

MIFACE INVESTIGATION #01MI068

SUBJECT: Worker Falls From Wooden Pallet During Remodeling Work at a Fruit Processing Facility

Summary

On August 22, 2001, a 55-year old male was injured when he fell from a wooden pallet being used as a personnel platform. The pallet was unsecured on the forks of rough terrain forklift. The victim was removing roof fascia boards during a remodeling project at a fruit processing facility. The victim stood on the pallet while the forklift driver raised the pallet to approximately 6 feet off the floor. The forklift driver exited the forklift to wait for the victim to drop the removed fascia board. The victim used a crowbar to loosen one end of the fascia board. The victim pulled the fascia board away from the wall. When the board came loose, the longer portion of the board struck the wooden pallet. The impact caused the victim to lose his balance, and he fell off of the pallet, landing on his back on a concrete floor. A coworker called emergency response. Emergency response treated the victim at the scene and transported him to a local hospital. The victim died ten days later at the hospital.

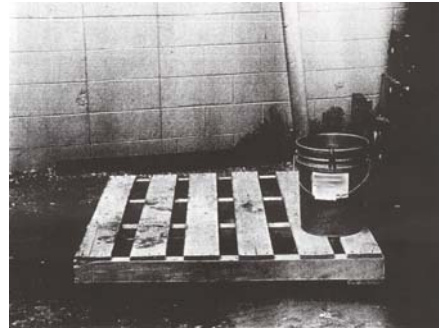


Figure 1
Police Department Photograph

RECOMMENDATIONS

- Employees must be trained in the procedures to safely perform a personnel lift using approved platforms.
- Prior to each personnel lift with a rough terrain forklift, employers should ensure that a pre-lift meeting occurs to review appropriate requirements and procedures for safe work operation.
- Employers should provide employees with all protective equipment necessary, including a 100% fall protection system compatible with the work being performed, instruct employees in the proper use of the system and equipment, and ensure its use.
- Employers should develop, implement and enforce a comprehensive health and safety program that includes, but is not limited to, training in hazard recognition and avoidance and job hazard analysis.
- MIOSHA may wish to consider developing additional information to assist employers unfamiliar with construction safety standards to distinguish maintenance vs. construction activities and to identify safety issues unique to construction work.
- MIOSHA may wish to consider whether there are circumstances in general industry settings where a pre-lift meeting would be beneficial in increasing the worker safety when elevating personnel in the General Industry Safety Standard Part 21, Powered Industrial Trucks.

INTRODUCTION

On August 22, 2001, a 55-year old male was injured when he fell from a wooden pallet being used as a personnel platform. On September 4, 2001, MIFACE investigators were informed by the Michigan Occupational Safety and Health Administration (MIOSHA) 24-hour fatality report system that a work-related injury occurred on August 22, 2001, resulting in the death of the victim on August 31, 2001. On November 26, 2001, a MIFACE researcher visited the facility. The MIFACE researcher spoke with a company representative, but was not permitted to visit the incident site or talk with the witnesses of this incident. The death certificate, autopsy results, police report, and the MIOSHA narrative were obtained during the course of the investigation.

The MIOSHA investigation resulted in 8 citations. One citation was issued for the lack of construction safe operating procedures, hazards, and safeguards in their written health and safety program. One citation addressed the personal protection of employees; they were not wearing hard hats. Five citations were directed at the scaffold issues: scaffold training, personal fall arrest system, platform access, the use of the wood pallet as a platform, and that the work platform did not comply with the requirements of the scaffold and scaffold platform safety standard. One additional citation was issued for unprotected roof edges when employees were working on the roof.

INVESTIGATION

The incident occurred at a fruit processing and packaging plant. The company has been in business for approximately 40 years and employs 150+ employees. Approximately 45 employees were on site at the time of the incident. The company has been at the current site approximately 3 years, and was doing some remodeling of the facilities. The company was extending a roof from one building to another building. The company had no other building remodeling plans. The company has a written health and safety program, and, according to the company representative, there were specific procedures in place for lifting employees with a forklift. MIFACE was not permitted to look at the forklift operator-training program, nor the written health and safety program to ascertain if the program addressed issues related to this fatality. There is a joint health and safety committee that meets monthly, and semi-annual safety training is provided to employees. The safety training incorporated classroom, videos, and on-the-job training.

