for all Aztec employees on proper lifting techniques and good ergonomic practices in the workplace.

Aztec Manufacturing requested the assistance of **Suellen Cook**, CET Consultant, in December 1999 to initiate a Safety and Health Development Program (SHDP). An SHDP involves a comprehensive hazard survey, analysis of the written safety and health program, review of injury and illness records, and CET safety and health training for supervisors. **William Griffie**, CET Onsite Consultant, conducted the hazard survey. The SHDP safety and health program review and supervisory training were completed in 2000.

The company also utilized the expertise of **Kathie Vaught**, Worker's Compensation Specialist, with the Michigan Economic Development Corporation, to help them initiate changes to significantly lower their work-comp costs.

Cook nominated Aztec for this column because of management commitment. **Don Crowther**, General Manager, actively supports the HR Department's safety and health strategies. As a result of management commitment and active employee involvement in safety and health, Aztec has experienced a significant reduction in recordable injury and illness cases.



*Aztec machine operator Linda Salisbury is coining two aluminum castings. These products are part of the front suspension assembly platform that Ford Motor Co. uses for the Lincoln Town Car, the Mercury Grand Marquis and the Ford Crown Victoria.*

This column features successful Michigan companies that have established a comprehensive safety and health program which positively impacts their bottom line. An accident-free work environment is not achieved by good luck—but by good planning! Creating a safe and healthy workplace takes as much attention as any aspect of running a business. Some positive benefits include: less injuries and illnesses, lower workers' compensation costs, increased production, increased employee morale, and lower absenteeism.

# Employee Training Raised to New Heights

By: Tom Swindlehurst,  
Construction Safety Consultant  
Consultation Education and Training Division

The steel erection industry has a brighter and safer future thanks to a cooperative effort by the **Great Lakes Fabricators and Erectors Association (GLFEA)**, the **International Union of Operating Engineers (IUOE) Local 324**, the **Ironworkers Local 25**, and several Michigan companies associated with the steel industry.

The effort, known as the **Raising Gang Project**, is a very significant development in the area of construction safety. This achievement is significant not only because of the scale of the project, (in terms of materials, depth and breadth of training, etc.), but also because it is a large step toward creating a safer working environment.

## Simulated On-the-Job Training

The Raising Gang Project is located at Local 324's Journeyman & Apprentice Training Fund's (JATF) Education Center in Howell. The five-story, 50' x 75' x 60' "practice frame" is constructed by apprentices from both the ironworker and operating engineer trades using about 150 tons of structural steel. This huge practice frame is thought to be the largest of its kind anywhere in the world. The practice frame features a different training opportunity on every floor. The five floors were all designed to have different frames, connections, floor systems, truss sizes, and varied combinations of columns, beams,



The Raising Gang Project practice frame allows ironworker trainees to gain first-hand experience in safety techniques, particularly in fall protection.

Photo by: Guy Snyder, Snyco Inc.

brackets, and struts.

The variety of tasks, work areas, and materials allows trainees to gain first-hand experience in the safety techniques used in a number of situations. One of the most important features of the safety training is in the area of fall protection. Fall protection is an extremely important training area because of the prevalence and seriousness of fall-related injuries. Every year, fall protection violations produce more serious injuries than any other violations. Serious injuries or deaths which are the result of falls cost the industry millions of dollars, as well as the lives of many working men and women.

The apprentices working on the practice frame are monitored and guided by older, more experienced workers. One of the greatest benefits of such a pairing is that younger workers learn firsthand the "tricks of the trade," making their work more productive and safer. These experienced workers are a group of retired ironworkers and crane operators who have **volunteered** their time to come back and help train the new apprentices.

Retired ironworker Doug Levack believes that this simulated "on-the-job" training is very beneficial, because learning safe work practices is much more difficult on "real" jobsites. "On-the-job is not the best place to learn safety, because schedule pressures often get in the way," he said.

Another benefit of the project is that ironworkers and operators are trained together, in five-man or "raising gang" teams. The teams consist of four ironworkers and one operator. The joint training is a very important component because, according to one third-year apprentice ironworker, "your life depends on the guy sending steel to you and you have to have a rapport with him." Through joint training activities, the workers can come to a better understanding of how to work together safely.

## New Steel Erection Standard Training

In addition to their on-the-job training, the apprentices receive training in the new steel erection standard prior to beginning work on the project. Their training in the new standard is continued when they start work on the Raising Gang site. The new standard was effective September 18, 2002, meaning that the apprentices are trained in the most up-to-date rules and procedures.

The new standard was a product of what is known as negotiated rule making, which brought together management, labor, and safety staff to develop rules that worked for everyone in the industry. It is important that all apprentices are trained in this standard, because it is far superior to the previous standard. The new standard

requires many additional safety measures, some of which are: certification of proper curing of concrete in footings, piers, etc. for steel columns; heightened crane safety for the steel erection process; minimized employee exposure to overhead loads; four anchor bolts per column, along with other column stability requirements; engineered modification of anchor bolts; fall protection at 15 feet (with two exceptions); and pre-planned site layout to include safe movement of materials, equipment, and personnel. In addition, the standard prescribes the proper procedure for multiple lifts, provides specific work practices regarding safely landing deck bundles, and promotes protection from fall hazards in interior openings.

In the future, the plans for the Raising Gang project include further expansions to include training for many different types of workers, allowing them to work more safely throughout the entire building process. The project will eventually supply trained professionals with hands-on experience for these positions: steel erection personnel, cranes and rigging personnel, inspectors, architects, engineers, and more. The Raising Gang training site has many potential uses. This includes the training of new MIOSHA inspectors at the site and possibly even federal OSHA inspectors. Michigan workers will reap the benefits of this state-of-the-art, one-of-a-kind training tool.

## A Higher Level of Excellence

In an age when we assume we are doing everything we can to help accomplish our safety goals, along comes something new that takes us beyond our limitations and elevates us to a higher level of excellence in training and safety. We have always known that our workers should be highly trained and should know how to do their jobs safely. This project shows us that we need to think outside the box, reach for new heights, strive to be even better than before, and keep going from there. We must keep promoting, developing, and acknowledging new projects of this kind that create highly trained, knowledgeable workers. We as safety professionals need to applaud this project and to give it the recognition it deserves for creating a new paradigm for safety. ■

### Raising Gang Project Contact List

Gerry Mendek GLFEA 313.309.2000	Michael Relyin Ironworkers Local 25 734.421.1050
Sam Hart Local 324 734.462.3660	MIOSHA CET Division 517.322.1809

# Telecommunications Tower Construction

Grant Tower Inc. of Michigan was an Industry Leader in Helping MIOSHA Develop an Experimental Variance to Improve Safety during Telecommunications Tower Construction

By: *Anthony Allam, Supervisor  
Construction Safety Division*

Telecommunications tower construction is a booming industry, however it presents significant fall hazards to construction workers. Advances in telecommunications and an increasing dependence on wireless communication and broadcast services have fueled the construction of communication towers throughout the country.

Industry estimates project the scheduled construction of 10,000 telecommunications towers a year through 2010. With this unprecedented growth, the tower erection industry and the safety and health community have expressed concerns about work practices and the health and safety of tower workers.

