

FORD FIELD FATALITY

Worker Death at Ford Field Results in MIOSHA Penalties Totaling \$556,000 against Thomarios Painting and Brockman Equipment

On May 16, 2003, Michigan Department of Consumer and Industry Services (CIS) Director **David C. Hollister** announced the conclusion of the nine-month MIOSHA investigation of a fatal work accident at Ford Field with citations and penalties against **Brockman Equipment, Inc.** for \$286,000, and **Thomarios Painting** for \$270,000.

The MIOSHA investigation found that both Thomarios Painting and Brockman Equipment abrogated their responsibility to protect workers painting the trusses at Ford Field. Thomarios Painting was a subcontractor on the Lions' Ford Field stadium construction site. Brockman Equipment, Inc. rented two aerial lifts to Thomarios, including a Condor 150S aerial work platform with an articulating and extensible boom.

The Ford Field Fatality

On July 30, 2002, Thomarios painter **Gjon Gojcaj** was in the Condor and was painting trusses more than 120 feet above the surface on the east side of the stadium. At about 10:15 a.m.,

the outrigger of the Condor lifted off the ground for the second time and the lift fell to the east, landing in the lower concrete seating area and fatally injuring Gojcaj.

"Ford Field is a shining gem for the Detroit Lions and for the city of Detroit. It saddens us deeply that its construction legacy includes the death of worker Gjon Gojcaj," said **Governor Jennifer M. Granholm**. "This needless tragedy could have been avoided if either company had fulfilled their safety and health responsibilities."

While Gojcaj was painting the trusses on the morning of July 30th, a Thomarios foreman and a Hunt/Jenkins (general contractor) concrete superintendent were discussing the use of mats under the Condor's outriggers. During their conversation, both men observed one of the Condor's rear outriggers raise approximately 10 inches off the surface. This presented an **imminent danger** for the painter on the Condor work platform. Based on the MIOSHA General Duty clause, at this point

the foreman should have stopped all operations and attempted an immediate rescue of the worker.

Instead the foreman told Gojcaj to finish what he was doing, and then come down slowly and get ready for the next move. As Gojcaj moved the Condor, the entire machine fell over. The concrete superintendent recognized that the outrigger movement didn't look right, and was in the process of contacting Hunt/Jenkins management when the Condor fell.

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Painter Gjon Gojcaj was painting trusses at Ford Field from an aerial lift, when the lift fell into the lower concrete seating area, fatally injuring Gojcaj.

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Michigan Department of
Consumer & Industry Services
Bureau of Safety & Regulation

From the Bureau Director's Desk



Directing Resources to Reduce Ergonomic-related Injuries and Illnesses

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

In Michigan in 2002, there were about 60,000 injury and illness claims processed by the Bureau of Workers and Unemployment Compensation. Nearly half of these claims were related to musculoskeletal disorders (MSDs). Most included claims for work-related injuries and illnesses to backs, wrists, shoulders, elbows and necks.

The U.S. Department of Labor estimates that the average direct costs for such claims are more than \$10,000 per claim. When the indirect costs (lost time, replacement workers, loss of productivity, etc.) are added to the direct costs, the total cost to the employer can be anywhere from two to four times this figure—or \$20,000 to \$40,000 per claim!

What do these numbers mean to employers? They mean that if you have a problem with MSDs in your workplace, you need to address that problem.

Solving Ergonomic Problems

The solutions to help fit a job to the various sizes and shapes of workers are often not difficult and not costly, yet the benefits are remarkable. However, identifying and maintaining long-term answers to ergonomic issues requires a strong commitment and continuous efforts by both employers and employees. Many employers have shown that they can have a significant impact on the reduction in MSD injuries and illnesses and a comparable impact on the bottom line.

An ergonomics program can dramatically:

- Reduce injuries,
- Cut workers' compensation costs,
- Increase productivity, and
- Decrease employee turnover.

As described on Page 5 in this issue, **Lacks Enterprises, Inc.** of Grand Rapids, initiated an aggressive approach in 1996 to address the injuries and illnesses associated with how employees perform their work. This required a substantial commitment from the CEO, the plant managers and from every employee in the corporation.

In 1996, Lacks' employees experienced more than 60 ergonomics-related cases. This figure has declined each year to the point where there have been no claims thus far in 2003. In addition, Lacks estimates that the prevention of ergonomic-related disorders has resulted in a **net** savings to the company of more than \$900,000! These reductions are clearly remarkable.

Many other companies in Michigan have made comparable commitments and efforts to reduce ergonomic injuries and illnesses and have seen reductions in MSDs and related costs. Since 2000, the outstanding companies below have received a MIOSHA Ergonomic Award:

- **Rexair Inc.**, Cadillac, March 24, 2003;
- **Rohm and Haas Company**, Manistee, July 11, 2002;
- **L & L Products Inc.**, Romeo, June 18, 2002;
- **Fernco Inc.**, Davison Plant, March 11, 2002;
- **Wolf Aircraft Products**, Romulus, May 2, 1002;
- **Radar Industries**, Warren, March 7, 2001;
- **Brasscraft Manf. Co.**, Brownstown Plant, September 18, 2000.

Focusing Resources on Ergonomics

The MIOSHA Program has made the reduction in ergonomic-related injuries and illnesses a priority for many years. It has been a priority in the current and forthcoming five-year strategic plans. We have directed resources for outreach, education and training, consultations and enforcement.

Federal OSHA has also directed resources to address ergonomic issues. On March 13, 2003, OSHA published final ergonomic guidelines for the nursing home industry. OSHA has published draft ergonomic guidelines for retail grocery stores and the poultry processing industry. They are currently working on guidelines for the shipyard industry.

To date, OSHA has 12 strategic partnerships and 14 national alliances focused on ergonomics. They also have an extensive web page, www.osha.gov, devoted to ergonomics, including interactive software to help employers find practical solutions that have worked for others.

Exploring an Ergonomic Standard

In Michigan, MIOSHA rules that differ from those promulgated by federal OSHA are proposed and drafted by three standards commissions: the General Industry Safety Standards, Occupational Health Standards, and Construction Safety Standards Commissions. The MIOSHA Act requires that such rules be assembled by advisory committees, appointed by the commissions and with representatives of the effected groups.

Last year, the Occupational Health Standards and General Industry Safety Standards Commissions formed a steering committee to explore a simple framework for possible rules to address ergonomic-related injuries and illnesses. This group is currently assembling an advisory committee to further evaluate and consider whether a standard should be pursued, and if so, what rules would be pertinent.

We expect deliberations regarding the feasibility of an ergonomic standard will take some time to complete. During that time, the MIOSHA Program will continue to emphasize this important workplace safety and health issue through a variety of approaches.

Providing Ergonomic Services

The Consultation, Education and Training (CET) Division recognizes the achievements of Michigan employers through the MIOSHA Ergonomic Innovation and Ergonomic Success Awards. These awards recognize employers who have implemented innovative and proactive approaches to reduce worker strain. Employee involvement is required.

The CET Division also provides training opportunities through seminars and in-house training programs to familiarize employers and employees with the basic principles of sound ergonomic design and practices. In addition, CET consultants are available to provide on-site consultations on specific ergonomic-related issues.

Ergonomics is an issue that we must all address. I encourage you to be proactive by assessing your workplace and taking the necessary steps to ensure that all workers can perform their jobs in a safe and healthful way.

Douglas J. Kalinowski

Congratulations Johnson Technology!

Johnson Technology, Inc.'s Latimer Plant in Muskegon received the prestigious MVPP Star Award for their outstanding commitment to workplace safety and health

On July 9th, Johnson Technology, Inc.'s Latimer Plant in Muskegon became the eighth facility in the state to receive the prestigious Michigan Voluntary Protection Programs (MVPP) Star Award for workplace safety and health excellence. CIS Director **David C. Hollister** presented the Star Flag at a special ceremony today on behalf of the Michigan Department of Consumer & Industry Services (CIS).

"I am honored to welcome Johnson Technology's Latimer Plant into this exceptional group of Michigan companies who represent the 'Best of the Best' in workplace safety and health," said Hollister. "The Latimer plant has created a work environment where everyone accepts responsibility for safety, every day. We applaud the safety and health diligence exhibited at this facility."

Recognizing Excellence

The CIS Bureau of Safety and Regulation is responsible for the Michigan Occupational Safety and Health Act (MIOSHA) program. MIOSHA established the MVPP program to recognize employers actively working toward achieving excellence in workplace safety and health. It was developed in 1996 to reward worksites that develop and implement outstanding safety and health programs that go beyond MIOSHA standards.

CIS Director Hollister presented the MVPP Star Flag to **David M. Yacavone, President**, who accepted the award on behalf of all Johnson Technology's 477 associates. Employees raised the MVPP Star Flag during the ceremony.

The following state and local elected officials were on hand to congratulate Johnson

Technology employees and management on their outstanding achievement:

■ **Senator Gerald R. Van Woerkom (R)** Dist. 34;

■ **Representative Julie Dennis (D)** Dist. 92;

■ **Muskegon Mayor Steve Warmington;**

■ **Norton Shores Mayor Nancy Crandall;**

■ **Cindy Larsen, President, Muskegon Area Chamber of Commerce.**

"We are extremely proud of this achievement, which recognizes each and every Associate who worked so hard to qualify for Star status," said Yacavone. "This is the ultimate demonstration of Johnson Technology's commitment to our workers' safety and health, while at the same time making the company more competitive."

