

## Director's Corner

Bart Pickelman, CIH, Director



On July 23, MIOSHA announced there was \$8.55 million available in COVID-19 grants to help employers across the state to keep their employees, customers and communities safe during the COVID-19 pandemic. The initial grant application window was from July 27 through

August 7. MIOSHA anticipates making awards in September. Depending on how much of the grant monies have been expended, there may be a second opportunity to apply for the remaining funds. These grants provide small businesses matching funds up to \$10,000 to decrease the risk of COVID-19 spread through safety and health-related equipment purchases and training in response to COVID-19. Additional information on grant funding can be found in the [program brochure](#).

MIOSHA has recently implemented two State Emphasis Programs (SEP). The first one issued in early July ensures [front-line hospital workers](#) caring for and treating COVID-19 patients are receiving the appropriate personal protective equipment (PPE) from their employer. The second SEP was issued July 27 and includes businesses such as [bars and restaurants, gas stations and convenience stores, grocery stores and other retail establishments](#).

Stay safe and healthy!

### COVID-19 Workplace Safety

MIOSHA has issued general workplace guidelines for [employers](#) and [employees](#), as well as industry specific guidelines for getting employees back to work safely. To reopen safety visit [Michigan.gov/COVIDWorkplaceSafety](https://Michigan.gov/COVIDWorkplaceSafety) for the latest guidelines and resources. There are many resources available including videos, posters and factsheets to help maintain a safe and healthy workplace.

If you have questions or concerns as an employer or employee regarding COVID-19, please call our new hotline, **855-SAFE-C19 (855-723-3219)**.

## Personal Fall Protection Systems: Providing for Prompt Rescue in the Event of a Fall

Augustine Syrový, Occupational Safety Consultant  
Consultation Education and Training (CET) Division

Imagine a scenario where an employee has appropriately selected and utilized a personal fall arrest system. During that time an event occurs causing the employee to fall, activating the system. It safely reduces the arresting forces, bringing the employee to a complete stop suspending them from the [dorsal](#) attachment point of their body harness. The employee is conscious and reports no immediate medical related complaints. This, of course, is a success as the personal fall arrest system performed as expected. However, the situation is still quite serious. Not only is the employee suspended in the air, but they are also in great danger of developing suspension trauma which can lead to loss of consciousness and eventual death.

This article will address three questions: what is suspension trauma? What does it mean to "provide for prompt rescue? And what resources are available to help an employer develop a rescue plan? Addressing these three questions will assist an employer in complying with General Industry [Part 33](#) R 408.13395a(22) which states: **An employer shall provide for prompt rescue of each employee in the event of a fall.**

The focus of this article is general industry, however those in construction can refer to Construction [Part 45](#) 1926.502(d) (20) for a comparative rule. This article briefly discusses suspension trauma but is not intended to provide medical

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## Personal Fall Protection Systems: Providing for Prompt Rescue in the Event of a Fall *(continued)*

Augustine Syrový, Occupational Safety Consultant, CET Division

advice. While simplicity is usually best, rescues from falls can be highly complex and often require significant technical expertise. Training is always a must as required under General Industry [Part 33](#) R 408.13309 and General Industry [Part 2](#) 1910.30. Finally, remember to immediately remove from service components subjected to an impact load as required under General Industry [Part 33](#) R 408.13395a(18).

**What is suspension trauma?** Generally speaking suspension trauma, also referred to as orthostatic intolerance or harness-induced pathology, is the reduction of [systemic circulation](#) leading to venous pooling in the lower extremities due to being suspended in the upright position often coinciding with muscle confinement and/or lack of movement. This condition can lead to loss of consciousness and eventual death. Body harness design, fit, and emergency straps or steps should be carefully considered when selecting a personal fall arrest system as they can play an important role in delaying the onset of suspension trauma. For additional information, including signs, symptoms, and risk factors, please refer to OSHA's Safety and Health Information Bulletin on [Suspension Trauma/Orthostatic Intolerance](#) (SHIB 03-24-2004, updated 2011). For those interested in the [pathophysiology](#) of suspension trauma, an article from the Journal of Emergency Medical Services entitled "[Redefining the Diagnosis and Treatment of Suspension Trauma](#)" may serve as a useful starting point.