Telecommunications towers range from 100 feet to more than 2,100 feet, and the three main forms are: monopoles, guyed towers, and self-supporting towers. Towers are generally manufactured in sections and constructed on site by hoisting and bolting each section together.

For most towers that are constructed onsite, cranes and gin poles attached to the tower being erected are generally used to hoist each section into place. A gin pole is a device unique to the telecommunication tower industry. The gin pole is used to raise successive sections of steel, equipment, or workers into position. This temporary lifting device uses cables and pulleys to allow enough head room to accommodate the length of the next tower section or equipment being installed.

## A Michigan Tower Fatality

According to the National Institute for Occupational Safety and Health (NIOSH): **Workers involved in the construction and maintenance of telecommunications towers are at high risk of fatal falls.** NIOSH fatality investigations suggest that employers, supervisors, workers, tower owners, tower manufacturers, and wireless service carriers may not recognize or appreciate the serious fall hazards associated with tower construction and maintenance. As a result, they may not follow safe work practices for controlling these hazards.

On March 29, 1993, Grant Tower Inc. (Grant, Michigan) employees were erecting a telecommunications tower in Mecosta County. The crew had already set 140 feet of the tower, and were preparing for the next lift. The gin pole, used to hoist the tower sections, was ready to be moved 20 feet up the tower.

An employee had positioned himself on the

pole and planned to ride it up. The gin pole was suspended by a wire rope connected to a drum hoist on the ground. An eye had been formed in the line's end and was attached to the gin pole by a shackle. As the lift began, the eye pulled apart. **The gin pole and the employee fell approximately 104 feet.** The employee was pronounced dead at the scene.

As the Construction Safety Division investigated the fatality, accessing towers and heights became a key issue. The investigation resulted in three Serious (one Willful) citations against the company for violations of Part 10., the Lifting and Digging Equipment Standard, including improper access of the tower. Not using proper fall protection equipment and inadequately trained employees also contributed to the fatality.

Grant Tower Inc. negotiated a formal Settlement Agreement with MIOSHA and worked with Construction Safety staff to identify and implement corrective measures to abate the hazards involved in the fatal accident. The company also agreed to draft and implement a training program regarding future tower construction in compliance with MIOSHA requirements.

## A Proactive Approach

After the issues of the fatality were settled, Terry Sharp, President of Grant Tower, continued to work with MIOSHA to develop a safe method for accessing communications towers. Sharp realized there were other serious issues in connection with hoisting employees from the ground to an elevated workstation, and then back to the ground when the work was completed.

At that time, hoisting an employee on the load line was prohibited by MIOSHA standards. The discussions between Sharp and MIOSHA Construction Safety officials resulted in the development of the first-ever "Experimental Variance" for the MIOSHA program.

The experimental variance was issued in July 1997, and allowed Grant Tower to hoist employees on the gin pole load line, in accordance with mandated stipulations. The variance was effective for three years, during which time MIOSHA monitored the safety benefits and Grant Tower's compliance with the variance.

An experimental variance is authorized by MIOSHA to demonstrate or validate new or improved techniques to safeguard the health or safety of workers. When current standards do not recognize changes in technologies or processes, the experiment may allow the collection of data to support the promulgation of new or

amended standards.

## A National Commitment

**The experimental variance was a huge success!** The dedication of Terry Sharp and MIOSHA to find a safe method for accessing towers was of benefit far beyond Grant Tower's immediate employees. The variance spawned immediate discussions between the National Association of Tower Erectors (NATE) and federal OSHA,



*Workers involved in constructing and maintaining telecommunications towers are at high risk of fatal falls.*

along with MIOSHA officials, to develop a Compliance Directive to address telecommunications tower safety. Sharp is member of the NATE Board of Directors.

In August 1997, OSHA established a Tower Task Force of tower industry employers and employees, OSHA and NIOSH staff, the Army Corps of Engineers, the FAA, the U.S. Navy, and other interested groups involved in tower construction. The MIOSHA program was invited to join the task force because of our proactive work with the industry.

This task force met over the next year and a half, and developed a federal compliance directive, CPL 2-1.29, Interim Inspection Procedures During Communication Tower Construction Activities, which covers access and other lift conditions. The MIOSHA experimental variance was the model for the compliance direc-

*Cont. on Page 19*

# TEEN WORKER SAFETY

When Businesses Provide Young People with Positive, Safe Work Experiences, Everyone Wins!

Each summer, large numbers of young people enter the Michigan workforce—looking for the opportunity to earn money and acquire work skills. It’s important for employers to recognize that youth and inexperience make teen employees one of the most vulnerable classes of workers.

According to the National Institute for Occupational Safety and Health (NIOSH), **every year about 70 teens die from work injuries in the United States.** About 77,000 get hurt badly enough that they go to a hospital emergency room. Only one-third of work-related injuries are seen in emergency departments, therefore it is likely that nearly 230,000 teens suffer work-related injuries each year.

## Preventing Teen Fatalities

As the summer employment season begins, NIOSH fatality reports illustrate the need for vigilance and action to protect teen workers from job-related injury and death. Employers, educators, parents, and government agencies all have important roles in keeping teen workers safe and healthy on the job.

Although many youth are employed in the fast-food and retail industries, teen worker fatalities occur in diverse industries:

- A 16-year-old Michigan worker was fatally shot during a robbery while working alone at a pizzeria.



*MIOSHA co-op students Elissa Gretzner, Charlotte High School, (Left) and Shannon Snyder, Grand Ledge High School, (Right) are seniors and average 25 hours per week in the General Industry Safety Division.*

- A 16-year-old farmworker died in a cotton-packing machine after being covered by a 3,500-pound load of cotton.

- A 16-year-old amusement-park attendant died after being caught and dragged across a concrete floor by an operating amusement ride.

- A 15-year-old campground laborer died after striking a trailer hitch on a camper while operating a utility vehicle in morning clean-up duties.

- Two 17-year-old construction laborers died in separate incidents when the sides of trenches collapsed on them.

- A 16-year-old warehouse laborer died after falling from and being caught under an overturning forklift.

These tragedies underscore the fact that common occupations can be extremely hazardous for adolescent workers. Not only are young workers less mature, and have less judgement and work experience than adult workers, but they are also less likely to challenge their supervisors about dangerous tasks and conditions.

Sixteen- and 17-year-old workers die from the leading causes of work-related fatalities—motor vehicle injuries, job-related homicide, and injuries associated with machinery—at rates comparable to or slightly higher than those for adult workers. Too often, youths under 18 are killed or seriously injured while working in tasks or jobs prohibited by child labor laws, such as operating heavy equipment.

To prevent death and serious injury to teen workers:

- **Employers** need to know the laws covering child labor and safety, and they need to provide safe employment and adequate supervision.

- **Parents** should take an active interest in their children’s employment decisions. They are encouraged to visit the employer and learn what work their child will be doing.

- **Educators** should consider safety when signing work permits and preparing young people for work.

## Assuring Safe Employment

While it is important for young people to have constructive early work experiences, it is equally important that their jobs are safe. The MIOSHA program is committed to assuring the safe employment of young people.

Act 90 (PA of 1978), the Youth Employment Standards Act, provides for the legal employment and protection of youth, 14 through 17 years of age, who work. Youth are restricted in who they may work for and the type of work they may perform. The act is administered by the Office of Investigations and Compliance in

the CIS Bureau of Workers’ and Unemployment Compensation.