Reducing Injury & Illness

The Johnson Technology Latimer Plant's **Incidence Rates** and **Lost Work Day Rates** are well below the Michigan average for their SIC code 3724, Aircraft Engines and Engine Parts. The Total Case Incidence Rate for the Latimer Plant was 4.8 in 2000, 2.9 in 2001, and 2.2 in 2002—compared to 12.6, 11.8, and 11.8, respectively, for the Bureau of Labor Statistics (BLS) industry average. The Total Lost Work Day Cases for the Latimer Plant was 2.0 in 2000, 0.9 in 2001, and 0.0 in 2002—compared to 5.2, 5.9, and 5.9, respectively, for the BLS industry average.



Johnson Technology employees Tom Hansen, T.J. Garrett, Griff Newell, Dawn Osborne, Jim Brainard, Brian Shaw, Evelyn Vickers raised the MVPP Flag.

"National VPP sites experience 60 to 80 percent less lost work day injuries than would be expected of an average site in their industry," said BSR Director Kalinowski. "Johnson Technology's outstanding safety and health record sends a strong message to all employers that safety pays."

The MIOSHA MVPP Team found the quality of the Latimer Plant's safety and health program to be excel-

lent. The **MVPP Team** consisted of: **David Luptowski**, CET Safety Consultant, MVPP Team Leader (now retired); **Debra Gundry**, CET Safety Consultant; **Bill Lykes**, CET Supervisor; **Mike Mosher**, CIH, CET Industrial Hygienist; and **Doug Kimmel**, CET MVPP Specialist.

Requiring Safety Diligence

Johnson Technology has published and posted its commitment to safety and health throughout the facility. It includes the statement: "The implementation of this policy will receive a priority equal to production and quality." Led by President Yacavone, total staff commitment to achieving MVPP recognition was evident during the evaluation process.

To ensure safety accountability, safety has been made a line function, and safety performance receives the same percentage (20 percent) as productivity in the employee appraisal process. The company employs a "cell" work environment and a "flat" management style that ensures strong employee (associate) involvement and empowerment in all phases of company operation.

Each work cell receives a monthly scorecard that is posted in the shop areas. Factors evaluated include: incident rates; JSA (job safety analyses) audits completed; safety contacts completed; cell inspections completed; timeliness of incident investigations; lapsed time to fix safety issues; scheduled training completed; and attendance at committee meetings.

Commitment of material resources to safety is substantial. All required personal protective equipment was provided in ample quantities and

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David Yacavone, President; Kent Dykstra, 37-year associate; Bill Lykes, MIOSHA (back); Gary Larabee, 37-year associate; David Reagan, EHS Manager; Brian Shaw, EHS Specialist; Deb Gorkisch, EHS Technician; Doug Kimmel, MIOSHA; David Hollister, CIS Director; Steve Warmington, Muskegon Mayor; Cindy Larsen, Muskegon Chamber President; Nancy Crandall, Norton Shores Mayor; Doug Kalinowski, MIOSHA Director; Representative Julie Dennis; Senator Gerry Van Woerkom.

MIOSHA Unveils New Five-Year Strategic Plan

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

The Bureau of Safety and Regulation (BSR) is unveiling the new MIOSHA Five-Year Strategic Plan to guide enforcement and outreach activities in Fiscal Years 2004 - 2008. This is our second strategic plan and continues our approach of identifying three fundamental goals to reduce workplace injuries, illnesses and fatalities in Michigan.

“The MIOSHA program is dedicated to making a difference in the lives of Michigan’s working men and women,” said **BSR Director Doug Kalinowski**. “This new management plan provides us with a detailed roadmap to reach our strategic goals.”

The plan will help us strategically target our resources to protect worker safety and health in Michigan. The plan identifies specific injuries, illnesses, and types of industry as a focus for MIOSHA activities. In addition, we will use workers’ compensation data to target specific

worksites in all industries that are experiencing higher numbers of injuries.

Five years ago, MIOSHA implemented its first strategic plan to make a significant impact on workplace injuries, illnesses and fatalities. The plan helped us target both our outreach and enforcement activities toward some of the most hazardous industries in Michigan. The overall trends in injury and illness rates for the targeted industries, as well as fatalities in construction, showed steady decreases.

Our strategic plan for the next five years is to build on those successes and achieve even greater gains. Some areas will look similar because there is still more work to be done. However, using Bureau of Labor Statistics (BLS) data, some specific areas of focus have changed.

As we unveil this new plan, we cannot accomplish its goals alone. It’s imperative that employers and employees partner with us and make a commitment to work safer and healthier.

Strategic Goal Number One

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

Objective One - Focus on three specific injuries and illnesses with the expected result of reducing the occurrences by 20 percent at the end of the five-year period:

- Amputations,
- Overexertion and repetitive motion, and
- Noise-induced hearing loss/standard threshold shift.

Objective Two - Focus resources toward five industries with the anticipated outcome of reducing injury and illness rates by 20 percent at the end of the five-year period:

- Furniture and fixtures industry,
- Primary metal industries,
- Fabricated metal products industry,
- Industrial machines and equipment industry, and
- Transportation equipment industry.

Objective Three – Reduce the overall injury and illness rate for the construction industry by 20 percent, and to reduce by 20 percent the four leading causes of fatalities:

- Falls,
- Electrocutions,
- Struck-by, and
- Crushed-by/caught between.



Jan Coye, MI Nurses Association; Nella Davis-Ray, CET Assistant Chief; Eva Hatt, GISD Assistant Chief; Martha Yoder, BSR Deputy Director; and Eileen Phifer, MI Department of Transportation; discuss the draft of the new MIOSHA Strategic Plan.

Strategic Goal Number Two

Promote employer and worker awareness of, commitment to, and involvement with safety and health to effect positive change in the workplace culture.

Objective One - Promote safety and health in workplaces by encouraging employers who are targeted or request a MIOSHA intervention to have either a written and implemented safety and health program or make improvements to their existing program.

Objective Two - Enhance awareness of safety and health in Michigan’s workplaces through the provision of consultation, training, and outreach services to employers and workers. Within this objective, we have established an emphasis to implement targeted outreach programs 100 percent of the time when a new standard, guideline or emphasis program is initiated which will have a major impact on Michigan employers and employees.

Objective Three - Recognize workplaces with proven effective safety and health programs. This includes continuing and supporting the Michigan Voluntary Protection Program (MVPP) with the goal of increasing participation by 15 new sites. There is also an emphasis to increase participation to 20 new sites in the MSHARP program, a program which helps small employers achieve safety and health program excellence. Finally, this objective calls on MIOSHA to develop alliances and partnerships with organizations to promote employee safety and health.

Objective Four – Implement emergency preparedness strategies and develop information to enable MIOSHA to assist in the event of a catastrophic or other significant occurrence. This new objective has received significant attention

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MIOSHA Strategic Plan Focus

For the three compliance divisions
Construction Safety Division
General Industry Safety Division
Occupational Health Division
 and the
**Consultation Education
 & Training Division**

As part of the MIOSHA Strategic Plan, inspection and outreach activity will focus on the following areas.

Top Three Targeted Injuries & Illnesses

1. Amputations
2. Overexertion/Repetitive Motion
3. Noise-Induced Hearing Loss

Top Five High-Hazard Industries

1. Furniture and Fixtures Industry
2. Primary Metal Industries
3. Fabricated Metal Products Industry
4. Industrial Machines and Equipment Industry
5. Transportation Equipment Industry

All workplaces experiencing high injury/illness rates

To review the MIOSHA Strategic Plan, visit our website at www.michigan.gov/miosha.

Lacks Enterprises, Inc.

An Ergonomics Case Study

MIOSHA is committed to making a difference in reducing ergonomic injuries and illnesses. Part of that commitment is sharing success stories of Michigan companies who are making innovative changes to dramatically reduce the risk factors associated with musculoskeletal disorders (MSDs).

Ergonomic injuries represent a very real and significant problem in the workplace. Each year, half of all Form 100 compensable work-comp cases are ergonomic-related. In Michigan in 2002, there were about 60,000 Form 100 claims, with nearly 30,000 of them ergonomic-related. Proactive businesses today are realizing that implementing an ergonomics program can dramatically lower their work-comp costs.

Fitting the Job to the Worker

Ergonomics is the process of designing the job to fit the worker—rather than forcing the worker's body to fit the job. Adapting tasks, workstations, tools, and equipment to fit the worker can help reduce stress on a worker's body and eliminate potentially disabling MSDs.

Success is achieved when management and employees work together to identify ergonomic hazards and find practical solutions. The majority of ergonomic problems can be satisfactorily addressed by low-cost interventions utilizing in-house resources.

An ergonomics program is part of an overall safety and health program and includes the following elements:

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

Searching for a Solution

Lacks Enterprises is an automotive, electronics and telecommunications industry supplier. Established in 1961, the corporation is the 12th largest employer in the Grand Rapids area, with 1,950 workers in 13 manufacturing facilities.

In 1996, Lacks' employees experienced more than 60 ergonomic-related work-comp cases, which proved to be a "wake-up call" for the corporation. President **Richard Lacks, Jr.**, Executive Vice President **Kurt Lacks**, Corporate Medical Director **Dr. Lee Pool**, Director of Human Resources **Roger Andrzejewski**, Director of Protective Services **A.J. Ponstein**, and Corporate Safety Manager **Mark Stratton**, developed a plan of action to reduce their ergonomic injuries.

Management commitment was crucial to make the substantive changes necessary to change their work procedures and the workplace

culture. Lacks decided to run a pilot ergonomics program in one of their facilities, the Airwest Mold Facility. A small committee was formed to develop the ergonomic changes, and is today known as the Core Group.

Employee involvement was paramount to the pilot program's success. The Core Group took the vision of the boardroom and transformed it into dynamic ergonomic changes on the shop floor. Plant management was also vitally involved in the creation of the ergonomics program.

Developing an Ergonomics Program

The first order of business was a job safety analysis (JSA) for job every task at Airwest. Severity, frequency, body parts, workstation layout, tools, postures and many other items were analyzed and discussed for possible changes. Employee involvement was particularly necessary for feedback on equipment changes.