The victim had been employed as a maintenance person with the company for 7 years, and had a valid operator's permit to operate a forklift. The victim had worked in another plant area that morning driving a forklift and delivering fruit. At lunch, the supervisor talked to him about removing the fascia boards. This was the first time that the victim had performed this type of task, according to the company representative. The supervisor did not cover health and safety issues applicable to the operation. The company required that safety glasses and gloves be worn during the remodeling; hard hats were not required. Harnesses were available for confined space, but no personal fall arrest systems were available.

MIOSHA Construction Safety Standard Part 12, Scaffolds and Scaffold Platforms defines a scaffold as a temporary elevated platform which is supported or suspended, including its supporting system and points of anchorage, and which is used for supporting an employee or materials or both. The wood pallet used is considered to be a scaffold under MIOSHA.

The firm had been doing the roofing work for three days. Employees had been removing some roofing materials and 2"x10"x12' long fascia boards located approximately 12 feet above a concrete floor. The victim and two coworkers arrived at the fascia removal site. Two fascia boards needed removal. Coworker #1 had a valid forklift operator's permit. It is unknown what the content and extent of operator training the forklift driver received before lifting the victim. The working surface for the forklift was level. A wooden pallet (See Figure 1) was placed on the forks of a Case Forklift, model G530 rough terrain forklift.



Figure 2
Police Department Photograph

There was an approved personnel-lifting platform that met General Industry safety standards, approximately 50 feet away; the platform was not used.

Co-worker #1 raised the victim standing on the pallet approximately 6 feet high, exited the forklift and stood on the forklift roll cage to assist the victim during board removal. Coworker #2 was standing on the ground to help lower the fascia board to the ground. The victim used a crowbar to loosen the fascia board. (See Figure 2) While pulling away one of the fascia boards, the long end of the board struck the wooden pallet, and caused the victim to lose his balance. He fell off of the pallet, landing on his back on the cement floor. The pallet remained on the forklift; the fascia landed next to the victim.

One of the coworkers called for emergency assistance. After providing emergency assistance at the scene, the victim was transported to a local hospital. He died 10 days later at the hospital.

CAUSE OF DEATH

The medical examiner recorded the cause of death as cerebral edema due to a closed head injury. No alcohol or drugs of abuse were found in the victim's blood or urine.

RECOMMENDATIONS/DISCUSSION

- Employees must be trained in the procedures to safely perform a personnel lift using approved platforms.

MIOsha Construction Safety Standard Part 12, Scaffolds and Scaffold Platforms Rule 1243 (4) lists the specific requirements a work platform must meet to be used for elevating employees with a rough terrain forklift. The wood pallet used to elevate the victim did not meet the specific requirements listed in Rule 1243(5). The pallet did not have other platform requirements, such as scaffold sleeves, a securing mechanism, and employee protection from moving parts of the mast. Employers must enforce the use of approved personnel lifting platforms.

The police report stated that one of the witnesses indicated that the reason the wood pallet was used because it was more convenient and less restrictive than the platform with the side rails. The importance of side rails is evident in this incident. The pallet was not secured to the mast, did not have fork sleeves, side rails, safety chain or toe board.

Although the unsecured pallet did not fall off of the forks when the fascia board hit it, the employee did fall as a result from a loss of balance. A properly secured, approved work platform with side rails may have prevented the employee from falling off the platform.

The employer stated that employees who were authorized to drive a forklift received training on elevating co-workers. This training does not appear to have been adequate. The employees did not choose the approved lifting platform because of the restriction it placed on the work being done; safety concerns were secondary to job completion.

- When a rough terrain forklift is used to elevate personnel, a pre-lift meeting should occur to review appropriate requirements and procedures for safe work operation.