**What does it mean to "provide for prompt rescue"?** To answer this question, we start by looking through the definitions section of the applicable standard(s) to see if "provide" or "prompt" has been defined. In the absence of a definition(s) another resource to reference is OSHA's [preamble](#) information pertaining to the regulation rulemaking process. In our case, we can reference the [Walking-Working Surfaces and Personal Protective Equipment \(Fall Protection Systems\)](#) document.

With regard to "**provide**," the preamble states the following on page 166: *Paragraph (c)(21) of the final rule sets forth two fundamental points: (1) Employers must provide for the rescue of workers when a fall occurs, and (2) the rescue must be prompt. With regard to the first point, the final rule requires that employers must "provide" for rescue, which means they need to develop and put in place a plan or procedures for effective rescue. The plan needs to include making rescue resources available (i.e., rescue equipment, personnel) and ensuring that workers understand the plan.* OSHA discusses self-rescue by stating the following on page 167 of the preamble: *OSHA notes that although an increasing number of employers provide devices that allow workers to rescue themselves, where self-rescue is not possible, the employer must ensure that appropriate rescue personnel and equipment is available for prompt rescue.*

With regard to "**prompt**," the preamble states the following on page 167: *OSHA's definition of "prompt" is performance based. Employers must act quickly enough to ensure that the rescue is effective; that is, to ensure that the worker is not seriously injured. If the worker is injured in the fall, the employer must act quickly enough to mitigate the severity of the injury and increase the survivability of the worker.* OSHA summarizes prompt rescue by stating the following on page 167 of the preamble: *In summary, prompt rescue means employers must be able to rescue suspended workers quickly enough to ensure the rescue is successful—quickly enough to ensure that the worker does not suffer physical injury, such as injury or unconsciousness from orthostatic intolerance, or death.*



Rope Rescue Monopole Tower

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## Personal Fall Protection Systems: Providing for Prompt Rescue in the Event of a Fall *(continued)*

Augustine Syrový, Occupational Safety Consultant, CET Division

**What resources are available to help an employer develop a rescue plan?** Discussion on rescue considerations can be found under General Industry [Part 33](#) Appendix C(h) and page 174 of the [Walking-Working Surfaces and Personal Protective Equipment \(Fall Protection Systems\)](#) document. National consensus standards can also provide useful information in developing a rescue plan. When classifying types of rescue it is common to use terms like **self-rescue** and **assisted-rescue** which are often in reference to ANSI/ASSP [Z359](#) (Fall Protection and Fall Restraint Standards) or to **team-based rescue** capabilities such as awareness, operations, and technician level which are often in reference to NFPA [1670](#) (Standard on Operations and Training for Technical Search and Rescue Incidents). NFPA [1006](#) (Standard for Technical Rescue Personnel Professional Qualifications) could be used as a resource when establishing competency levels for team-based rescue members.

Finally, contacting your local emergency response agencies can provide a wealth of information which is more specific to your location and/or area. Part of your rescue plan might include determining the type of questions a dispatcher would likely ask in the event you need to call 911 and what a typical response time is for an advanced life support unit to arrive at your facility. Asking for team-based rescue capabilities is an important point as not all local emergency response agencies are trained to handle rope rescues (NFPA [1670](#) Chapter 5) and/or tower search and rescues (NFPA [1670](#) Chapter 23). Often a regional technical rescue team is dispatched for these types of incidents which takes additional time to mobilize.

Being prepared can save a life in the event of a fall while using a personal fall arrest system. Knowing the risks associated with suspension trauma, the requirement for prompt rescue, and the available resources is the first step in developing a comprehensive rescue plan. A rescue plan does not need to be overly complex but must provide enough information to ensure the rescue is effective.