## Minors can not work:

- In hazardous industries, including: logging, mining, firefighting, excavation, heavy equipment, meat processing, construction, or in industries wherein they are required to use respiratory equipment;

- In employment which requires them to drive a motor vehicle in the performance of their jobs;

- In employment which requires them to operate power-driven machinery, such as slicers, dough mixers, saws, etc.

Besides these specific restrictions, the general duty clause of Act 90 prohibits employing minors in occupations which are hazardous or injurious to their health or well-being. In addition to these restricted and prohibited occupations, the safety and health standards that apply to adults under the MIOSHA Act (PA 154 of 1974, as amended) also apply to minors.

A work permit is required from the school before a minor may work. During the summer recess school offices are open and able to issue work permits. These permits ensure that the minor’s employment begins safely and legally.

## Conditions for Youth Employment

- 14- to 15-year-old minors cannot work between the hours of 9:00 p.m. and 7:00 a.m.

- 16- to 17-year-old minors cannot work between the hours of 10:30 p.m. and 6:00 a.m.

- Minors who are not attending school may work until 11:30 p.m.

- Combined hours of school and work cannot exceed 48 hours in a work week.

- Minors must be supervised.

- Minors may not work more than five hours without a full, 30-minute rest period.

## Help Available

Employers with wage and hour questions about youth employment or Act 90 can contact the **Office of Investigations and Compliance** at 517.322.1825, or visit their website at [www.michigan.gov/wagehour](http://www.michigan.gov/wagehour).

The **MIOSHA Consultation Education and Training (CET) Division** has consultants available to help employers with a variety of safety and health issues, including safety training for teen workers. To contact the CET Division, please call **517.322.1809**.

Federal **Occupational Safety and Health Administration (OSHA)** has the **Teen Workers** page on their website, [www.osha.gov](http://www.osha.gov),

NIOSH has materials designed specifically for teen workers on their website, [www.cdc.gov/niosh](http://www.cdc.gov/niosh). ■

# Protecting Workers from Heat and UV Hazards

## Exposure to Heat Hazards

Working in hot environments can be dangerous. In many industries, such as laundries, foundries, bakeries and construction projects, workers face conditions that make them especially vulnerable to safety and health hazards. Higher summer temperatures increase those risks.

The combination of heat, humidity and physical labor can lead to fatalities. In 2000, 21 workers died and 2,554 others experienced heat-related occupational injuries and illnesses serious enough to miss work. Additional illnesses may be under-reported if workers and employers are not familiar with the warning signs.

Four environmental factors affect the amount of stress a worker faces in a hot work area: temperature, humidity, radiant heat, and air velocity. Perhaps most important to the level of stress are personal characteristics such as: age, weight, fitness, medical condition and recent experience working in heat. Workers who take certain medications or have certain medical conditions, are also predisposed to heat-related illnesses.

## Heat-Related Illnesses

The two most serious forms of heat related illnesses are **heat exhaustion** and **heat stroke**, which could be fatal. Signs of heat exhaustion or heat stroke need immediate attention. Recognizing those signs and taking quick action, can make a difference in preventing a fatality.

**Heat stroke**, the most serious illness, is caused by the failure of the body's internal mechanism to regulate its core temperature. Sweating stops and the body can no longer rid itself of excess heat. Signs include mental confusion, delirium, loss of consciousness, a body temperature of 106+ degrees, hot dry skin which may be red, mottled or bluish.

**Heat exhaustion** results from the loss of fluid through sweating when a worker has failed to drink enough fluids or take in enough salt, or both. The worker still sweats but experiences extreme weakness or fatigue, giddiness, nausea or headache. The skin is clammy and moist, the complexion pale or flushed.

**Heat cramps**, painful spasms of the muscles are caused when workers quickly drink large quantities of water or an electrolyte solution (sports drink) during or immediately after performing work in the heat.

**Fainting** and **heat rash** can also be caused by the workers body being unable to handle the heat imposed by the environment and the intensity of work being performed.

## Protecting Workers from Heat Exposure

- Encourage workers to drink plenty of water - about 1 cup of cool water every 15 to 20

minutes, even if they are not thirsty - and to avoid alcohol, coffee, tea, and caffeinated soft drinks that dehydrate the body.

- Help workers adjust to the heat by assigning a lighter workload and longer rest periods for the first five to seven days of intense heat. This process needs to start all over again when a worker returns from vacation or absence from the job.

- Encourage workers to wear lightweight, light-colored, loose-fitting clothing. Workers should change their clothes if they get completely saturated.

- Use general ventilation and spot cooling at points of high heat production. Good airflow increases evaporation and cooling of the skin.

- Train first-aid workers to recognize and treat the signs of heat stress and be sure all workers know who has been trained to provide aid. Also train supervisors to detect early signs of heat-related illness and permit workers to interrupt their work if they become extremely uncomfortable.

- Consider a worker's physical condition when determining fitness to work in hot environments. Obesity, lack of conditioning, pregnancy, and inadequate rest can increase susceptibility to heat stress.

- Alternate work and rest periods, with rest periods in a cooler area. Shorter, more frequent work-rest cycles are best. Schedule heavy work for cooler times of the day and use appropriate protective clothing.

- Monitor temperatures, humidity, and workers' responses to heat at least hourly.

## Exposure to UV Radiation Hazards

The arrival of warmer weather also means that an increasing number of workers will be working outdoors and will be exposed to sunlight while doing so. Sunlight is the main source of harmful ultraviolet (UV) radiation, which can cause eye damage, premature aging of the skin, and skin cancers, such as melanoma.

Melanoma accounts for more than three-fourths of skin cancer-related deaths each year, though most skin cancers can be cured if detected early enough. Unprotected employees working in sunlight risk exposure to UV radiation. Outdoor workers with fair skin and hair, freckles, or numerous or irregular moles are especially susceptible to sun damage. Even a few serious sunburns can increase the risk of skin cancer.

## Protecting Workers from UV Exposure

- Wear protective clothing that does not transmit visible light.

- Frequently apply sunscreen with a Sun Protection Factor of 15 or higher.

- Wear broad-brimmed hats that protect the face, ears and neck.

- Wear sunglasses that block UV rays.

- Seek shade, if possible, when the sun's intensity is at its peak-between 10 a.m. and 4 p.m.

- Be aware of the signs and symptoms of skin cancers and see a health-care clinician if an unusual skin change occurs.



*Working outdoors can expose workers to both heat and UV hazards.*

## MIOSHA Requirements

While there are no specific regulations regarding how hot the work environment can be, the MIOSHA General Duty Clause, requires that the employer "must provide a workplace free from recognized hazards." Where workers exposed to heat are: (1) demonstrably ill, and (2) this could be verified by a healthcare professional, and (3) the employer does nothing to alleviate these conditions, an investigation by an Industrial Hygienist from MIOSHA's Occupational Health Division (OHD) could result in a General Duty violation being written.

For assistance in coping with working in Michigan summers contact the **Occupational Health Division** of MIOSHA at **517.322.1608**, or the **Consultation Education and Training (CET) Division** at **517.322.1809**.