As ownership in the pilot program increased, ergonomic safety and health committees grew. Equipment and workstation layouts changed. Workers became empowered to request and make changes. In the Airwest facility, they learned to appreciate the no longer Greek word, ergonomics.

The pilot program at the Airwest facility was so successful that Lacks quickly proceeded to incorporate an ergonomics program in their other 12 plants. Ergonomic committees were formed at each facility, and a ripple effect of involvement and ergonomic success occurred at the other Lacks plants. Today, all facilities conduct self-audits on a continuing basis to identify ergonomic risk factors, and develop solutions.

Corporate Medical Director **Dr. Lee Pool** was directly involved in creating the ergonomics programs. Because he saw all of the injured employees, he was able to discover developing injury trends. For example, he noticed a series of shoulder injuries associated with lifting four-by-five-foot grill boxes. Barden Assembly's Maintenance Manger **Bob Tice** devised the solution, a "lid lifter" to eliminate the lifting and awkward position.

Changing the Work Environment

Lacks experimented to identify the specific ergonomic practices that worked. They re-designed their work environment and their workflow to minimize ergonomic risk factors. Some of their ergonomic changes included:

- Changing grill boxes to reduce back stress,
- Purchasing equipment to keep workers' wrists in the neutral position,

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Ergonomic Innovation - 52nd Street Paint East - The pneumatic scissor-lift accommodates workers of all heights, and can be used in a wide variety of industry applications, eliminating heavy lifting.



Ergonomic Innovation - Airwest Mold - A robot picks the part out of the machine, a "motoman" clips the prues and gates, and a robot places the part on the conveyor, eliminating force, lifting, and repetition. A worker (out of photo) then inspects and packs the part.



Ergonomic Innovation - Airwest Mold - Adjustable height machines bring the activity to the operator's comfort zone; along with ergonomic matting and good workstation layout, these changes decrease ergonomic stresses.

CHROMIUM: One of the Most Potent Occupational Hazards

By: Greg Kozak, Industrial Hygienist
Occupational Health Division

Chrome. What is it that you associate with this word? For most, it brings to mind a shiny, silvery, metallic finish that was popular on the bumpers and trim of classic Detroit cars. For the industrial hygienist, however, this word typically brings to mind one of the most potent occupational hazards: hexavalent chromium. What is chrome? What is chromium? How is it used in industry? What are its hazards, and how can employees be protected?

Chrome actually refers to various forms of the metal element chromium (Cr), which occurs naturally in the ore chromite, and is one of the most widely distributed of all metals in the earth's crust. Chromite ore is mined and processed to produce pure chromium metal and three common forms of chromium compounds used in industrial processes: chrome II (Cr II, also known as bivalent chromium); chrome III (Cr III also known as trivalent chromium); and chrome VI (Cr VI, also known as hexavalent chromium, or "hex" chrome). These various forms of chromium have different properties, different industrial applications, and different health effects.

Some of the more common uses for chromium are:

- To harden steel, to manufacture stainless steel, and to form alloys;
- In plating to produce a hard, beautiful surface and to prevent corrosion;
- To give glass an emerald green color;
- As a catalyst;



Engineering controls for chromium exposures will most often involve some type of local exhaust ventilation system.

- As oxidizing agents and in quantitative analysis;
- As a chrome yellow pigment;
- As mordants in the textile industry (to fix dyes to materials);
- By the aircraft and other industries for anodizing aluminum;
- By the refractory industry for forming bricks and shapes (due to a high melting point, moderate thermal expansion, and stable crystal-line structure);
- For tanning leather;
- In concrete and cement production (naturally occurring); and
- For welding or torch cutting on stainless steel.

Identifying Chromium Hazards

How can employers determine which form of chromium may be contained in the products or processes in their workplaces? Typically, the best source for information on chemical hazards is the material safety data sheet (MSDS) for the chemical or product being used. The hazardous ingredients are listed in Section II of the MSDS, and chromium compounds are most often indicated by their specific type, i.e.: Cr, Cr II, Cr III (also listed as chromic oxide), or Cr VI. Cr VI compounds, often referred to as "hex chrome," exist in several forms. These forms include: chromic acid, calcium chromate, chromium trioxide, lead chromate, strontium chromate, zinc chromate, and potassium dichromate.

If you're unsure of the specific type of chrome in the product, contact the manufacturer. Some industrial processes may produce or evolve a form of chromium that may not be listed as a known hazardous ingredient on the MSDS. For example, welding or torch-cutting on stainless steel will produce Cr VI, and the production of Cr VI during these activities may or may not be included on the MSDS.

The health effects resulting from exposure to chromium metal, chrome II, chrome III and chrome VI are fairly well known. In *general*, chrome VI is more toxic than chrome II, chrome III or chromium metal. While all forms of chromium are capable of causing skin, eye, and respiratory irritation, the most significant occupational

health effects are related to Cr VI compounds. Exposure to Cr VI compounds may result in acute effects such as kidney damage, severe skin irritation, ulceration and sensitization of the skin, severe nasal irritation, ulceration and nasal septum perforation, respiratory sensitization, and occupational asthma. The most serious health effect form Cr VI is respiratory cancer. Studies have confirmed that exposures to Cr VI (as encountered historically in chromate chemicals and chromate pigments manufacture and electrolytic plating processes using chromic acid) has led to a measurable excess incidence of respiratory cancer, with a latency period of up to 15 years.

Controlling Chromium Exposures

MIOSHA standard Part 301, Air Contaminants, specifies the exposure limits from the various forms of chromium in general industry. Chromium metal, Cr II, and Cr III have time-weighted average (TWA) exposure limits of 1 mg/m³, 0.5 mg/m³, and 0.5 mg/m³, respectively. TWA means, "the employee's average airborne exposure in any 8-hour work shift of a 40-hour work week that shall not be exceeded." Part 301 specifies the exposure limit for Cr VI under the substance heading "Chromic acid and Chromates," which are chemistry terms to indicate Cr VI. The exposure limit for Cr VI is a ceiling limit of 0.1 mg/m³. A ceiling limits means, "the employee's exposure which shall not be exceeded during any part of the work-day." This more stringent limit reflects the more hazardous nature of Cr VI.

To achieve compliance with the exposure limits, Rule 5 of Part 301 requires that administrative or engineering controls shall first be determined or implemented. In the case of chromium exposures, engineering controls most commonly will involve some type of local exhaust ventilation system. The type and design of the system will depend on the process and the actual physical form of chromium to which the employee is exposed. For example, a ventilation system to control fumes generated during welding and cutting of stainless steel would differ from a system meant to control mists encountered in a chrome plating operation.

MIOSHA standard Part 601, Air Contaminants for Construction, specifies the exposure limits from the various forms of chromium in the construction industry. Chromium metal, Cr II, and Cr III have time-weighted average (TWA) exposure limits of 1 mg/m³, 0.5 mg/m³, and 0.5 mg/m³, respectively and Cr VI, also listed as

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The Bottom Line

Workplace Safety and Health Makes Good Business Sense

Sherriff-Goslin Company

Sherriff-Goslin Company designs and installs their patented, storm-proof roofing systems for residential applications, and also installs commercial roofing applications. Sherriff-Goslin started as a “one-horse” roofing company in Battle Creek, Michigan in 1906. Today, they have 26 branch offices spread throughout Michigan, Ohio and Indiana.

It was organized as the Battle Creek Roofing and Manufacturing Company, with **Fred Sherriff** purchasing controlling interest in 1913. Tar and gravel was the only type of roofing they were doing in the early 1900s, until **B.G. Goslin** joined the company as a partner and they introduced residential roofing. The business grew by leaps and bounds, and the partners opened their first branch office in 1918, and changed the name to Sherriff-Goslin Company in 1920.

Today Sherriff-Goslin uses patented and proprietary Art-Loc® roofing technology to achieve the highest level of protection. Since the company’s beginning, they have established guidelines to insure the best possible roofing system available. Art-Loc® shingles are manufactured to rigid Sherriff-Goslin Company standards.

Quality Commitment

Since its founding, Sherriff-Goslin’s mission has been: “*Our Assurance of Continued Quality is Guaranteed.*” Today the company is still run with the same commitment to quality and workmanship.

In the early 1920s, they began offering a 10-year guarantee covering both labor and materials on residential roofing. This enhanced the company’s reputation, and business continued to thrive. Today they still depend upon the same high ideals and specialized service for their future growth. They believe that satisfied customers are their best resource for future customers.

“I’m extremely proud of our longstanding commitment to quality,” said President **Robert Sherriff**. “Today we continue to offer a special 10-year guarantee on all of our residential projects, at no expense to our customers.”

Their many years of successful business growth has placed this company in the position of being one of the oldest and largest of all companies doing similar work.

Safety and Health Commitment

Safety and health is a fundamental part of Sherriff-Goslin operations. Asking Sherriff-Goslin to overlook a simple safety violation would be like asking them to compromise their entire attitude toward the value of each employee’s life.

The ongoing “Safety First” program is the company’s commit-

ment to their customers and employees, their two most valuable assets. The ongoing training program for their roofing applicators was developed and implemented to minimize the chance of accidents on the job site.

In Michigan in 2001 and 2002, falls were the leading cause of construction fatalities. Roofing applicators at all Sherriff-Goslin residential and commercial job sites are required to use fall protection, and are furnished with safety equipment at every job site that meets or exceeds MIOSHA regulations.

Construction Safety Division Chief **Rick Mee** recommended Sherriff-Goslin for this column. “This company is a leader in worker safety in the residential roofing industry,” said Mee. “Sherriff-Goslin’s commitment to provide and require the use of fall protection for all employees has been in place for several years and their success puts them far ahead of many of their peers.”