*This article contains hypertext pointers to information created and maintained by other public and private organizations. Please be aware that we do not control or guarantee the accuracy, relevance, timeliness, or completeness of this outside information. Further, the inclusion of pointers to particular items in hypertext is not intended to reflect their importance, nor is it intended to endorse any views expressed or products or services offered by the author of the reference or the organization operating the site on which the reference is maintained.*

## MIOSHA Training Institute (MTI)

Gloria Keene, MTI Program Coordinator, CET Division

On March 10, 2020, Governor Whitmer declared a State of Emergency due to COVID-19. The continued rapid spread of the COVID-19 coronavirus, officially declared a pandemic and national emergency, required MIOSHA to implement unprecedented measures to protect our MIOSHA Training Institute (MTI) participants and staff. This significantly impacted the number of MTI trainings available to the public from March 16, 2020 to June 30, 2020. During this timeframe 40 of 152 scheduled classes were either canceled or rescheduled, affecting approximately 316 students. Typically, CET consultants train approximately 500 MTI students in a three-month time-period.

The remaining classes scheduled from August through September will be taught face-to-face, but in compliance with current Executive Orders.

To learn more about MTI and what it can do for you, please contact the CET Division at 517-284-7720 or visit the website at [michigan.gov/mti](http://michigan.gov/mti).



## MVPP Best Practices — Johnson Technology Inc.-Norton Shores

**Doug Kimmel, MVPP Specialist, CET Division**

**Phil Boucon, Environmental, Health & Safety Leader, Johnson Technology-Norton Shores**

**Garth Dalson, Environmental, Health & Safety Specialist II, Johnson Technology-Norton Shores**

The Johnson Technology Inc. (JTI) Norton Shores location has been a MIOSHA MVPP Star site since 2004. A GE Aviation subsidiary, JTI Norton Shores, employs 486 associates who work in the two large buildings on the site. JTI is a world leading manufacturer of first and second stage nozzles and shrouds for numerous commercial and military jet engines.

The MVPP Star is MIOSHA's highest recognition and is awarded to sites that have demonstrated excellence in the implementation of their health and safety management system. The identification of best practices is integral to the MVPP continuous improvement process. JTI's Stop Work Order (SWO) process is an example of a procedure that has evolved into a very effective method of hazard recognition and associate involvement that can certainly be considered a best practice.

The SWO process gives associates the authority, as well as the responsibility, to stop work whenever an unsafe condition or behavior is identified. It applies to procedures and processes, as some have inherent hazards that were not identified or anticipated when they were initially implemented. JTI associates are empowered to utilize the SWO stop work process, without fear of retribution or reprisal.

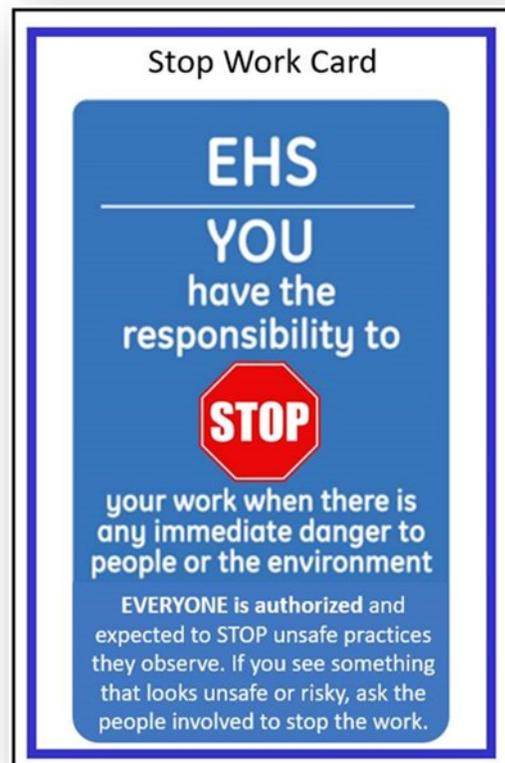
SWO badges with statement *"You have the responsibility to STOP your work when there is any immediate danger to people or the environment. EVERYONE is authorized and expected to STOP unsafe practices they observe. If you see something that looks unsafe or risky, ask the people involved to stop the work"* have been issued to associates. The badges serve as a reminder that JTI associates have the authority to halt work whenever a potential hazard is identified.