Information about heat and sun hazards can be found on OSHA's website, [www.osha.gov](http://www.osha.gov) and at the Centers for Disease Control and Prevention (CDC) [www.cdc.gov](http://www.cdc.gov) and the National Institute for Occupational Safety and Health (NIOSH) [www.cdc.gov/niosh](http://www.cdc.gov/niosh). Information on detecting, preventing and treating skin cancer is also available on the CDC website. ■

# 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.



*Nella Davis-Ray, CET Assistant Chief; Mark Boyer, Plant Manager; Doug Kalinowski, BSR Director; Ted Konkle, Vice President and General Manager.*

## Sheridan Industries, Inc. - Albion

On Nov. 20, 2002, Sheridan Industries, Inc. received the **CET Gold Award**, which recognizes companies for two years without a lost-time accident.

“Sheridan Industries is an outstanding facility that is meeting the challenge facing businesses today of being economically competitive, while still maintaining an accident-free work environment,” said BSR Director, **Douglas J. Kalinowski**.

Kalinowski presented the award to **Ted Konkle**, Vice President and General Manager; **Mark Boyer**, Plant Manager; and employee representatives **Vicky Eagan** and **Curt Ramirez**. All day employees attended the presentation followed by a luncheon.

Sheridan Industries, a QS 9000 certified company, has been in business in Albion over 50 years and is a supplier of components to the exercise and material handling industries.

“Over the last five years we have invested much in training, updating machine guarding and safety controls, and it has really paid off,” said Boyer. “We are also fortunate to have a group of safety conscious employees who dedicated to keeping an accident-free workplace. The employees are ultimately in charge of maintaining a safe environment and they do a great job.”



*Michigan Speaker of the House Rick Johnson, BSR Director Doug Kalinowski, Rexair Vice President of Manufacturing Bruce Schafer, and former CET Safety Consultant Jerry Medler.*

## Rexair Inc. - Cadillac Plant

On March 24th, Rexair Inc.’s Cadillac plant received the **Ergonomic Innovation Award**, which is issued to employers for innovative ideas that have been implemented to reduce worker strain.

BSR Director **Doug Kalinowski** presented the award to **Bruce Schafer**, Vice President of Manufacturing. Following a luncheon, Rexair management and 261 daytime employees were congratulated by **Michigan Speaker of the House Rick Johnson**, (R-102nd District).

“The safer and healthier a company is, the more productive and profitable it will become,” said Johnson. “Businesses can save a lot of money by protecting the safety and health of their employees. I am proud to recognize this outstanding local company that contributes in many ways to our greater Cadillac community.”

“Rexair’s products, which are manufactured in our Cadillac facility, are recognized worldwide as the very best in the cleaning industry,” said **Paul T. Vidovich**, Rexair’s Chairman, President & CEO. “We have the most dedicated, hard working and safety conscious workforce in all of Michigan, and we are very proud of each of them.”

**State Senator Michelle McManus** (R-35th District) sent a letter of congratulations to Rexair. “Businesses like Rexair go the extra mile to improve the quality of their workers’ experiences,” said McManus. “I applaud Rexair’s proactive approach to workplace safety and comfort and believe it is deserving of this high distinction.”

The Cadillac facility employs 300 workers and has made significant ergonomic innovations. In the Electrical Testing Station, employees use two-hand controls to lift the vacuum cleaner units, which weigh up to 15 pounds, and perform the tests. In the Motor Installation Station the vacuum cleaner body slides into position, and a pneumatically raised and lowered motor mounting fixture eliminates the need for lifting the body motor subassembly. In the Bagging Station, the units are bagged and lowered back on the conveyor with a lifting device. Throughout the facility, air operated screw guns are suspended on torque arm counter balancers, which eliminates all torque forces, and foam grips insulate the gun to reduce heat loss to the hand and provide for a better grip.

“Ergonomic injuries and illnesses are a major concern to employers today,” said BSR Director Kalinowski. “We are proud to recognize Rexair’s Cadillac facility for their outstanding efforts to make ergonomic changes to protect employees, and at the same time increase productivity. This just makes good business sense.”

The Rexair Cadillac facility is the manufacturer of the Rainbow® Vacuum Cleaning System. Rexair, Inc. is a multi-national corporation with over 65 years of manufacturing and sales expertise and world-wide distribution to more than 70 countries.



*Among their many ergonomic innovations, Rexair built a pneumatic lifting device for the “Bagging Station” which allows operators to bag and lower the Rainbow without lifting them.*

# Education & Training Calendar

Date	Course Location	MIOSHA Trainer Contact	Phone
<b>May</b>			
20	Workplace Violence Houghton	Dan Maki Philip Musser	906.482.6817
21	Powered Industrial Truck Train-the-Trainer Southfield	Jennifer Clark-Denson Ed Ratzenberger	248.557.7010
28	Ergonomics Mt. Pleasant	Bob Carrier Karen Kleinhardt	989.386.6629
<b>June</b>			
3	Supervisors' Role in Safety & Health Belleville	Suellen Cook Janet Millard	734.697.7151
4	Developing Your Hearing Conservation Program Lansing	Janet Fekete Lansing Safety Council	517.394.4614
10	MIOSHA Standards & Compliance Review/Plastics Industry Clarkston	Richard Zdeb Peggy Desrosier	248.625.5611
10	Power Lockout and Confined Space Entry Dearborn Heights	Linda Long Lisa	313.317.1500
11	Developing Your Hearing Conservation Program Grand Rapids	Janet Fekete Lansing Safety Council	517.394.4614
12	Ergonomics Saginaw	Richard Zdeb Dan Matthews	888.238.4478
12	Safety & Health for Nursing Homes and Long-Term Care Facilities Port Huron	Bernard Sznaider Carter Hitesman	810.982.8016
24	Training Requirements for Construction Midland	Tom Swindlehurst Ron Munson	989.496.9415
25	Challenges in the Plastics Industry Mt. Pleasant	Bob Carrier Karen Kleinhardt	989.386.6629
25	Basics of Industrial Hygiene and Bloodborne Pathogens Grand Rapids	Mike Mealy Diane Phelps	616.331.7180
<b>July</b>			
8	When MIOSHA Visits Livonia	Suellen Cook Cont. Education Services	734.462.4448
9	When MIOSHA Visits Port Huron	Bernard Sznaider Terri Johns	810.985.1869
17	Challenges in the Plastic Molding Industry Traverse City	Doug Kimmel Shelly Hyatt	231.546.7264
23	When MIOSHA Visits Sault Ste. Marie	Dan Maki Cont. Education Services	906.635.2802
<b>August</b>			
5	Part 18 - Overhead Crane Workshop Dearborn Heights	Linda Long Lisa	313.317.1500
7	Supervisors' Role in Safety & Health Saginaw	Richard Zdeb Dan Matthews	888.238.4478
13	Second Annual Mid-Michigan Safety & Health Expo Harrison	Bob Carrier Jay Anderson	989.386.6627
19	MIOSHA Recordkeeping, Accident Inv. & Work-Comp Strategies Ann Arbor	Suellen Cook Ray Grabel	734.677.5259

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).

# Standards Update

## Tunnels, Shafts, Caissons, and Cofferdams

Construction Safety Standard, Part 14., Tunnels, Shafts, Caissons, and Cofferdams, has recently been revised. New amendments were filed with the Secretary of State on February 19, 2003, and became effective February 28, 2003.