The MIOSHA Scaffold Standard Rule 1243(1) requires that when a rough terrain forklift is used to elevate personnel, a pre-lift meeting must be held. The pre-lift meeting must occur before the employee(s) are elevated and include all persons involved in the lift (i.e., the lift operator, signal person, employee(s) to be lifted and the person responsible for the task to be performed). The meeting must address the requirements and procedures to be followed so a safe work operation may occur. An initial assessment of the job-at-hand should include identification of the hazards involved.

The supervisor talked to the victim prior to the lift to instruct him to remove the fascia boards, but to the knowledge of the company representative, did not address safe work procedures. It is unknown if the supervisor talked to the other coworker who performed the lift about safe work procedures. A pre-lift meeting should have covered the importance of selecting the proper platform, i.e. the work platform located 50 feet from the operation would provide the safety features necessary to minimize the risk of employee injury from a fall.

The pre-lift meeting should also address the need for fall protection and appropriate personal protective equipment such as hard hats, gloves, safety glasses, etc.

- Employers should provide employees with all protective equipment necessary, including a 100% fall protection system compatible with the work being performed, instruct employees in the proper use of the system and equipment, and ensure its use.

Part 12, Rule 1243(9) states that if an employee is elevated in a platform on a variable reach lift truck, a personal fall arrest system, including anchorage required in Part 45, Fall Protection and Part 6, Personal Protective Equipment is required and shall be worn when an employee is elevated.

The employee was elevated approximately 6 feet above a concrete floor. If the worker had a correctly attached personal fall arrest system, when he lost his balance, he would not have fallen to the concrete floor. He would have been suspended from the elevated fork/mast. The fatal injury may have been prevented if he had been wearing a correctly attached, approved fall protection system.

- Employers should develop, implement and enforce a comprehensive health and safety program that includes, but is not limited to, training in hazard recognition and avoidance.

The company representative stated that the company did have a comprehensive health and safety program. According to the representative, the powered industrial truck operator training covers how to safely elevate an employee to perform work. The policy mandates that the lifting cage be used when an employee is elevated. The policy was not enforced in this incident.

The company did not have a written procedure in place for the removal of the fascia boards. A job hazard analysis is a procedure used to review each job, identify potential hazards, and design actions and procedures to eliminate or control the hazards. The fascia removal was considered a one-time event, the workers involved were unfamiliar with how to safely perform fascia removal, and specific employee training for this activity was not provided. Of primary importance is the recognition that hazards exist; it is unknown if the employees were aware of the hazards of working on the wooden pallet; the statement that it was easier to work on the pallet and not in the protective cage does not indicate that they were unaware, only that a decision was made to not use the lift cage due to the restrictions it provided. Company policies and training should be implemented based upon the findings of the job hazard analysis.

It is unknown if the company health and safety program has a section about conducting a job hazard analysis for existing and new work procedures, and for providing employee job hazard analysis training. Especially in the performance of a one-time activity, a job hazard analysis should be conducted so employees can recognize unsafe work practices and potentially hazardous work conditions when setting up and performing the activity. The employer (or outside consultant) can provide hazard analysis training as part of the development and implementation of the company health and safety program.

A copy of the OSHA Job Hazard Analysis publication is included with this report. This document may also be found and downloaded from the OSHA website: <http://www.osha.gov/Publications>. A job hazard analysis may have potential safety issues, such as employee balance issues during the removal of the long fascia boards, the necessity of using a platform with side rails to prevent a fall, the proper location of other employees (one employee was standing on the forklift cab and also could have fallen), and the identification of appropriate personal protective equipment. Employees were using gloves and safety glasses, but should have also worn a hard hat due to the hazard of falling objects during the fascia removal operation.

- MIOSHA may wish to consider developing additional information to assist employers unfamiliar with construction safety standards to distinguish maintenance vs. construction activities and to identify safety issues unique to construction work.