In the past, the SWO process utilized paper documents that an associate would complete and post at the machine, or in the area, where a hazard(s) was found. For example, if the sparks generated from grinding metal on a pedestal grinder triggered the fire suppression system, this would require the completion of an SWO form that would be placed on the machine. The SWO would also initiate an investigation to determine the factors that lead to the resultant condition. The SWO would remain in place until the root cause(s) were determined and corrective actions were implemented.

Although the paper documents worked, it was felt that the system could be improved by making it easier for associates to access and use (the SWO forms were often kept in the supervisor's office). Therefore, the decision was made to move to an electronic SWO.

With the help of their I.T. Department, JTI has automated the system. Now, when an associate observes an unsafe condition, they simply locate a computer (computers are available on the shop floor and in many offices) and enter an Electronic Stop Work Order (e-SWO). After an e-SWO has been entered into the system, an alert is sent to the appropriate supervisor, the business leader, engineers, and each of the members of the JTI Environmental Health and Safety (EHS) Team. The associate that created the e-SWO will also print out a physical SWO and post it on the machine or in the area.

In addition to making the system easier to access and use, the e-SWO is also a great tool for identifying trends and gathering other pertinent information. As e-SWO's are entered into the system a digital database is created. EHS team members, supervisors, engineers, etc. can access the data pool and "mine" the data in order to identify trends.



*The Stop Work Card is issued to JTI associates and is worn on the same breakaway lanyard as the associate's picture badge.*

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## MVPP Best Practices — Johnson Technology Inc.-Norton Shores *(continued)*

**Doug Kimmel, MVPP Specialist, CET Division**

**Phil Boucon, Environmental, Health & Safety Leader, Johnson Technology-Norton Shores**

**Garth Dalson, Environmental, Health & Safety Specialist II, Johnson Technology-Norton Shores**

An added benefit of the updated system allows for the tracking of the status of e-SWO's. This helps to ensure that progress is being made on open SWO's and assures that they are properly closed when the corrective actions are complete.

Another important feature of the updated system is that it has been integrated into Shift Notes 3.0. This is important because Shift Notes 3.0 is the primary written communication tool used during departmental shift start-up meetings. Incorporating SWO's into Shift Notes 3.0 ensures that associates in every department are aware of each SWO.

The improvements made to the SWO system have made it a much more valuable tool by making it easier for associates to access and use, significantly improving the ability to track the status of SWO's and allowing for better communication of important information. It has also further empowered associates. Since the change approximately one year ago, nearly 1,000 e-SWO's have been submitted, addressed, and closed.

## 2020 Trench Safety Stand Down

**Eric Allen, Safety Manager, Construction Safety and Health Division (CSHD)**

Employers in Michigan and across the country participated in the 2020 [Trench Safety Stand Down](#) (TSSD) during the week of June 15-19, 2020. Since 2019, reducing trenching and excavations hazards has been federal OSHA's Agency Priority Goal. Federal OSHA initiated a National Emphasis Program (NEP) surrounding this topic in 2019 and [MIOSHA created a Michigan-specific version](#).

National Underground Contractors of America (NUCA) promoted the TSSD which is supported by OSHA and sponsored by the Safety Ambassadors Club. The hope of these events is to have a safety function, such as a toolbox talk, which brings awareness to the specific hazards related to excavation/trenches. One Michigan company, Kamminga and Roodvoets, Inc. (K&R) has participated in the TSSD for the past four years. Typically, MIOSHA representatives are invited to speak at these events where the employer asks for MIOSHA's involvement. Due to the COVID-19 situation, MIOSHA promoted the TSSD online, through email publications and during onsite activities. [View a copy of Construction Safety Standard, Part 9. Excavation, Trenching, and Shoring](#).

OSHA and the American Society of Safety Professionals (ASSP) held a free webinar in support of the TSSD on June 18, 2020. The intent was to increase awareness of trench and excavation hazards and reinforce the



importance of using trench protective systems to safeguard workers. Scott Ketcham, Director of OSHA's Directorate of Construction, provided an overview of the National TSSD, now in its fourth year. Statistics on trench fatalities and violations of OSHA's standards were provided. Mike Hayslip and Steve Stock, representing ASSP, shared suggestions on how contractors and workers conduct excavation and trenching operations safely by following subparts of 29 CFR 1926, as well as best practices described in industry consensus standards such as ANSI/ASSP A10.12. [View a recording of the webinar](#).