These amendments were the result of a citizen advisory committee that worked diligently to revise and improve these rules. This eight-member committee was appointed by the Construction Safety Standards Commission and met monthly through mid 2002, and then again in November, to review and revise this standard.

### Part 14. Advisory Committee

#### Representing Labor

**John Apple**, International Union of Operating Engineers, Local 324  
**Robert Chwalek**, Laborers Local 1076  
**Paul Gassel**, Michigan Laborers' Training & Apprenticeship Institute  
**Joe Wrzesinski**, DeWitt, Michigan

#### Representing Management

**Patricia Bellm**, CNA Insurance, Farmington Hills  
**Joseph Czerak**, Lanzo Construction, Roseville  
**Gary Evans**, Professor, College of Engineering, University of Michigan  
**Robert Patzer**, Associated Underground Contractors, Inc.

#### MIOSHA Staff Committee Consultants

**Rick Mee**, Chief, Construction Safety Division  
**Jim Pike**, Construction Safety Inspector, Construction Safety Division  
**Bob Pawlowski**, Regional Supervisor, Occupational Health Division  
**Marsha Parrott-Boyle**, Standards Specialist, Standards Division

#### CIS Department Liaison

**Norene Lind**, Regulatory Affairs Officer, Policy and Legislative Affairs

### Developing Relevant Revisions

The Part 14. Advisory Committee was committed to developing rule revisions that would improve the standard. Their intent was to produce revisions that would make the standard more relevant and applicable to present-day technology in underground construction, while maintaining safety and health protections for Michigan Workers.

The revisions include provisions that update the standard to reflect current reparatory protections. The changes also include better definitions, which should provide greater clarification, and hopefully reduce confusion for employers and employees. Pipe auguring operations now have more applicable requirements through new amendments that reduce unnecessary requirements.

Efforts were made to increase the standard's readability and to describe provisions with simplicity and clarity, avoiding ambiguity. The committee was also obligated to ensure that the revised Michigan worker protection provisions were "as effective as" current federal OSHA regulations. The agreement with OSHA to administer our own state plan dictates that this measure be addressed by all citizen advisory committees.

As with all rule revisions, you can examine the exact changes by reading the Michigan Register's "strike/cap" version on the Internet at the following location: [http://mi.gov/documents/MR21\\_120102\\_50911\\_7.pdf](http://mi.gov/documents/MR21_120102_50911_7.pdf), pages 23-44.

### Becoming a Part of The Process

We have always felt that our MIOSHA system of using citizen advisory groups to develop standards and rule revisions is the most effective, inclusive and conscientious system. In fact, federal OSHA is beginning to use a similar system that they call "Negotiated Rule Making."

With our advisory committee system you can have input and participate in the process without extensive travel and expense. If you are an expert in an occupation and its hazards and would like to be considered for appointment to a standards advisory committee, contact the Standards Division, 517.322.1845.

*To contact any of the Commissioners or the Standards Division Office, please call 517.322.1845.*

### Construction Safety Standards Commission

#### Labor

**Mr. Carl Davis\*\***  
**Mr. Daniel Corbat**  
**Mr. Andrew Lang**  
 Vacant

#### Management

**Mr. Peter Strazdas\***  
**Mr. Charles Gatecliff**  
**Ms. Cheryl Hughes**  
**Mr. Edward Tanzini**

#### Public Member

**Mr. Kris Mattila**

### General Industry Safety Standards Commission

#### Labor

**Mr. James Baker**  
**Mr. Tycho Fredericks**  
**Mr. John Pettinga**  
 Vacant

#### Management

**Mr. Timothy J. Koury\***  
**Mr. Michael L. Eckert**  
**Mr. Thomas Pytlik\*\***  
**Mr. George A. Reamer**

#### Public Member

**Ms. Geri Johnson**

### Occupational Health Standards Commission

#### Labor

**Dr. G. Robert DeYoung**  
**Ms. Cynthia Holland**  
**Capt. Michael McCabe**  
**Ms. Margaret Vissman\*\***

#### Management

**Mr. Robert DeBruyn**  
**Mr. Michael Lucas**  
**Mr. Richard Olson**  
**Mr. Douglas Williams**

#### Public Member

**Dr. Darryl Lesoski\***

*\*Chair \*\*Vice Chair*

# Status of Michigan Standards Promulgation

(As of April 3, 2003)

## Occupational Safety Standards

### General Industry

Part 08.	Portable Fire Extinguishers .....	Approved by Commission for review
Part 17.	Refuse Packer Units .....	Approved by Commission for review
Part 19.	Crawler, Locomotives, Truck Cranes .....	At Advisory Committee
Part 20.	Underhung and Monorail Cranes .....	Approved by Commission for review
Part 58.	Vehicle Mounted Elevating & Rotating Platforms .....	Approved by Commission for review
Part 62.	Plastic Molding .....	Approved by Commission for review

### Construction

Part 07.	Welding & Cutting .....	Approved by Commission for review
Part 08.	Handling & Storage of Materials .....	Approved by Commission for review
Part 12.	Scaffolds .....	Approved by Commission for review
Part 14.	Tunnels, Shafts, Cofferdams & Caissons .....	Final, effective 2/27/03
Part 16.	Power Transmission .....	Approved by Commission for review
Part 18.	Fire Protection & Prevention .....	Final, effective 9/18/02
Part 25.	Concrete Construction .....	Approved by Commission for review
Part 26.	Steel and Precast Erection .....	Final, effective 9/18/02
Part 30.	Telecommunications .....	Approved by Commission for review
Part 45.	Fall Protection .....	Approved by Commission for review
Ad Hoc	Communication Tower Erection .....	Approved by Commission for review

## Occupational Health Standards

### General Industry

Part 350.	Carcinogens R 2301-2302 .....	Final, effective 9/27/02
Part 431.	Hazardous Work in Laboratories .....	Informal draft submitted to ORR
Part 501.	Agricultural Operations .....	Final, effective 12/11/02
Part 525.	Grinding, Polishing & Buffing .....	Final, effective 4/1/03
Part 700.	Agriculture .....	Informal draft submitted to ORR

### Construction

Sanitation for Construction R 6615 .....	Consolidated with CS Part 1
Illumination for Construction R 6605 .....	Consolidated with CS Part 1

## Administrative Rules

Part 11.	Recording and Reporting of Occupational Injuries and Illnesses .....	Final, effective 12/3/02
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*The MIOSHA Standards Division assists in the promulgation of Michigan occupational safety and health standards. To receive a copy of the MIOSHA Standards Index (updated March 2003) or for single copies and sets of safety and health standards, please contact the Standards Division at 517.322.1845.*

RFR Request for Rulemaking  
 ORR Office of Regulatory Reform  
 LSB Legislative Services Bureau  
 JCAR Joint Committee on Administrative Rules

# Variations

Published May 12, 2003

Following are requests for variances and variances granted from occupational safety standards in accordance with rules of the Department of Consumer & Industry Services, Part 12, Variations (R408.22201 to 408.22251).

## Variations Requested Construction

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

Part 32 - Aerial Lift Platforms: R408.43202, Rule 3202

### Summary of employer's request for variance

To allow employer to use an aerial lift to elevate materials that extend outside the platform under controlled conditions.

### Name and address of employer

Target Const. Inc.