Ken Glidden Vice President of Safety and Health requires comprehensive safety training for all employees. Glidden has taken advantage of MIOSHA’s CET services to provide fall protection seminars and other training.

“Safety is our number one priority. You can’t make a quality product, without protecting your workers,” said Glidden. “We monitor all of our projects in the tri-state area to make sure our employees are working safely.”



All Sherriff-Goslin roofing applicators are required to use appropriate fall protection, as evidenced by this worker at a Kalamazoo residential job site.

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.

Top 25 MIOSHA Serious Safety Violations

By: Lee Jay Kueppers, Safety Consultant
 Consultation Education & Training Division

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

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

According to the 2002 Liberty Mutual Workplace Safety Index, the direct and indirect costs of occupational injuries alone are estimated at \$240 billion (in 1999 dollars).

MIOSHA Standards Set Minimum Requirements

The MIOSHA Act requires employers to provide a safe and healthy workplace, free from recognized hazards. The purpose of MIOSHA safety and health standards is to set minimum requirements and provide guidelines for identifying and correcting the hazards contributing to

injuries and fatalities.

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

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

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

However, MIOSHA standards must be complied with, whether an employer is inspected or not. Most employers comply with the standards to protect their employees, not simply to avoid the consequences of an inspection.

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

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

Top 25 Serious Safety Violations

Below is a list of the *Top 25 Serious Safety Violations*. These are the serious violations most frequently cited by the General Industry Safety Division in Fiscal Year 2001 - 2002. The list is compiled by the Consultation Education and Training (CET) Division to help employers identify serious hazards which could result in workplace injuries and fatalities and develop prevention strategies.

The *Top 25* has been presented as a seminar for the past five years at the Michigan Safety Conference. The seminar provides in-depth information on how employers can provide a safe work environment by complying with MIOSHA standards.

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

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

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

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.

For inquires regarding compliance and enforcement, contact the **General Industry Safety Division at 517.322.1831**. For inquires about education and training services, contact the **Consultation Education and Training Division at 517.322.1809**. The list of serious violations, with standard definitions, can also be obtained by calling the CET Division. ■

Top 25 MIOSHA Serious Safety Violations

By: Number of Serious Violations
 Michigan: October 1, 2001 - September 30, 2002

Rank	Part	Standard	Description	Violations
1	85	1910.147(c)	Control of Hazardous Energy Sources: Gen. Req.	493
2	7	4081.727(1)	Power Transmission: Belts & Pulleys	380
3	39	1910.303(g)	Electrical System Design General Requirements	261
4	33	40813312(1)	PPE: Face and Eye Protection	253
5	1	4081.034(9)	Machine Guards and Devices	216
6	2	4081.213(2)	Floor & Wall Openings, Stairways - Standard	179
7	92	1910.1200(e)	Hazard Communication - Right to Know	177
8	1	4081.034(3)	Machine Guards and Devices	155
9	7	4081.731(1)	Guards for Power Transmission	152
10	26	4081.2635(1)	Guarding: Vertical/Horizontal Band Saw Blades	136
11	154	40801011(a)	MIOSHA: Act 154 of 1974 as Amended, Sec. 14	117
12	21	40812154(1)	Powered Industrial Truck - Valid Operator Permits	108
13	33	40813308(1)	PPE: Hazard Assessment and Equipment Selection	103
14	14	40811442(2)	Conveyors - Guarding/Belt Conveyor	93
15	7	4081.716	Power Transmission: Revolving/Reciprocating Parts	86
16	21	40812176(1)	Powered Industrial Truck - Loading Trailers	71
17	7	4081.722(1)	Guards for Power Transmission: Shafting	62
*18	14	4081.1421(4)	Conveyors - Guarding	59
*18	90	1910.146(c)	Permit Required Confined Space: General Req.	59
19	24	40812477(1)	Mechanical Power Press: General Requirement	54
*20	1	4081.015(3)	Housekeeping	52
*20	24	40812462(1)	Mechanical Power Press: Point of Operation Guards	52
21	2	4081.215(2)	Floor Openings: Guards for Openings & Platforms	49
22	92	1900.1200(h)	Hazard Communications - Training	48
23	2	4081.220(1)	Stairways & Ramps: Access to Other Elevations	47
*24	24	40812412(1)	Mechanical Power Press: Inspections	46
*24	24	40812463(3)	Mechanical Power Press: Guarding	46
25	11	4081.1115(4)	Guarding: In-running nip points & Rolls	43

*Tie

VERMICULITE HEALTH HAZARDS

By: George Howard, Asbestos Program Manager
Bill DeLiefde, OHD Regional Supervisor

In the past several months, there has been significant attention given to the potential health hazards associated with vermiculite. What is Vermiculite and why is there such a concern?

Vermiculite is a granular product—absorbent and resistant to heat—that has been used in industry for almost 80 years. It's a naturally occurring mineral obtained through mining operations. Vermiculite is used in construction, as well as in industrial products such as brake shoes, brake pads and insulation blocks. Vermiculite is also used in consumer materials, such as insulation, potting soil material, acoustical finishes, and spray-on insulation.

Vermiculite Health Concerns

The health concern is that vermiculite that originated from mines near Libby, Montana, has been found to contain asbestos, a confirmed human carcinogen. Recent epidemiology studies have shown a significant number of vermiculite mining employees and residents in Libby, Montana, have acquired asbestos-related lung diseases, which can be fatal. These asbestos-related lung diseases include:

Asbestosis—A scarring and hardening of the lung tissue,

Lung Cancer—Malignant tumor of the lung tissue,

Mesothelioma—A scarring or malignant tumor of the lung lining.

It should be noted that most of the Libby, Montana, illnesses are associated with prolonged and repeated airborne exposure to vermiculite. As a result of these findings, concern has expanded to the potential risk that vermiculite poses to consumers and contractors encountering these products in homes and commercial buildings.

In Michigan, until the late 1980s, W.R. Grace, a facility in Dearborn, processed tons of bagged vermiculite under the name brand "Zonolite." Further, a plant in River Rouge, and seven more across the state processed and distributed "Zonolite." The product was distributed to local building supply yards and hardware stores where contractors and consumers purchased it to insulate thousands of Michigan homes, businesses, schools, etc.

Not all of the "Zonolite" product was made from the vermiculite mined in Libby, Montana. However, the **Michigan Asbestos Program** is cautioning consumers to presume that their vermiculite product contains asbestos and to take appropriate precautions to prevent and/or avoid unnecessary disturbance activities.

Vermiculite Awareness Campaign

To spearhead an awareness campaign about asbestos in vermiculite, the **Environmental Protection Agency (EPA)** issued a press release Friday, May 21, 2003, titled: "*National Consumer Awareness Campaign Launched on Vermiculite Insulation Used in Some Home Attics.*"

The new EPA campaign instructs homeowners on how to identify vermiculite attic insulation (VAI). Since some VAI contains low levels of asbestos, the EPA recommends that, after identifying the existence of VAI, **homeowners should not disturb the vermiculite attic insulation.**

The EPA estimates that residential homes in Illinois and Michigan used more vermiculite attic insulation than in other states. The Michigan Asbestos Program is addressing the vermiculite issue, and is currently handling information requests from the media and the public. Our goal in any asbestos matter is to minimize exposure.

Limiting Asbestos Exposure

As with other asbestos-containing building materials, the key to minimizing risks associated with asbestos exposure is to first identify whether these asbestos-containing materials are present. If the presence of asbestos-containing materials has been confirmed, the next step is to minimize uncontrolled disturbance activities that can release asbestos fibers into the air from vermiculite products. The primary asbestos exposure route and hazard is through inhalation of the fibers.

The Michigan Asbestos Program does not advocate unnecessary removal of vermiculite attic insulation. If the material is not being disturbed, we recommend that it be left in place. However, if the vermiculite is in an attic that is readily accessible with possibly repeated disturbances, removal or enclosure may be necessary.

The EPA and the Michigan Asbestos Program strongly recommend using trained, certified professionals to conduct removal work. Removing the insulation yourself could potentially spread asbestos fibers throughout your home, putting you and your family at risk of inhaling these fibers.

General Precautions to Limit Asbestos Exposure

■ Contact a professional to assess the area in question. You can find one by consulting your local yellow pages under the headings: Asbestos Abatement Services, Asbestos Consultants, Asbestos Monitor-

ing and Inspections, and Asbestos Abatement. Or visit the "Verify and Search" page of the Michigan Asbestos Program website.

■ Avoid handling or disturbing loose vermiculite.

■ Use appropriate respirator protection and disposable protective clothing when disturbance or removal activities are necessary.

■ Isolate work areas with temporary barriers or enclosures to contain potential asbestos fiber release.

■ Use wet control measures where feasible to prevent/minimize airborne fibers. Avoid using compressed air, dry sweeping, or other dry cleanup methods.

■ Dispose of waste and debris in accordance with OSHA and EPA standards.

Help Is Available

Is it safe? Is there a problem with it? Is it in my home? What should I do if it's in my home? Who is regulating this? These questions are being asked about this product. Answers to these questions and others can be obtained from the EPA website: <http://www.epa.gov/asbestos>, or by calling the EPA Vermiculite Special Hotline at: 800.471.7127. For asbestos information, contact the Michigan Asbestos Program at: 517.322.1320, or www.michigan.gov/asbestos.

Workers who have had significant past exposure, or have significant ongoing exposure to asbestos, to vermiculite from Libby, or to other asbestos-contaminated materials should consider getting a medical exam from a physician who know about diseases caused by asbestos. For more information on occupational exposure to vermiculite, contact the National Institute of Occupational Safety and Health (NIOSH) at: 800.35.NIOSH, or www.cdc.gov/niosh. ■



Until the late 1980s in Michigan, several companies processed tons of bagged vermiculite attic insulation under the name brand "Zonolite."