If your company participated in the TSSD and would like to receive a certificate of participation, visit the [TSSD website](#), scroll to the segment labeled, "Recognition of Participation" and follow the directions.

*K & R employees after one of their stand down events.  
K & R held events at different sites during the week-long event to promote TSSD.*

## Employee Exposure to Chloramines in a Waterpark

Megan Brock, Health Supervisor, General Industry Safety and Health Division (GISHD)

In 2018, an indoor waterpark had several lifeguards report adverse health effects attributed to the air quality in the park. Their symptoms included watery eyes, excessive coughing, vomiting, asthmatic symptoms, and difficulty breathing. During the investigation it was determined that one of the two ventilation systems was out of service due to maintenance issues and air was not being exhausted, filtered, and supplied at its usual rate within the park. The park was well attended by patrons due to the New Year's Day holiday season and continued operations despite the malfunctioning unit. Currently, there are no specific MIOSHA ventilation standards that apply to indoor water parks; however, employers are required to provide a workplace free from recognized safety and health hazards under the Michigan Occupational Safety and Health Act, Public Act 154 of 1974. Due to the number of employees reporting symptoms and affected by the air quality in the park, a general duty citation was issued, in addition to other citations related to [Part 430, Hazard Communication](#) to ensure employees were trained on the hazards associated with chloramines/trichloramines, [Part 11, Recording And Reporting Of Occupational Injuries And Illnesses](#) for the need to implement a process for reporting injuries/illnesses, and [Part 472, Medical Services and First Aid](#), to ensure employees were offered the opportunity to receive medical attention when illnesses were reported.

Some of the corrective actions to reduce employee exposure to chloramines and improve air quality included repairing and putting the second ventilation system back into service as well as making additional repairs and updates to the supply fan and controller. Additionally, the following practices were implemented when irritation in the park was reported:

1. Halt the bucket features to lower the airborne droplets and surface disturbance.
2. Open fresh air vent to ventilation system to increase fresh air introduction into the building.
3. Halt visitor pass sales to keep pool area occupants steady.
4. Resume operations after 30 minutes of no irritation.

In addition to ventilation equipment updates, the following procedural changes were made to improve air quality:

1. Exchange of the water—remove existing water and add fresh water which removes the production of chloramines. Additional back up action was super chlorination of pools.
2. Maintaining pool chemistry at the lowest combined chlorine recommendation by National Spa and Pool Foundation of 0.2 parts per million or lower.
3. Water for the spray feature to be taken from the water supply after the filtration/chemical cycle.
4. Reduction of water volume in flow at spray features.
5. Increase the amount of time between system dumps for bucket feature.



**Figures 1 and 2.** Aerosolizing spray features of waterpark.

The symptoms experienced by the lifeguards were suspected to be caused by chloramine generation within the waterpark. 'Chloramines are disinfection byproducts (DBPs) that form when chlorine combines with nitrogen-containing compounds from sweat or urine. Chloramines, specifically trichloramine, are suspected as a primary cause of reported irritation symptoms based on exposure monitoring studies [Hery et al. 1995<sup>1</sup>; Massin et al. 1998<sup>7</sup>]. People exposed to trichloramine may experience respiratory symptoms such as cough, chest tightness, wheezing, and eye irritation. In addition to the number of people using the pool, other factors that affect the chloramine concentration in indoor waterparks include water chemistry parameters (e.g., chlorine concentration, pH, temperature), aerosolization of particles caused by splashing and spraying, and air recirculation from the ventilation system [Hery et al. 1995; Massin et al. 1998]<sup>2</sup>.