### Location for which variance is requested

Grand Rapids Convention Center (DeVos Place), Grand Rapids

## Variations Granted Construction

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

Part 32 - Aerial Lift Platforms: R408.43209, Rule 3209 (8)

### 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

Central Interiors, Inc.

### Location for which variance is requested

Kettering University Mechanical & Chemistry Bldg., Flint

### Name and address of employer

Goyette Mechanical

### Location for which variance is requested

Kettering University Mechanical & Chemistry Bldg., Flint

## Variations Revoked General Industry

### Part and rule number from which variance was granted

Part 24, Mechanical Power Presses Rule 2431(1)

### Summary of variance

Allows for alternatives to a required single stroke mechanism on full revolution clutch presses located in Departments 401, 402, 403, 404, 406 and 457.

### Name and address of employer

Kelsey-Hayes Company, Romulus

### Location for which variance was granted

Same

### Reason for revocation

Unable to locate employer

### Part and rule number from which variance was granted

Part 19, Crawler, Locomotive & Truck Cranes Rule 1934(2)

### Summary of variance

Allows for an operator to move a load or hook if an employee is on it, and defines an acceptable work platform.

### Name and address of employer

Ladbroke DRC, Livonia

### Location for which variance was granted

Same

### Reason for revocation

Unable to locate employer

### Part and rule number from which variance was granted

Part 7, Guards for Power Transmission Rule 716

### Summary of variance

Describes conditions that allow alternatives to a chain gathering basket on a powered overhead hoist in the auto clave area

### Name and address of employer

Laminated Glass Corporation, Detroit

### Location for which variance was granted

Same

### Reason for revocation

Unable to locate employer

### Part and rule number from which variance was granted

Part 44, Foundries Rule 4465, 4466(2)

### Summary of variance

Alternatives to two hand controls are defined for 3 Tabor squeeze and jolt machines.

### Name and address of employer

Lincoln Brass Works, Detroit

### Location for which variance was granted

Same

### Reason for revocation

Unable to locate employer

### Part and rule number from which variance was granted

Part 44, Foundries Rule 4465

### Summary of variance

Alternatives to required two hand controls are defined for 7 Osborn #275J squeeze molding machines and 2 type CK British molding machines.

### Name and address of employer

Littite Foundries, Inc., Port Huron

### Location for which variance was granted

Same

### Reason for revocation

Unable to locate employer

### Part and rule number from which variance was granted

Part 24, Mechanical Power Presses Rule 2412

### Summary of variance

Allows for pre-use inspections of parts and auxiliary equipment on one Toledo Press #6432 in lieu of the required periodic inspection, as long as this machine is used on a defined limited basis.

### Name and address of employer

Koehler Bros. Steel Works, Saginaw

### Location for which variance was granted

Same

### Reason for revocation

Unable to locate employer

### Part and rule number from which variance was granted

Part 1, General Rules Rule 36(1)

### Summary of variance

Defines alternative to the 30 pound air pressure restriction at the discharge end of a portable air blow gun or portable air hose for 2 nozzles at the rewinder, 1 nozzle at the die press and 1 nozzle on the paper machine.

### Name and address of employer

James River Corporation, Rochester

### Location for which variance was granted

Same

### Reason for revocation

Unable to locate employer

### Part and rule number from which variance was granted

Part 17, Refuse Packer Units Rule 1731(4)

### Summary of variance

Defines an alternative to the required constant pressure switch on one cardboard bailer (refuse compactor on the first floor).

### Name and address of employer

Hamady Perishable Warehouse, Flint

### Location for which variance was granted

Same

### Reason for revocation

Unable to locate employer

### Part and rule number from which variance was granted

Part 17, Refuse Packer Units Rule 1731(4)

### Summary of variance

Defines an alternative to the required constant pressure switch on one cardboard bailer at each listed location.

### Name and address of employer

Hamady Brothers, Flint

### Location for which variance was granted

Various stores in Genesee County

### Reason for revocation

Unable to locate employer

## Veltri Metal Products

*Cont. from Page 1*

MIOSHA inspection targeting program that looks at: individual site history, past MIOSHA experience, and high-hazard industries targeted under the Strategic Plan. That inspection resulted in citations issued for 56 Serious violations, three Willful violations, and 35 Other-than-Serious violations. The total initial proposed penalty was \$201,000.

### Settlement Agreements Require Hazard Abatement

The firm appealed the citations and a formal settlement agreement was reached in late 2001. The settlement included agreements for abatement of hazards, reductions in penalties and amending the Willful violations to unclassified violations. It also contained additional obligations by the company to improve overall safety and health for the employees. The obligations included work to strengthen lockout procedures and training, mechanical power press safety, and confined space training. The penalty was reduced by \$96,500, to a total of \$104,500.

A follow-up inspection was conducted at the facility between Nov. 8 and Dec. 16, 2002, to check on efforts to abate hazards from the scheduled inspection and the progress toward the additional obligations. The MIOSHA program issued four Fail to Abate Notices with penalties of \$268,800 after the follow-up investigation. Despite a formal settlement agreement from the inspection conducted in 2000, the follow-up inspection found that the firm refused to abate identified hazards. Specifically, the company failed to plan for and protect employees during confined space entry, failed to ensure adequate procedures for mechanical power presses, and failed to conduct inspections of its energy control (lockout) procedures.

In addition, during the follow-up inspection, new violations were noted including: three Willful violations for inadequately guarding mechanical power presses; two Serious violations for lack of fall protection for employees working on top of mechanical power presses and lack of training for maintenance personnel; and eight Repeat-Serious violations for previously cited items including housekeeping, conveyor and shear guarding, personal protective equipment, exposed live electrical parts, lack of enforcing or providing adequate training for machine lockout, and inadequate employee right-to-know training. These additional violations carry proposed penalties of \$325,200.

Finally, the firm failed to comply with provisions of the formal settlement agreement to resolve the 2000 inspection. The agreement called on Veltri to improve overall safety and

health for employees by working to strengthen lockout procedures and training, mechanical power press safety, and confined space training. The agreement included a reduction in the initial assessed penalty of \$96,500; however, this reduction has been revoked due to noncompliance with the terms of the agreement.

### Failure to Protect Workers Adds \$690,500 Penalty

The Fail to Abate notices (\$268,800), new violations (\$325,200), and the additional penalty from the settlement rescission (\$96,500), add up to a total penalty of \$690,500. If Veltri Metal Products had fulfilled their abatement obligations under the settlement agreement, their total penalty would be \$104,500. Because of their refusal to protect their workers, the company faces an additional penalty of \$690,500.

MIOSHA set up a payment plan for the original \$104,500 penalty, of two payments of \$52,250. The first payment was due March 10, 2002, and was paid by the company. The second payment was due March 10, 2003, and was received March 6, 2003.

The company has 15 working days from receipt of the citations and notices, to comply or contest the violations and penalties. Working through an attorney, the company appealed all aspects of the citations in letters dated March 18, 2003, and postmarked March 19, 2003.

### MIOSHA Help for High-Hazard Industries

The **MIOSHA Strategic Plan\*** was developed to direct compliance and outreach resources toward establishments that have the most problems, and to avoid inspecting those that are providing a safe and healthful work environment. The MIOSHA program has significant outreach and training services available to high-hazard companies that have the greatest needs.