73rd Annual Michigan Safety Conference

Again this year, the Michigan Safety Conference offered more than 5,500 attendees an excellent opportunity to enhance their safety and health knowledge and skills. The conference goal is to help participants improve worker safety and health, reduce workers' compensation costs, and increase productivity and profitability.

The conference was held April 15th and 16th and covered a wide range of safety and health seminars from the following divisions: Chemical, Construction, Consultation Education & Training, Emergency Management, Fire Safety, Healthcare, Industrial, Industrial Hygiene, Insurance, Mining, Occupational Health Nurses, Professional Safety Management, Public Employer, Public Utilities, Security, and Transportation.

The conference features such diverse approaches to safety as: hands-on training, panels of experts, dialogues and discussions, audio-visual presentations, poster sessions, live demonstrations, and updates on the latest safety and health issues by recognized leaders in the field. Participants leave the conference with practical, useful printed materials to assist them in their workplace.

Each year nearly 100 MIOSHA safety and



The MIOSHA booth in the exhibitor's hall.

health professionals and support staff are involved in seminar planning and implementation. MIOSHA seminars this year included: A MIOSHA Update by BSR Director Doug Kalinowski; Construction Safety Enforcement Update; When Construction Standards Apply in General Industry; The New Steel Erection Standard; What Part 86 Means to You; MIOSHA Occupational Health Case Studies; Top 25 MIOSHA Serious Safety Violations; Fatal Accidents in General Industry; Fatal Construction Accidents in Michigan; To Breathe or Not to Breathe: The Right Way!; Fleet Safety; Recordkeeping: Unlock the Mysteries of Log 300!; The New Overhead Crane Standard; Construction Work can Make you Sick!; and Workplace Violence Prevention and Homeland Security Guidelines.

The Michigan Safety Conference is a volunteer association of business, industry and government leaders from across the state. The conference provides a unique opportunity to share information and ideas on current occupational safety and health issues. It boasts members from some of the most safety-conscious companies in Michigan, large and small, who are devoted to promoting safety and health in the workplace.

Volunteers are needed! Hundreds of volunteers contributed considerable time and effort to stage this year's event. As they plan for next year's conference, they need help with divisional programming and committee membership. The 74th annual conference will be held April 20 and 21, 2004, at the Lansing Center.

MIOSHA encourages anyone associated with safety and health in Michigan to become a part of the largest state safety and health conference in the nation. It will provide a valuable opportunity to network and exchange ideas and information with safety and health professionals from across the state. For information on the conference, or to volunteer, call: 517.630.8340. ■

Safety Professional of the Year



Douglas R. Earle
Director
(Retired),
Bureau of
Safety &
Regulation

Douglas Earle has overseen Michigan's occupational safety program, with responsibility for enforcing workplace safety standards and providing education and training for general industry and construction safety since 1979, and for occupational health provisions since 1996. As director, he was responsible for the administration and enforcement of the safety and health provisions of MIOSHA. He retired in 2002.

Safety Professional of the Year

Katherine A. Glodich, ASP
Safety Management Team Leader
Target Corporation
(Photo not available)

As Safety Management Team Leader for Target Corporation, Katherine Glodich provides leadership and guidance for six safety management specialists across the Eastern U.S. She has consultant responsibility for the Michigan Target Corp. stores (Target, Mervyn's and Marshall Fields) and Distribution Centers, and is part of the Headquarters Risk Management Team.

Distinguished Service Award



Dennis W. Kerr
Area Leader,
Field &
Technical
Support,
DTE Energy

Dennis Kerr became involved as a volunteer in the Michigan Safety Conference in 1987, as a member of the Public Utilities Division where he has served as both secretary for six years and chairperson for four years. He is currently a member of the Board of Directors, and has distinguished himself with dedication as chairperson of Las Vegas Night since 1997.



Dan Maki,
CET Safety
Consultant,
described "Fatal
Accidents in
General
Industry."



Jenelle Thelen,
CET Health
Consultant,
covered "To
Breathe or Not
to Breathe: The
Right Way!"



Chuck Lorish,
GISD
Supervisor,
discussed
"What Part 86
Means to You."

NIOSH Director Addresses Michigan Safety Conference

Dr. John Howard, Director, National Institute for Occupational Safety and Health (NIOSH), was a special guest speaker of the Industrial Hygiene Division at the Michigan Safety Conference. Howard's speech was titled, "The Future of Occupational Health Research: NORA in the 21st Century."

NIOSH is the federal agency responsible for conducting research and making recommendations for the prevention of work-related disease and injury. NIOSH is part of the Centers for Disease Control and Prevention, and is responsible for conducting research on the full scope of occupational disease and injury.

In 1996, NIOSH unveiled the National Occupational Research Agenda (NORA). NORA is a framework to guide occupational safety and health research in the United States. It arose from recognizing the need to target limited occupational safety and health research resources into areas that could have a large impact on worker health and safety.



Joel Bender, Marilyn Fingerhut, John Howard, Frank Mirer, Alfred Franzblau, Ken Rosenman, James Blessman Jr.

"NORA is providing a forum to stimulate new research partnerships to address serious work-related injury and illness concerns," said Howard. "NIOSH will continue to turn to our partners for input as we evaluate NORA and plan for the future."

NORA addresses the most common and serious workplace hazards and anticipated changes in American workplaces and in the American workforce. The session reviewed the NORA priorities since its inception and examined its future direction.

Guest speakers also included **Marilyn Fingerhut**, Ph.D., NIOSH Chief of Staff, "Nora at Seven: Reaching the Age of Reason;" **Frank Mirer**, Ph.D., Director, UAW Health and Safety, "A research Agenda for the Labor Movement;" and **Joel Bender**, M.D., GM Corporate Medical Director, "Corporate Perspective on the Evolution of Occupational Health: Emerging Issues."

Following the presentations a panel discussion featured the guest speakers, along with additional panel members representing Michigan universities with occupational health and safety research and training programs: **Alfred Franzblau**, M.D., Associate Professor, U of M Environmental Health Services; **Ken Rosenman**, M.D., Professor, MSU Department of Medicine; and **James Blessman Jr.**, M.D., Director WSU Occupational and Environmental Medicine.

For more information about NIOSH and NORA, call the toll-free NIOSH information number, 1-800-35-NIOSH (1-800-356-4674), or visit the NIOSH website: www.cdc.gov/niosh. ■

Workers Memorial Day

Governor **Jennifer M. Granholm** and Lt. Governor **John D. Cherry** proclaimed April 28th **Workers Memorial Day** in Michigan. Since 1989, the unions of the AFL-CIO and the UAW have observed Workers Memorial Day as a remembrance of those who have lost their lives while on the job.

"We must never forget those men and women who lost their lives or were injured on the job," Granholm said. "Today, I ask all of our citizens to take a moment to remember the people who worked so hard to make Michigan a better place to live and raise a family."

Again this year on April 28th, the **Michigan State ALF-CIO** sponsored the **Workers Memorial Day Rally** on the steps of the State Capitol, to remember workers in Michigan and across the U.S. who went to work and never came home. In Michigan last year, 139 workers died at work and more than 50,000 were injured seriously.

"This observance renews our effort to seek and ensure stronger health and safety protections for the Michigan workforce," Cherry said.

Michigan State AFL-CIO President **Mark Gaffney** stressed the need to increase the amount of MIOSHA inspectors. "Workplace safety is a job that is never done," said Gaffney. "This year the Michigan State ALF-CIO and its affiliates will continue to work closely with MIOSHA to reduce workplace injuries, illnesses and fatalities."

BSR Director **Doug Kalinowski** reminded the audience that the workers lost are not statistics but fathers, mothers, sons, daughters, husbands and wives. He reaffirmed the MIOSHA mission to provide strong enforcement, as well as effective education and training. As he has with the MIOSHA staff, Doug challenged the audience to "Make a Difference" every day to help protect the safety and health of Michigan's workers.

Other speakers included: **Tony Benavides**, Mayor, City of Lansing; **Virg Bernero**, Michigan Senate, (D-District 23); **Bob Emerson**, Michigan Senate, (D-District 27); **Dianne Byrum**, Michigan House of Representatives, (D-District 67); **Tim Hughes**, Legislative Director for Governor Granholm; **Bob Roth**, Region Director, UAW Region 1-C; **Tom Boensch**, Secretary-Treasurer, Michigan Building Trades Council; and **Derrick Quinney**, Director Occupational Safety & Health, Michigan State AFL-CIO.

The Reverend **Michael Murphy**, Michigan House of Representatives, (D-District 86), offered the invocation, and **Brian Fredline**, President, UAW Local 1618, sang the National Anthem.

The Bureau of Safety and Regulation was honored to participate in the Worker Memorial Day Rally this year.



On April 28th, the Michigan State ALF-CIO sponsored the Workers Memorial Day Rally on the steps of the State Capitol.

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.



CET Assistant Chief Nella Davis-Ray presented the award to Mike Stoddart, Division Manager of Horizon Technology Group's Wyandotte Division, during a monthly plant meeting.

Horizon Technology Group - Wyandotte

On May 21st, Horizon Technology Group's (HTG) Wyandotte Division received the **CET Bronze Award** for an outstanding safety and health record.

CET Assistant Chief **Nella Davis-Ray** presented the award to **Mike Stoddart**, Division Manager, during a monthly plant meeting. All day shift employees were present for the presentation and were congratulated for their safety and health accomplishments.

"Safety and health is the most important part of all of our operations, including planning, development, production, sales and transportation," said Stoddart. "Accidents have no place in our company—we are fully committed to the safety and well-being of our team members."

The HTG Wyandotte Division achieved their results by a re-commitment to workplace safety and health, including: a revitalized safety committee; regular safety walkthroughs; and continuous training and accountability.