## Employee Exposure to Chloramines in a Waterpark *(continued)*

**Megan Brock, Health Supervisor, GISHD**

Chloramines and trichloramines do not have a regulatory exposure limit, nor an OSHA-validated assessment method. According to a study performed by NIOSH, their report stated that '...based on concentration-response data in mice, Gagnaire et al. recommended a STEL of 1.5 mg/m<sup>3</sup> and a TWA of 0.5 mg/m<sup>3</sup> for trichloramine [Gagnaire et al. 1994]<sup>4</sup>. A TWA exposure refers to the average airborne concentration of a substance during a normal 8-to 10-hour workday. Although proposed standards and past studies indicate that a comfort level for indoor pool areas would be to keep trichloramine concentrations below 0.5 mg/m<sup>3</sup>, there have been some concerns that this level may not be low enough to prevent symptoms [Massin et al. 1998]<sup>7,3</sup>

A commonly accepted term for the symptoms and illness associated with chloramine/trichloramine and endotoxin exposures for employees performing lifeguard duties in these environments is called 'Lifeguard Lung.' 'Lifeguards and employees working inside an enclosed waterpark for long durations may be at higher risk of having symptoms of exposure to DBPs because they work long hours with fewer breaks than those who work outside the enclosed area'<sup>2</sup>.

While the following recommendations may not be universally applicable, these practices may be considered to assist with elimination or minimization of exposure to DBPs and endotoxin and reduce respiratory, skin, and mucous membrane irritation potentially related to these exposures within the water park<sup>2</sup>:



### Patron and employee education<sup>2</sup>:

1. Provide education and training to employees on recognizing the symptoms and signs of eye and respiratory irritation, skin rash, and asthma that may be attributed to DBP exposures.
2. Encourage employees to report symptoms to management.
3. Encourage patrons to shower before entering and after leaving the pool area.
4. Encourage children to take frequent bathroom breaks to decrease the amount of nitrogenous waste released into pool water [Dziuban et al. 2006]<sup>5</sup>.

### Water chemistry considerations<sup>2</sup>:

1. Keep combined chlorine levels as low as possible and continue to maintain water chemistry within recommended guidelines.
2. Assess water system treatment design, such as ensuring that spray features draw water that has been adequately filtered and treated.
3. Allow water to drain out of spray features during periods of disuse because research has shown that microbials can amplify in them overnight [Rose et al. 1998]<sup>6</sup>.
4. Reduce aerosolization of potential contaminants by using nozzles that produce larger droplets and reduce spray feature cycle times.

### Ventilation considerations<sup>2</sup>:

Place supply and return ducts in locations that allow the ventilation systems to provide enough air movement and remove contaminants properly.

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## Employee Exposure to Chloramines in a Waterpark *(continued)*

Megan Brock, Health Supervisor, GISHD



Additional resources on the topic are available at <https://www.cdc.gov/healthywater/swimming/aquatics-professionals/chloramines.html>. The Centers for Disease Control (CDC) has excellent recommendations for protecting employees and public from novel coronavirus when working or using public pools: <https://www.cdc.gov/coronavirus/2019-ncov/community/parks-rec/aquatic-venues.html>. MIOSHA's CET Division is available to employers, so they may take steps voluntarily to correct hazards and comply with current safety and health regulations and practices. Employers can contact CET at 517-284-7720 or complete a [Request for Consultative Assistance](#) for a free evaluation of their workplace.