Employers are encouraged to analyze their workplace to develop and adopt a comprehensive safety and health program that addresses their specific hazards and needs. The **Consultation Education and Training (CET) Division** has developed seminars, training activities and other material to provide information on workplace safety and health requirements and best industry practices.

#### CET Seminars

The CET Division offers more than 38 specific safety and health seminars to employers. CET seminars of benefit to high-hazard industries include:

#### Accident Investigation and Job Safety Analysis

This workshop presents the basic elements of safety diligence through worksite analysis, housekeeping, preventive maintenance, management commitment, and

MIOSHA compliance within the framework of accident investigation techniques.

#### Confined Space Entry

This program is designed to enable participants to identify confined spaces, determine appropriate entry procedures and develop employee training programs.

#### Ergonomics: Industrial

This program gives direction to employers who want to establish an ergonomic program in the manufacturing environment.

#### Lockout (Control of Hazardous Energy Sources)

This seminar covers the requirements of the Lockout standard, Part 85., Control of Hazardous Energy Sources. Topics include the recognition of energy sources, creation of written programs, employee training, annual inspections and normal production operation exemptions.

#### Machine Guarding for Manufacturing

This program covers the basic types of machine safeguards, including: fixed barrier, interlock and adjustable guards. Devices such as two-hand controls, light curtains, laser scanners, safety mats and radio frequency are discussed. Job Safety Analysis is emphasized as a tool to recognize the hazards presented by machines and to aid in the selection of appropriate safeguarding means.

#### Safety and Health Management: Building an Effective System

This seminar focuses on the key elements of a safety and health program necessary for an effective comprehensive system: management commitment, employee involvement, workplace analysis, hazard recognition and control, and safety and health training.

In addition, employers can request a visit from a safety or health consultant to provide training, review programs and make recommendations for improvements. Consultation and training activities are free, voluntary, and performed by a staff separate from the enforcement system.

This issue of the MIOSHA News features two employers who have used MIOSHA CET services to reduce their injury/illness rates and to provide a safe and healthy work environment. **Aztec Manufacturing Inc.** began to make workplace safety a priority two years ago and has seen dramatic results, see *The Bottom Line* on page 7. The **Rexair Inc.** Cadillac facility has made significant ergonomic improvements and received the *Ergonomic Innovation Award*, see page 12.

We urge employers to take advantage of the MIOSHA services available to protect their workers. To learn more about CET services, please contact the **CET Division at 517.322.1809**, or visit our website at: [www.michigan.gov/miosha](http://www.michigan.gov/miosha).

\*The *MIOSHA Strategic Plan* is available on the bureau website at the above address. ■

## Nursing Home Case Study

Cont. from Page 6

gram. Instead, the success of this new policy can be attributed to the fact that it was an interdisciplinary effort, implemented with a team of staff, management, residents and vendors all working together to create the safest work environment possible.

### Ergonomics Guidelines for Nursing Homes

Federal OSHA issued ergonomics guideline for the nursing home and long-term care industry on March 13, 2003. The publication, *Guidelines for Nursing Homes: Ergonomics for the Prevention of Musculoskeletal Disorders*, is available in a downloadable .pdf format on OSHA's website at [www.osha.gov](http://www.osha.gov).

OSHA's Ergonomics Guidelines for Nursing Homes focus on practical recommendations for employers to reduce the number and severity of workplace injuries by using methods found to be successful in the nursing home environment.

The guidelines are divided into five sections: developing a process for protecting workers; identifying problems and implementing solutions for resident lifting and repositioning; identifying problems and implementing solutions for activities other than resident lifting and repositioning; training; and additional sources of information.

OSHA emphasizes that specific measures or guideline implementations may differ from site to site. Still, the agency recommends that all facilities minimize manual lifting of residents in all cases, and eliminate such lifting when feasible.

Further, OSHA encourages employers to implement a basic ergonomic process that provides management support while involving workers, identifying problems and implementing solutions, addressing reports of injuries, providing training and evaluating ergonomics efforts.

"Nursing home workers are suffering too many ergonomics-related injuries," OSHA Administrator **John Henshaw** said. "But, the experiences of many nursing homes provide a basis for taking action now to better protect these workers. These guidelines reflect best practices for tackling ergonomic problems in this industry."

### MIOSHA Help Available

The **Consultation Education and Training (CET) Division** spearheaded an extensive outreach program for nursing and personal care facilities in conjunction with the MIOSHA Strategic Plan.

CET staff are available to assist nursing homes and long-term facilities in hazard prevention, ergonomics and back injury prevention, bloodborne infectious diseases, personal protective equipment, tuberculosis prevention, and other safety and health issues affecting this industry.

CET services are available to Michigan employers at no cost. For further information or assistance, please call **517.322.1809**. ■

## Workzone Tragedy

Cont. from Page 5

recovering enough just to return home. Physical therapy has helped him begin to walk again with the help of a cane. There is still a lot of medical attention and healing ahead for him as he struggles to regain better use of his legs and other physical functions.

The question I keep asking myself is, "Why Bill? How could a person who has done so much to improve the safety of traffic in workzones be the victim of the very hazard he worked so tirelessly to eliminate?" Bill has not expressed that thought to me, but surely he did not deserve the adversity that befell him.

His spirit, however, has not been dampened. Even when I visited him in the hospital, his resilience moved me. Feeling pain for his condition, I expected to try to cheer him up with my visit. Although after many weeks he still laid in bed in a cast, jaw wired, tubes and wires still connected, it was mostly Bill who cheered me up.

In January, Bill was well enough to attend the Michigan Road Builders Association Annual Meeting in Mt Pleasant. After helping him climb to the podium, governor Jennifer Granholm presented Bill with the MRBA's Pioneer Award in recognition of his contributions to workzone safety.

Surely, Bill survived this tragedy to help us all remember our responsibility to do our part for safety in roadway workzones. The weather is warming and road construction is as perennial as the grass. As you work in the roadway or drive through the workzones this construction season, please remember Bill. Remember the tragedy that can result from improper setup of traffic controls or driving inattentively through a construction zone.

If all of us did our part to properly setup and maintain workzones or drive through them safely, the season would end without a tragedy this year. Neither Bill nor any road worker should need to ask, "Am I going to arrive home safe and whole tonight?" ■



*Although he has many operations ahead of him, Bill Hattan was able to accept the MRBA Pioneer Award from Governor Granholm in January.*

## Asthma & Cleaning Agents What You Need To Know!

Asthma is a serious chronic disease of the lungs that is caused by swelling (inflammation) in the airways. There is no cure for asthma, but it can be prevented and controlled with proper care.

There are hundreds of known causes of work-related asthma. Each year in Michigan, about 150 new cases of asthma caused by exposures to substances at work are reported to MIOSHA.

Over 350 substances that can cause asthma in the workplace have been identified, and the list continues to grow. Even very low levels of exposure to some of these substances can aggravate or cause asthma.

You might not expect it, but chemicals we use to clean at work can cause asthma. All sorts of workers like janitors, office workers, and hospital workers can be affected. We use cleaners to disinfect surfaces and control mold and dust. But some people who work where those cleaners are used can get breathing problems from them.