The HTG Wyandotte Division is a full-service facility specializing in the cold forming and machining of stainless steel and carbon steel components. They have 125 employees and produce world-class metal components with on-time delivery for the automotive industry, as well as for a variety of other industries.

Gilreath Manufacturing, Inc. - Howell

On June 25th, Gilreath Manufacturing, Inc., received the **CET Bronze Award** for an outstanding safety and health record. BSR Director **Doug Kalinowski** presented the award to **Leonard Petty**, Safety Officer; **Kelley Krumm**, Human Resource Manager; and members of the **Safety Committee**.

"A safety program is only as strong as the commitment behind it and I'm very pleased to say our employees are the strength behind the success of our program," said Krumm. "This award is a significant way of highlighting everyone's commitment to safety."

Gilreath Manufacturing, Inc., through the strong commitment of management and employees, has concentrated their improvement efforts in: ergonomics on the job, improved accident investigations, increased training, and audits to ensure a safe work environment. Gilreath's insurance carrier, Amerisure Insurance Company, also presented the company with an ergonomics award.

Gilreath Manufacturing, Inc. is a custom injection mold company with full-service design, manufacture and assembly capabilities of injection molded components for automotive and commercial applications. As a recognized minority supplier in Michigan, they are committed to sustaining their business and their community.



Leonard Petty, Safety Officer; Brigitte Shultz; Brenda Riffle; Michelle Hibbard; Norma Fuson; Kelley Krumm, Human Resource Manager; Sandy Johnson; Doug Kalinowski, MIOSHA Director.



Back: Joe Sullivan, Dr. Lee Pool, Mike Kern, Dan Jaracuz, Jim Morrissey, Rick Anderson, George Lovell. Front: Jerry Swift (MIOSHA), Mark Stratton, Kim Zoerman, Steve Morrissey, Tom Lewis, Dan Centille, Doug Kalinowski (MIOSHA).

Lacks Enterprises, Inc. - Grand Rapids

On June 12th, Lacks Enterprises, Inc., received a **MIOSHA Special Recognition Award** for their dedication to worker safety and health and for their continuous ergonomic improvements. Lacks Enterprises has initiated significant ergonomic changes in all 13 of their plants to reduce ergonomic-related injuries and illnesses.

"Each year ergonomic injuries and illnesses make up more than half of all work-comp cases. This is a serious and unnecessary expense for Michigan businesses," said BSR Director **Doug Kalinowski**. "Lacks Enterprises is leading the way in making substantive ergonomic changes which protect their workers, and lower their work-comp costs." Kalinowski presented the award to all of Lacks Enterprises' plant managers, Corporate Medical Director **Lee Pool**, M.D., and Corporate Safety Manager **Mark Stratton**.

"Since 1997, we've reduced the number of ergonomic claims by over 93 percent. That translates to healthier employees and about \$900,000 in annual savings for the corporation," said Roger Andrzejewski, Director of Human Resources.

Lacks Enterprises is an automotive, electronics and telecommunications industry supplier. Established in 1961, the corporation employs 1,950 people in 13 manufacturing facilities in the Grand Rapids area.

Education & Training Calendar

Date	Course Location	MIOSHA Trainer Contact	Phone
September			
3	Elements of a Safety & Health Management System Sault Ste. Marie	Dan Maki Cont. Education Services	906.635.2802
9	Safety Challenges in the Plastics Industry Adrian	Linda Long Tom Houghtby	517.266.2730
9 & 10	2-Day Mechanical Power Press Clarkston	Richard Zdeb Peggy Desrosier	248.620.2534
9, 10, 11	Safety & Health Administrator Course Traverse City	Doug Kimmel Shelly Hyatt	231.546.7264
16	Powered Lockout & Confined Space Entry Workshop Ann Arbor	Suellen Cook Ray Grabel	734.677.5259
16 & 17	Power Presses - Operational Safety Holland	Rob Stacy Brian Cole	616.331.7180
17	When MIOSHA Visits Ironwood	Dan Maki Jim Lorenson	906.932.4231
18	MIOSHA Recordkeeping Jackson	Quenten Yoder Jeff Bliler	517.782.8268
22	Supervisors' Role In Safety & Health Southfield	Richard Zdeb Pat Murphy	248.353.4500
October			
2	Ergonomics: A Positive Approach Southfield	Jennifer Clark-Denson Ed Ratzenberger	248.557.7010
3, 10, 17	Safety & Health Administrator Course Benton Harbor	Quenten Yoder Mary Carpenter	800.704.7676
7	Safety Solutions for Nursing Homes & Long Term Care Facilities Livonia	Suellen Cook Cont. Education Services	734.462.4448
9	Machine Guarding For Manufacturing Saginaw	Richard Zdeb Dan Matthews	888.238.4478
13	When MIOSHA Visits Southfield	Richard Zdeb Pat Murphy	248.353.4500
14 & 16	Fundamentals of Industrial Hygiene Lansing	Sherry Walker Sandy Long	800.423.7233
16 & 17	MIOSHA 10 Hour for Construction Marquette	Tom Swindlehurst Bob Eslinger	906.228.2312
21	How to Conduct a Self Inspection to Identify Hazards Westland	Linda Long Toni Herron	734.427.5200
November			
4	Powered Industrial Truck Train-the-Trainer Livonia	Suellen Cook Cont Education Services	734.462.4448
5	Recordkeeping of Occupational Injuries & Illnesses Canton	Jennifer Clark-Denson Jacqueline Schank	734.464.9964
6	When MIOSHA Visits Saginaw	Lee Jay Kueppers Dan Matthews	888.238.4478
12 & 13	2-Day Power Press Safety and Health Seminar Dearborn Heights	Linda Long Lisa	313.317.1500

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.

Standards Update

MIOSHA Standards Commissions

The legislation that established MIOSHA, Public Act 154 of 1974, as amended, also created three standards commissions and gave them the authority to establish mandatory standards according to direction in the Act, to prevent accidents and protect the life and safety of Michigan employees from recognized hazards. Section 15 created the General Industry Safety Standards Commission, Section 18 created the Construction Safety Standards Commission, and Section 23 created the Occupational Health Standards Commission.

Act 154 laid out the required composition of these commissions and gave them the responsibility to oversee the promulgation of MIOSHA rules. The Governor, with the advice and consent of the Senate, appoints all commissioners. Commissioners serve for a three-year term or until a successor is appointed. Each commission must have nine members, four representing labor, four representing management from principle industries, and one representing the general public.

Each commission must hold a minimum of four meetings per year, in a public place. The commissions attempt to move their meeting across the state in order that citizens can address the commission and have their concerns heard regarding MIOSHA standards.

Please check out the dates and locations of the remaining meetings scheduled for 2003 and feel free to attend. You can find scheduled commission and advisory committee meetings on our website at: www.michigan.gov/mioshastandards. Look under "Calendar of Events." Or you can contact the Standards Division at 517.322.1845.

Photos – May 16th Construction Safety Standards Commission Meeting



(Right)
 Doug Kalinowski, MIOSHA
 Commissioner Charles Gatecliff
 Cynthia Lee, OSHA
 Bill Donovan, OSHA



(Left)
 Marsha Parrott-Boyle, MIOSHA
 Commissioner Peter Strazdas
 Commissioner Cheryl Hughes
 Commissioner Carl Davis



(Right)
 Commissioner Andrew Lang
 Commissioner Daniel Corbat
 Commissioner Edward Tanzini
 Rick Mee, MIOSHA

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 June 16, 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 01.	General Rules	Approved by Commission for review
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	Withdrawn by Commission
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	Formal 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	Formal 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

What Is NAICS?

By: Laurie Lorish
 MIOSHA Information Division

NAICS, the North American Industrial Classification System, is a vital new classification system that replaces the Standard Industrial Classification (SIC) system, and represents a profound change for statistical programs.

SIC – The Manufacturing Model

The SIC system was developed in the 1930s when the U.S. economy was manufacturing based and was last revised in 1987. The SIC system is used to collect, aggregate, present, and analyze U.S. economic data. It allows users to assemble a comprehensive statistical picture of an industry.

The 1987 SIC Manual uses a four-digit code, which emphasizes manufacturing, and hasn't adequately incorporated the growing services and high-tech industries. The Bureau of Labor Statistics (BLS) and the MIOSHA program use the industry definitions from the 1987 SIC Manual.

NAICS – The Production Model

The NAICS system was developed in 1997, by the United States, Canada, and Mexico to provide comparable statistics across the three countries. NAICS utilizes the concept of grouping establishments by production processes and classifying industries by primary activity—as opposed to the SIC Manual, which emphasizes manufacturing groups, rather than activities. The NAICS system has increased the number of broad industry sectors from 10 to 20.

NAICS industries are identified by a six-digit code, in contrast to the four-digit SIC code. The longer code accommodates the larger number of industry sectors, and allows more flexibility in designating sub-sectors. It also provides for additional detail not necessarily appropriate for all three NAICS countries. The sixth digit identifies subdivisions of NAICS industries that accommodate user needs in individual countries.

In NAICS, there are 350 new industry classifications including: Cellular and other Wireless Telecommunications; Internet Publishing and Broadcasting; Telecommunication Resellers; Internet Service Providers; and Web Search Portals.

NAICS Advantages

Following is an example of the SIC/NAICS conversion. Using the SIC system, there was only one code for telecommunications (SIC 1731). This same code also applied to telecommunications equipment installer. With the NAICS system, there are seven categories related to telecommunications, and telecommunications equipment installer specifically would be coded 238210.

This sample shows that by utilizing the NAICS system, you are allowed more versatility in specifically identifying industries, thus creating a more accurate description of the industry.