### References:

- <sup>1</sup>Hery M, Hecht G, Gerber JM, Gendre JC, Hubert G, Rebuffaud J. [1995]. Exposure to chloramines in the atmosphere of indoor swimming pools. *Ann Occup Hyg* 39(4):427–443.
- <sup>2</sup>Workplace Solutions (From the National Institute for Occupational Safety and Health); Reducing Illnesses at Indoor Waterparks. DHHS (NIOSH) Publication No. 2010–138. <https://www.cdc.gov/niosh/docs/wp-solutions/2010-138/pdfs/2010-138.pdf>
- <sup>3</sup>NIOSH Health Hazard Evaluation Report (HETA) 2007-0163-3062. <https://www.cdc.gov/niosh/hhe/reports/pdfs/2007-0163-3062.pdf>
- <sup>4</sup>Gagnaire F, Axim S, Bonnet P, Hecht G, Hery M [1994]. Comparison of the sensory irritation response in mice to chlorine and nitrogen trichloride. *J Appl Toxicol* 14:405–409.
- <sup>5</sup>Dziuban EJ, Liang JL, Craun GF, Hill V, Yu PA, Painter J, Moore MR, Calderon RL, Roy SL, Beach MJ [2006]. Surveillance for waterborne-disease outbreaks associated with recreational water—United States, 2003–2004. *MMWR* 55(SS12):1–2.
- <sup>6</sup>Rose CS, Martyny JW, Newman LS, Milton DK, Talmadge EK, Beebe JL, McCammon JB, Hoffman RE, Kreiss K [1998]. “Lifeguard lung”: endemic granulomatous pneumonitis in an indoor swimming pool. *Am J Public Health* 88(12):1795–1800.
- <sup>7</sup>Massin N, Bohadana AB, Wild P, Héry M, Toamain JP, Hubert G [1998]. Respiratory symptoms and bronchial responsiveness in lifeguards exposed to nitrogen trichloride in indoor swimming pools. *Occup Environ Med* 55(4):258–263.

## MIOSHA Take-A-Stand Day: Connecting Amid COVID-19

Sherry Scott, Safety and Health Program Manager, CET Division

Take-A-Stand Day (TASD) is a unique opportunity for employers to bolster their workplace safety and health by requesting a free consultative visit from MIOSHA) with **NO CITATIONS** or **PENALTIES**.

On Aug. 12, 2020, MIOSHA compliance and consultation staff visited Michigan worksites to address specific hazards/areas as requested by the employer. In support of the Governor's ongoing efforts to combat the spread of COVID-19 in Michigan, this year MIOSHA invited employers to take advantage of a virtual TASD consultation. These are unprecedented times and as the Michigan workforce gradually resumes in-person work activities, offering a virtual option in addition to our traditional face-to-face visit, was a measure to help prevent viral transmission and keep participants and MIOSHA staff safe and healthy.

TASD has been effective in helping employers statewide to identify, evaluate and control serious hazards in their work operations. In its 16 years of existence, more than 2500 employers have participated in this innovative, annual workplace safety and health event.

MIOSHA compliance and consultation staff connected with employers to provide no-cost, consultation services. Employers that participated in TASD had to agree to correct all serious hazards identified. Employers requesting an in-person visit had to have a COVID-19 Preparedness Plan implemented. To learn more, visit the [MIOSHA COVID-19 Workplace Safety Guidance webpage](#).

Employers that were unable to participate in the annual TASD event can still receive workplace safety assistance. MIOSHA's CET Division offers free safety and health assistance year-round. To learn more, visit [michigan.gov/cet](http://michigan.gov/cet) and complete a Request for Consultative Assistance (RCA) or contact the CET Division via phone at 517-284-7720 or 800-866-4674.

## Case Study—Trenching Hazards

Eric Allen, Safety Manager, CSHD

On Oct. 9, 2017, two employees excavated a trench adjacent to a residential asphalt driveway to expose a broken/clogged sewer line. Employee #1 was using an excavator to dig down to the approximate level of the sewer line, while Employee #2 was using a shovel to locate and clean around the line. The excavation was approximately 70-feet long, 5-feet wide and roughly 8-feet deep. The spoils pile was stacked directly adjacent to the excavation. A 40-foot segment of the excavation and asphalt driveway collapsed at a time when both employees were in the excavation. Employee #2 was completely buried. Employee #1 was partially buried and began yelling for help. A neighbor heard the commotion and called for emergency responders. Employee #1 spent several days in the hospital recovering from the injuries sustained. Employee #2 died as a result of the incident.

### **Rules cited:**

**Part 1. General Rules, Rule 114(1):** An employer shall develop, maintain, and coordinate with employees an accident prevention program, a copy of which shall be available at the worksite.

**Part 6. Personal Protective Equipment, 1926.100(a)\* {formerly Rule 622(1)}:** Employees working in areas where there is a possible danger of head injury from impact, or from falling or flying objects, or from electrical shock and burns, shall be protected by protective helmets.