The Michigan State University, College of Human Medicine, **Division of Occupational and Environmental Medicine**, has recently produced a brochure on "Asthma & Cleaning Agents." To get a copy of the brochure, call **517.353.1955**, or visit their website at [www.chm.msu.edu/oem](http://www.chm.msu.edu/oem).

For more information on asthma, visit the website of the **Asthma Initiative of Michigan** at [www.getastmahelp.com](http://www.getastmahelp.com), or call **866.395.8647**.

## Lockout-Tagout

*Cont. from Page 4*

85 and Part 40. In these cases, the lockout requirement of the specific standard preempts the tagout option contained in Part 85. The procedural and training requirements of Part 85 continue to apply as well as so that the end result is a complete program for protecting employees from energy hazards.

### Partial Exemption

Employers must put in place procedures for lockout if employees are engaged in activities covered by the standard. Generally, lockout procedures must be documented—in writing. However, the standard provides a partial exemption from the requirement to have procedures in writing when eight specific criteria are met. Equipment must still be locked out following established procedures. The eight criteria are:

1. The machine/equipment has no potential for stored or residual energy after shutdown that would endanger an employee.
2. The machine or equipment has a single energy source that is identifiable and capable of isolation.
3. The isolation and lockout out of that energy source will completely de-energize and deactivate the machine or equipment.
4. The machine or equipment is isolated from that energy source and locked out during service or maintenance.
5. A single lockout device will achieve a locked out condition.
6. The lockout device is under the exclusive control of the authorized employee performing the service or maintenance.
7. The servicing or maintenance does not create hazards for other employees.
8. The employer utilizing the exception has had no accidents involving the unexpected activation or energization of the machine or equipment during service or maintenance.

### Cord and Plug-Connected Equipment

In nonmanufacturing settings, cord and plug-connected equipment is frequently used. Examples include grinders and saws in meat markets and grocery stores, mixers in bakeries, washing machines at nursing homes, or vacuum cleaners used in offices.

The lockout standard allows unplugging as an alternate means of protecting employees performing covered tasks if the employer has taken some key steps. These steps are evaluating the equipment, training the employees, and supervising the employees to insure compliance.

For cord and plug-connected equipment to qualify for this exemption, the employer must evaluate each piece of equipment to insure that unplugging, following a normal shut down, controls all hazards of unexpected energization or start-up of equipment. The cord and plug must be arranged so that it is possible for the employee

doing the task to maintain exclusive control of the unplugged cord. This means that the employee needs to be able to follow the cord from the equipment to the plug and after unplugging, keep the plug in plain sight and within arms reach while performing the task.

Employee training must stress:

- Exactly which equipment is covered by this exemption,
- The need to test the equipment after unplugging,
- The need to continuously monitor the plug while performing the task, and
- Which tasks are allowed under this exemption.

For example, a meat cutter might be allowed to use this technique while cleaning a large meat cutting band saw, but maintenance personnel rebuilding the same saw might require other procedures to be followed to protect them from the hazard of compressed springs.

Since this exemption is one hundred percent dependent on employee compliance, adequate supervision is essential. Many routine cleaning tasks are conducted this way, and any cleaning task in the vicinity of the operating control has the risk of inadvertent operation of the control. Thus each and every failure to follow the procedure might lead to an employee injury.

### Training

Training for employees must cover, at a minimum, the following three areas: the energy control program, elements of energy control procedures relevant to employee duties, and applicable requirements of the Lockout standard. The standard provides for three levels of training which depend on the duties assigned to the employee.

**1. Authorized employees** are those who have received proper training and will be authorized to perform lockout in the facility. These employees must be trained to recognize the location, type, and magnitude of potential hazardous energy sources in the workplace; the proper lockout/tagout procedures to use; the proper lockout/tagout devices (and any related equipment) to use; how to properly remove lockout devices; and an explanation of the applicable MIOSHA standards.

**2. Affected employees** are those who work in areas where equipment will be locked out. These employees need to understand the purpose and use of lockout. Training for affected employees must include: The purpose of the lockout procedures, when and why lockout procedures are used, an understanding that tampering with lockout equipment is prohibited.

**3. Other employees** are any other people whose work operations are, or may be, in an area where energy control procedures may be utilized. For these employees, training must include instruction on the employer's lockout procedures and be aware that they must not attempt to restart or re-energize machines or equipment

that are locked out or tagged out of service.

### Periodic Inspections

Periodic inspections of lockout procedures must occur annually. Periodic inspections must, at a minimum, provide for a demonstration of the procedures and may be implemented through random audits and planned visual observations. These inspections are intended to ensure that the energy control procedures are being properly implemented and to provide an essential check on the continued utilization of procedures.

Whether you are a small grocery, bakery, a warehouse facility, hospital, public works department or any of the other hundreds of kinds of businesses in Michigan—if you require employees to perform servicing or maintenance, remove or bypass guards to perform tasks, place any part of their body in the point of operation of equipment or a machine or be exposed to associated danger—you must take steps to safeguard your employees through effective implementation and use of lockout procedures.

Assistance in establishing or strengthening your lockout-tagout program is available by contacting the **Consultation Education and Training Division** at (517) 322-1809. Consultants are available to work with employers at their workplace. In addition, an excellent resource, the **Lockout-Tagout Compliance Guide, SP-27**, is also available in hard copy from the division. ■

### Tower Construction

*Cont. from Page 9*

tive, which became effective Jan. 15, 1999. The directive provides for uniform enforcement of regulations and policies in the tower industry.

OSHA's Region V formed a partnership with the National Association of Tower Erectors in July 2002, to provide a safe and healthful work environment for employees involved in the tower erection industry. The partnership also addresses accident prevention through increased training, implementation of best work practices, enhanced safety and health programs, and compliance with applicable standards and regulations.

NATE member companies expect to reduce exposure to hazards, and the incidence of serious injuries and fatalities at tower sites. The partnership provides incentives to participating companies who maintain comprehensive safety and health programs, along with employee involvement in the day-to-day implementation of worksite safety practices.

Tower erection remains a very hazardous industry. The partnership between the tower industry, MIOSHA and OSHA has improved safety and health conditions for employees and has fostered an environment of cooperation that will continue to protect workers in the future.

*Author Tony Allam represented MIOSHA on the federal Tower Task Force that developed the compliance directive.* ■

# How To Contact MIOSHA

**MIOSHA Complaint Hotline** 800.866.4674  
**Fatality/Catastrophe Hotline** 800.858.0397  
**General Information** 517.322.1814  
**Free Safety/Health Consultation** 517.322.1809

**Director** 517.322.1814 **Doug Kalinowski**  
**Deputy Director** 517.322.1817 **Martha Yoder**

DIVISION	PHONE	CHIEF
Appeals	517.322.1297	Diane Phelps
Construction Safety	517.322.1856	Rick Mee
Consultation Education & Training	517.322.1809	Connie O'Neill
Employee Discrimination	248.888.8777	Jim Brogan
General Industry Safety	517.322.1831	Jim Gordon (Acting) Eva Hatt (Acting)
Information	517.322.1851	Martha Yoder (Acting)
Occupational Health	517.322.1608	John Peck
Standards	517.322.1845	Marsha Parrott-Boyle (Coordinator)

**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 and provide us with your mailing address. 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.

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**Consumer & Industry Services  
 Bureau of Safety & Regulation  
 Director: Douglas J. Kalinowski**

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