The company considered the renovation as a maintenance activity; MIOSHA considered the activity a construction activity. The company's health and safety program did not include specific references to construction safety requirements, such as a pre-lift meeting. Generally, forklift trucks are used in settings other than construction in a material handling capacity; they are not used primarily to lift employees. If the available basket was used, the accident may have been prevented, but the company would still have been in non-compliance with the construction standard, since they did not have a

pre-lift meeting. The company health and safety policy must address anticipated construction activities if the company is to be in compliance with the construction standard.

The company representative stated that they were unaware that facia removal was considered a construction activity. Companies that primarily comply with general industry standards may not be familiar with the health and safety requirements of the construction standards. MIFACE recommends that MIOSHA consider developing additional information to assist these companies to recognize potential construction operations/activities. With the knowledge the MIOSHA information would provide, companies could evaluate their health and safety program in light of a potential construction activity, identify construction standards applicable to the activity, incorporate into their program the appropriate measures/equipment required by the standard(s), and provide appropriate employee training.

- MIOSHA may wish to consider whether there are circumstances in general industry settings where a pre-lift meeting would be beneficial in increasing the worker safety when elevating personnel in the General Industry Safety Standard Part 21, Powered Industrial Trucks.

General Industry Safety Standard Part 21, Powered Industrial Trucks, Rule 2166 (Order picker trucks, high lift platforms) and Rule 2167 (fork lift truck platforms) contain the requirements for an employee lift platform. Part 21 also contains both an employee training and a performance-testing component to ensure that the operator can operate the truck through the functions necessary to perform the required job. If the forklift is used to lift employees, this activity should be covered in the training and tested. If the forklift is used infrequently to lift employees, the forklift operator and co-workers may underemphasize and/or not recognize the safety implications of not using the proper lifting platform and personal safety equipment.

Before an employee is elevated, a pre-lift meeting would highlight the importance of properly and safely performing the lift. A pre-lift meeting could review the appropriate requirements and procedures to be followed by all involved in the lift, such as: the platform meets safety requirements and attached so it cannot tip off of the forks, the truck is on firm footing, the platform is returned to the ground before the truck is repositioned, the lifting mechanism is operating smoothly, identifying overhead electrical hazards, specifying required personal protective equipment, etc.

To encourage employers and employees to safely perform a personnel lift in settings other than construction, MIOSHA may wish to consider exploring whether there are circumstances in general industry settings where a pre-lift meeting would be beneficial in increasing the worker safety when elevating personnel, the applicability, and possible incorporation of a pre-lift meeting requirement in the General Industry Safety Standard Part 21, Powered Industrial Trucks.

RESOURCES

MIOSHA Standards cited in this report can be directly accessed from the Consumer and Industry Services, MIOSHA website www.michigan.gov/mioshastandards.

The Standards can also be obtained for a fee by writing to the following address: Department of Consumer and Industry Services, MIOSHA Standards Division, P.O. Box 30643, Lansing, MI 48909-8143. MIOSHA phone number is (517) 322-1845.

1. MIOSHA Construction Safety Standard, Part 1, General Rules
2. MIOSHA Construction Safety Standard, Part 6, Personal Protective Equipment
3. MIOSHA Construction Safety Standard, Part 12, Scaffold and Scaffold Platforms
4. MIOSHA Construction Safety Standard, Part 13, Mobile Equipment
5. MIOSHA Construction Safety Standard, Part 45, Fall Protection
6. MIOSHA General Industry Safety Standard, Part 21, Powered Industrial Trucks
7. Occupational Safety and Health Administration (OSHA) website:
<http://www.osha.gov>

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To improve the quality of the MIFACE program and our investigation reports, we would like to ask you a few questions regarding this report.

Please rate the following on a scale of:

Excellent	Good	Fair	Poor
1	2	3	4

What was your general impression of this MIFACE investigation report?

Excellent	Good	Fair	Poor
1	2	3	4

Was the report...

	Excellent	Good	Fair	Poor
Objective?	1	2	3	4
Clearly written?	1	2	3	4
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Were the recommendations ...

	Excellent	Good	Fair	Poor
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Practical?	1	2	3	4
Useful?	1	2	3	4

How will you use this report? (Check all that apply)

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Thank You!

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