Another advantage of the NAICS system is that it will be scheduled for review every five years to allow classifications and information to be kept current with the changing economy.

NAICS Information

Dates of deployment for usage of NAICS vary among agencies. Some agencies began publishing data using the NAICS coding system in 2002, the Bureau of Labor Statistics reports that it will begin publishing data in 2004, and others are reporting that their publications will not reflect NAICS data until 2005.

Further information regarding NAICS can be found on the following websites: The U.S. Census Bureau at <http://www.census.gov/epcd/www/naics.html>, or the Bureau of Labor Statistics at <http://www.bls.gov/bls/naics.htm>. The Census website offers users the ability to cross-reference from SIC to NAICS, without looking each up individually. ■

V a r i a n c e s

Published August 11, 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, Variances (R408.22201 to 408.22251).

Variances Granted 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 Construction, Inc.

Location for which variance is requested

Grand Rapids Convention Center (DeVos Place), Grand Rapids

Variances Requested General Industry

Part number and rule number from which variance is requested

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

Summary of employer's request for variance

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

Name and address of employer

Circuit Control Corporation, Petoskey

Location for which variance is requested

2277 M-119 Hwy, Petoskey

Coming This Winter!

53rd Annual Industrial Ventilation Conference

February 9 - 12, 2004

Kellogg Hotel & Conference Center

Michigan State University

East Lansing, Michigan

Course Fee: \$599.00

More than 25 industrial ventilation experts from across the U.S. and Canada will provide instruction and lectures on the design, construction, use, and testing of, ventilation systems. The conference has an introductory course, and three advanced courses of instruction.

Extra Half-Day Workshop

"Troubleshooting"
 Friday - February 13th
 Course Fee: \$85.00

Lodging Fee Per Night

Single: \$89.00
 Double: \$44.50

Conference Information

517.322.6560

Conference Registration

517.394.4614
 866.423.7233

Sponsored by MIOSHA

New Strategic Plan

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since the tragic events of 9/11. It includes providing preparedness information to employers and employees to increase workplace knowledge and readiness; providing training and equipment to MIOSHA staff necessary for them to provide expertise if called upon during clean-up and recovery efforts; and providing safety and health expertise and support to clean-up and recovery personnel.

Strategic Goal Number Three

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

Objective One - Foster program excellence and confidence through effective delivery of MIOSHA services as evidenced by 90 percent of those interacting with the MIOSHA program rating the experience useful in identifying and correcting workplace hazards and exposures.

Objective Two - Respond effectively to legal mandates for processing discrimination cases and initiating fatality and catastrophe investigations.

Objective Three - Improve selected MIOSHA services by initiating 100 percent of all complaint inspections within 10 calendar days; reducing the backlog of standards to be revised by 70 percent; and improving the quality of and access to MIOSHA publications, standards and public notices, including greater availability of information on our website.

Objective Four - Design and implement the internal management systems needed to meet

MIOSHA program data needs.

Objective Five - Continue to implement the internal management strategies needed to support staff in achieving MIOSHA program goals.

MIOSHA Strategic Plan Implementation

The overall plan was developed by the **MIOSHA Strategic Plan Implementation Team** which includes the following staff: **Douglas J. Kalinowski**, Bureau Director; **Martha Yoder**, Deputy Director; **John Peck**, Chief, Occupational Health Division, **Richard Mee**, Chief, Construction Safety Division, **Diane Phelps**, Chief, Appeals Division; **Connie O'Neill**, Chief, Consultation, Education and Training Division; **James Brogan**, Chief, Employee Discrimination Division; **Eva Hatt**, Assistant Chief, General Industry Safety Division; **Nella Davis-Ray**, Assistant Chief, Consultation, Education and Training Division; **John Brennan**, Supervisor, Consultation, Education and Training Division; **Adrian Rocskay**, Regional Supervisor, Occupational Health Division; **Marcia Parrott-Boyle**, Supervisor, MIOSHA Standards Division; **Christopher Morrison**, Analyst, MIOSHA Information Division; and **Katie Benghauser**, Analyst, Bureau Administration.

The team reviewed injury and illness data, including BLS and workers' compensation data; inspection experience; workplace trends; and other information; to identify the specific areas to be covered by the new plan. Once a preliminary draft was developed it was shared with all MIOSHA staff for input and comment.

In addition, stakeholders from throughout Michigan were asked to provide feedback. A

special **Stakeholders Meeting** was held on June 11, to hear first-hand from representatives from business, employee organizations, and others who interact with the program such as universities, trade organizations, and other state government agencies. Ten employer representatives, five employee representatives and 15 interested others (universities, associations and other state departments) attended.

The stakeholders indicated how "on target" they thought the bureau was with 28 draft emphasis areas included in the plan. Overall, the feedback received is that the new draft plan is on track. A discussion followed on some of the emphasis areas, either because stakeholders had questions or staff wanted additional feedback.

These are very broad goals and objectives. To develop strategies, methods and tactics, to reach these goals, MIOSHA has set up 18 internal workgroups to develop specific actions. These groups consist of staff who bring together a variety of experience and perspectives. The specific strategies developed will guide the work of the various divisions throughout the five years of the plan.

We continue to seek input as we work to implement this new plan beginning October 1, 2003. The Strategic Plan is available for view on our website at: www.michigan.gov/miosha.

If you have comments or suggestions, please feel free to call your comments to bureau administration at 517.322.1814, or submit e-mail comments to: bsrinfo@michigan.gov/miosha.

We look forward to working with Michigan employers and employees to meet the safety and health challenges that lie ahead! ■

Lacks Enterprises

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- Using lift tables, lifters and tilters to eliminate heavy lifting,

- Using airlift tools to eliminate arm and hand stress,

- Changing table heights/angles to improve body postures,

- Changing workstation layouts to eliminate twisting,

- Using robots to reduce force stress,

- Using electronic touch pads to bring components in worker's comfort zones,

- Redesigning a product line to eliminate force stress and repetition.

Many of Lacks' plants were plagued with old production line technology. The workstations, by design, required excessive force, twisting and lifting. Lacks worked with several different suppliers to improve the design of their production lines, along with the equipment used by workers on the line. In many instances, Lacks employees helped design new equipment—with great success. Today Lacks engineers incorporate ergonomic elements when they design new production lines and workstations.

Corporate Safety Manager **Mark Stratton**

said the biggest hurdle was overcoming employees' resistance to change. "But we've always done it this way," was a refrain he heard early on with the program. Today, employees are part of the change, and demand continuous safety improvements. Part of the pilot program was the use of job rotation to reduce repetition and force injuries. At first employees didn't want to learn any other jobs, nor did they want to move from job to job. Today they work in teams and expect job rotation because they know it decreases injuries.

Lowering Work-Comp Costs

As employee involvement and ownership grew, management noticed a distinct correlation with greater productivity, higher quality parts, less scrap, less lost work days, and less downtime. Lacks attributed this to greater employee satisfaction in their work environment, and the appreciation that their safety was a top management priority.

In 1997, Lacks had a total of 62 ergonomic-related injuries. After implementing the program in all of their plants, they had 41 cases in 1998. As employee involvement and management commitment at each site grew, these numbers continued to decline. In 2000, their ergonomic-related cases dropped to 22. In 2001 they had only

four cases, and to date, they have not had an ergonomic-related injury in 2003!

Lacks received a 10-year benchmark report from their insurance carrier, Midwest Employers Casualty Company. The report covered February 1993 through February 2002, and showed a comparison of incurred losses. The summary indicated that Lacks' average claim costs were 32 percent less than comparable peer companies, resulting in a savings of \$1,035 per claim.

It further indicated that overall Lacks has performed 35 percent better than its peers in comparison of ultimate incurred losses. Significantly, Lacks Enterprises is expected to incur \$2,836,939 less in lost wage and medical benefits as compared to its peer benchmark!

"Our plant managers have done an outstanding job implementing ergonomic changes throughout our 13 Grand Rapids area manufacturing facilities," stated Director of Human Resources **Roger Andrzejewski**. "The changes have benefited both our employees and the corporation. Since 1997, we've reduced the number of cumulative repetitive trauma disorder claims by over 93 percent. That translates to healthier employees and about \$900,000 in annual savings for the corporation." ■

Ford Field Fatality

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Every Company Responsible for Safety

A total of nine Willful violations are alleged against the two companies—five against Thomarios Painting and four against Brockman Equipment. Both companies were aware of the hazardous conditions involved in painting the trusses—and yet they willfully placed these workers in harm’s way with a pattern of indifference for their safety.

Thomarios was cited for a Willful violation of the General Duty clause for failure to protect their worker from a hazardous condition and a Willful citation for failure to have operators perform a pre-operation inspection. Brockman received a Willful citation for failure to inspect and maintain the aerial lift platform. Both companies received three Willful citations for: inadequate training, no manuals provided, and missing warning decals/stickers.

“It became apparent from our MIOSHA investigation that each of these two companies abrogated their own safety and health responsibilities and relied on the other company to protect the workers,” said **CIS Director Hollister**. “These citations today send a clear message that in a situation involving multiple companies—every company will be held accountable for the willful disregard of worker safety and health.”

Because of the complexity and expense of the aerial lift, Brockman Equipment supplied an operator with the rental of the Condor. The operator was responsible for driving the truck chassis, making mechanical repairs, and training all the painters who would be working from and operating the platform. The MIOSHA investigation revealed that workers received almost no training on the operation of the Condor and especially on possible hazards and warning signs.

Operator training is critical for the safe operation of equipment with such inherent hazards. Neither company fulfilled their obligation to as-

sure operators were adequately trained. The lack of a manual and warning decals/stickers were equally important because both contained crucial warnings of hazards that could cause serious injury and even death, and yet were not available to the workers.