**Part 9. Excavation, Trenching, and Shoring, Rule 932(4):** An ongoing inspection of an excavation or trench shall be made by a qualified person. After every rainstorm or other hazard-producing occurrence, an inspection shall be made by a qualified employee for evidence of possible slides or cave-ins. Where these conditions are found, all work shall cease until additional precautions, such as additional shoring or reducing the slope, have been accomplished.

**Part 9. Excavation, Trenching, and Shoring, Rule 933(2):** An excavation that an employee is required to enter shall have excavated and other material stored and retained not less than 2 feet from the excavation edge.

**Part 9. Excavation, Trenching, and Shoring, Rule 933(4):** An excavation 48 or more inches in depth and occupied by an employee shall be provided with either a ladder extending not less than 3 feet above the top as a means of access or with a ramp meeting the requirements of subrule (5) of this rule. Lateral travel along the wall of a trench to a ladder or other means of egress shall not exceed 25 feet.

**Part 9. Excavation, Trenching, and Shoring, Rule 941(1):** The side of an excavation more than 5 feet deep shall be sloped as prescribed in table 1, unless supported as prescribed in this part.

\* Demarcates a rule/standard that has had rule number changes since the initial onset of the investigation. Please see the most current standards on the [MIOSHA webpage](#).



## Standards Update

Shannon Matsumoto, Program Manager, Technical Services Division (TSD)

### Completed standards:

- CS Part 640 Beryllium in Construction, **Effective June 15, 2020**  
These rules are being created, in order to be as effective as the federal Occupational Safety and Health Administration (OSHA) standard 29 CFR 1926.1124 “Beryllium.”
- CS Part 632 Hazardous Waste Operations and Emergency Response, **Effective June 15, 2020**  
These rules are being created to provide a MIOSHA standard to be ‘as effective as’ the following federal Occupational Safety and Health Administration (OSHA) regulations:
  - ◆ 1926.65 Hazardous waste operations and emergency response.
  - ◆ 1926.65 Appendices A through E.

### The following standards are in the process of being revised:

- GI Part 62 Plastic Molding
- Hand-Held Portable Dental X-Ray Systems

Watch the [MIOSHA standards web page](#) for final versions once they are approved.

## MIOSHA COVID-19 Hotline & Complaints

Kimberly Fedewa, Executive Assistant to MIOSHA Director

With the implementation of a new hotline to help employers and employees get some much needed answers regarding COVID-19 and their workplaces, MIOSHA staff have been working tirelessly to help employers get their workers back to work. From May through August 19, the call center received 3,104 calls.

Our call center is staffed from 8:00 a.m. to 4:45 p.m. Monday through Friday, except for State of Michigan holidays. If you, or someone you know, have questions about your workplace and what the requirements are, contact MIOSHA at **1-855-SAFE-C19** or **1-855-723-3219**.

The number of complaints MIOSHA has received in 2020 has dramatically increased. Prior to this pandemic, MIOSHA typically received 200 complaints each month. We are now averaging over 1,000 complaints a month since March. MIOSHA has received more complaints since March of this year than in all of 2018 and 2019 combined.

To file a complaint with MIOSHA, go to: [michigan.gov/mioshacomplaint](https://michigan.gov/mioshacomplaint).

## Variations

Variations from MIOSHA standards are available to the public in accordance with Administrative Standards for All Industries, Part 12, Variations (R408.22201 to 408.22251). MIOSHA variations are published on the MIOSHA website: [michigan.gov/mioshavariations](https://michigan.gov/mioshavariations).



### Mission:

To Protect the Safety and Health of Michigan Workers.

The MIOSHA News is a publication of the MIOSHA program.

Its purpose is to educate Michigan employers and employees about workplace safety and health. We encourage reprinting.

### Director:

Barton G. Pickelman, CIH

### Editor:

Kimberly Fedewa

MIOSHA Hotline:  
800-866-4674

Fatality Hotline:  
800-858-0397

General Information:  
517-284-7777

Michigan Department of Labor and Economic Opportunity (LEO)

Michigan Occupational Safety and Health Administration (MIOSHA)

[michigan.gov/miosha](https://michigan.gov/miosha)



LEO is an equal opportunity employer/program.