The MIOSHA Investigation

Construction continues to be an extremely hazardous occupation in Michigan. Although construction workers comprise only about four percent of the workforce, they account for more than 40 percent of the fatalities each year. There were 24 construction fatalities in Michigan in 2002, and to date there have been 10 in 2003.

Construction projects of this magnitude can require anywhere from 20 to 100 or more subcontractors. The Lions’ Ford Field stadium construction project required in excess of 80 subcontractors. A general contractor is retained to oversee the project. In the case of Ford Field, the general contractor duties were performed by Hunt Construction Company, Inc., and Jenkins Construction, Inc., referred to as Hunt/Jenkins.

Hunt/Jenkins required a contractual agreement with all subcontractors that stated, in part: “Subcontractor agrees to comply, at its own expense, with all applicable statutes, regulations, orders, rules, requirements and standards of all governmental authorities having jurisdiction with respect to the Project, including but not limited to those dealing with taxation, workers’ compensation, equal employment opportunity, Federal, State and Local MIOSHA regulation...”

Because of the constantly changing environment on construction sites, the MIOSHA investigation was complex and required nine months to complete. MIOSHA construction safety officers conducted more than 30 interviews with employees and management from various companies including Thomarios Painting, Brockman Equipment, Whitmore Steel, Jeffers Crane, and Hunt/Jenkins. MIOSHA construction safety officers found a significant number of workplace safety violations at the time of the accident and a substantial indifference/disregard on the part of both companies for fulfilling their obligations under the MIOSHA Act.

MIOSHA also hired an engineering firm as experts to analyze the aerial lift for possible structural failures, mechanical problems, and instability. The firm ruled out structural failure as a probable cause of the fall of the Condor. They indicated

that a combination of instability, mechanical problems, and an inadequately trained operator were factors that may have contributed to the fall. The results helped MIOSHA make final determinations and recommendations.

Thomarios and Brockman Safety Obligations

Thomarios Painting is based in Akron, Ohio, and their construction projects include manufacturing facilities, stadiums, hospitals and office buildings, across the nation. Some of their employees travel from site to site, and some workers are hired at each construction location.

Thomarios hired some employees for the Ford Field site through Painters Union Local 37. On the date of the fatality, Thomarios had 11 employees on site, a project manager and 10 painters (with some identified as foremen/painters), and was working two shifts.

Brockman Equipment, Inc., of Detroit, specializes in renting lift trucks, scissor lifts, and aerial work platforms. In 1987, Brockman purchased the Condor 150S from Calavar Corporation. Brockman rented the Condor and a Bronto 52-2T2, to Thomarios for the Ford Field job. There was no operator manual for the Condor and the manual on the Bronto was for a different model. The missing manuals made it impossible for operators to read or understand all operating and safety information for those units.

Although the Condor and the Bronto are both aerial lifts, their controls are significantly different. Therefore employee training, specific to each unit, was critical to assure that all operators recognized hazards and warning signs. On the lower control panel in the Condor work platform is a decal in bold lettering that states: “An untrained operator subjects himself and others to death or serious injury. You must not operate this machine unless you have been trained in the safe operation of this machine.”

MIOSHA interviews indicated that employees received almost no training in the operation of the Condor. Particularly, employees were not trained in the instability warning system, which is an electronic system that alerts the operator when an operation is approaching an unstable condition. MIOSHA interviews indicated that this system was not functioning at the time of the accident, and no outrigger alarm sounded on the ground or in the platform. Because workers weren’t trained in this system, they were unaware it was not functioning properly.

Interviews also indicated that employees assumed the Condor would stop if an unsafe or unstable condition was reached, like newer models do—which was not the case with the Condor. Manufacturers decals were not explained and some were missing from the platform. Particularly the warning stickers were missing that identify the hazard of: “Not to allow the unit’s elbow and basket to be on the same side of rotation.”

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The Condor truck chassis was not able to support the aerial lift, and both the chassis and the lift overturned in the accident.

Ford Field Fatality

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The Condor was delivered to Ford Field on July 27th. There were mechanical problems with the Condor. The night previous to the July 30th fatality, a hydraulic pump was replaced. Because the Condor is a hydraulic lift, the fluid levels are critical. Low levels can cause hydraulic fluid cavitation in the pump, which may affect stability.

The MIOSHA investigation revealed that Thomarios had a deadline by which their portion of the work had to be completed. Failure to do so would result in loss of profit and they would be subject to additional monetary penalties. Employee training, daily pre-operation inspections, and daily preventive maintenance and 90-day preventive maintenance all require employer time commitments.

Summary of Violations

Brockman Equipment, Inc. received a total of 10 violations, with total penalties of \$286,000, including: four Willful violations with \$280,000 in penalties; one serious violation with a \$5,000 penalty; one Regulatory violation with a \$1,000 penalty; and four Other-than-Serious violations with no monetary penalty.

Thomarios Painting received a total of 14 violations, with total penalties of \$270,000, including: five Willful violations with penalties of \$259,000; two Serious violations with \$10,000 in penalties, one Regulatory violation with a \$1,000 penalty; and six Other-than-Serious violations with no monetary penalty.

A Willful violation is defined as one committed with an intentional disregard of or plain indifference to the requirements of the MIOSHA Act and regulations. Based on provisions in the MIOSHA Act, Public Act 154, as amended, every Willful violation, which is connected to a fatality, is referred to the Michigan Attorney General's Office for criminal investigation and/or prosecution. ■



The basket of the aerial lift fell into the seating area of the stadium, fatally injuring painter Gjon Gojcak.

Chromium

Cont. from Page 6

chromic acids and chromates, has a TWA exposure limit of 0.1 mg/m³.

In addition to the air contaminant limits for chromium, there are other MIOSHA standards with specific requirements concerning chromium. Part 621, Health Hazard Controls for Specific Equipment and Operations for Construction, requires ventilation to control exposures below the limits in Part 601 when welding, cutting, or heating in any enclosed spaces involving chromium-bearing metals or metals coated with chromium-bearing materials. Part 529, Welding, Cutting and Brazing (general industry), has requirements for cutting of stainless steel. Part 529 requires using mechanical ventilation adequate to remove fumes generated when oxygen cutting using either a chemical flux or iron powder, or gas shielded arc cutting of stainless steel. Part 526, Open Surface Tanks (general industry), has specific requirements for ventilation systems, chromic acid extinguishers, and eye and body flushes.

Personal protective equipment (PPE) for employees exposed to chromium hazards will again depend on the processes, work practices, and procedures. The MIOSHA personal protective equipment standards for general industry and occupational health (Parts 33 and 433, respectively), require an employer to assess the workplace to determine if hazards are present that necessitate the use of PPE. Since chromium hazards can affect the eyes, skin, and respiratory system, adequate PPE for eyes, face, hands, body, and respiratory system may be required, depending on the results of the hazard assessment. Construction Safety Standard Part 6 provides specifications for PPE and prescribes the use of this equipment for the protection of the employee's head, face, eyes, hands, feet, and body during construction operations. Appropriate respirators protect against particulate hazards, and a dust and mist pre-filter may be required if protection against mists in plating operations are encountered. Use of respirators by all employees, in general industry and construction, must comply with Part 451, Respiratory Protection.

Promulgating a Hex Chrome Standard

A substance-specific standard on hexavalent (hex) chrome, Cr VI, is expected to be promulgated by the federal OSHA program. In December 2002, OSHA announced it plans to go forward with proposed rulemaking on occupational exposure to hexavalent chromium. The agency requested public comments in August 2002, on the best way to address occupational exposures to the element. Twenty-six comments had been received when the comment period closed on November 20, 2002.

On April 2, 2003, the U.S. Court of Appeals for the Third Circuit directed OSHA to

publish a proposed hexavalent chromium rule no later than October 4, 2004, and a final standard no later than January 18, 2006. The Court issued the ruling based on a recommendation from a court-appointed mediator trying to resolve a suit from Public Citizen Health Research Group seeking to require OSHA to promulgate a new standard on chromium. State-plan program states, such as Michigan, are required to adopt a standard at least as effective as any federal standard within six months of promulgation of the federal standard.

The American Conference of Industrial Hygienists (ACGIH®) is private not-for-profit, nongovernmental corporations whose members are industrial hygienists and other occupational health and safety professionals dedicated to promoting health and safety within the workplace. Each year, the ACGIH® publishes recommended exposure limits known as *Threshold Limit Values*, or TLVs®. These TLVs® are guidelines that represent scientific opinions based on a review of existing peer-reviewed scientific literature by committees of experts in public health and related sciences. Employers may wish to follow the ACGIH® recommended TLVs® for chromium compounds during the hex chrome standard promulgation process. Information on the TLVs® may be obtained by contacting the ACGIH® at 513-742-2020 or visiting their website at www.acgih.org.

For information on chromium and occupational chromium hazards, you can contact the MIOSHA Occupational Health Division at 517.322.1608. ■

MVPP Johnson Technology

Cont. from Page 3

appropriate for the hazards present. Comprehensive safety surveys are conducted and a sophisticated system of physical hazard controls is in place and highly effective. The company also conducts exposure monitoring on a regular basis.

Individual, cell, and company-wide goals are set annually following a comprehensive audit of the safety performance and management systems. Some objectives included: 35 percent reduction in injuries and lost time rates; 15 percent reduction in work-comp costs; no employee exposures to contaminants or physical agents exceeding established limits, and implementation of the SAFE program, a behavior-based tool for improving employee work practices. Employee perception of the safety and health management system is that it is continuously improving, focused and effective.

The Latimer Plant produces turbine nozzle segments and shrouds for aircraft and land-based systems. Their 477 associates annually manufacture close to 100,000 jet engine parts that are assembled into several different types of aircraft. ■

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

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Bureau of Safety & Regulation
Director: Douglas J. Kalinowski

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