

# **PROGRAM-RELATED FATALITIES**

## **MICHIGAN 2015**



Management Information Systems Section  
Technical Services Division  
Michigan Department of Licensing & Regulatory Affairs  
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## INTRODUCTION

In 2015, Michigan reported 29 Program-Related fatalities. Program-Related fatalities in Michigan are recorded and tabulated by the Management Information Systems Section (MISS), Michigan Occupational Safety and Health Administration (MIOSHA), Michigan Department of Licensing and Regulatory Affairs (LARA). The sources of data include the Basic Report of Injury – Form 100 and telephone reports of fatalities to MIOSHA. The conditions necessary for a fatal case to be Program-Related are defined in the NOTE ON PROGRAM RELATED CASES (see Page 8).

The intention of this report is to promote an understanding of what constitutes a Program-Related fatality and to assist in the continued effort of preventing and reducing fatal cases. Information presented in this report may be of special interest to employers, employees, safety professionals and consultants. Any inquiries regarding this report may be addressed to:

**Management Information Systems Section  
Technical Services Division  
Michigan Occupational Safety and Health Administration (MIOSHA)  
Michigan Department of Licensing & Regulatory Affairs  
530 W. Allegan Street, P. O. Box 30643  
Lansing, Michigan 48909-8143  
Telephone (517) 284-7790**

## **HIGHLIGHTS OF PROGRAM-RELATED FATALITIES, MICHIGAN 2015**

This Program-Related fatality information for Michigan was compiled from the “Employers Basic Report of Injury,” Workers Disability Form 100s, and from direct telephone reports of fatalities to MIOSHA. Only fatal cases that are Program-Related, as defined by MIOSHA, are compiled. Therefore, the data does not include fatalities resulting from heart attacks, homicides, suicides, personal motor vehicle accidents, and aircraft accidents. The figures are shown in **Tables 1 through 7**.

### **PROGRAM-RELATED FATALITY TRENDS**

A definition of Program-Related cases can be found on Page 7 of this report. Program-Related fatality trends for 1987 through 2015 are shown in **Table 1**, as well as data from 1989 through 2015 in **Chart 1**.

This report is an overview of how the fatalities were distributed across industry groups and occupations. Frequencies of fatalities by age group, gender, month of occurrence, and counties of occurrence are also provided.

### **PROGRAM-RELATED FATALITIES BY INDUSTRY**

**Table 2** shows the distribution of Program-Related fatalities by industry groups in 2015. This was determined by the job being performed by the employee at the time of the accident. Beginning in 2003, the industry group category is based on the Northern American Industry Classification System (NAICS), which groups establishments into industries based on the activities in which they are primarily engaged. Prior to 2003, the industry group category was based on the Standard Industrial Classification (SIC) of the employer. Due to the substantial differences between the current and previous classification systems, the results by industry in 2003 and thereafter constitute a break in series and users are advised against making comparisons between the 2003 industry categories and the results for previous years.

During 2015, the largest number of Program-Related fatalities were reported in the Manufacturing (NAICS 31-33) and Construction industries with 10 fatalities each. Administrative and Support and Waste Management and Remediation Services (NAICS 56) and Agriculture, Forestry, Fishing and Hunting (NAICS 11) followed with each reporting three fatalities.

### **PROGRAM-RELATED FATALITIES BY AGE AND GENDER**

The distribution of Program-Related fatalities by age and gender are shown in **Tables 3 and 4**. The age groups 36-40, 46-50 and 51-55 each reported four fatalities, 26-30, 41-45, 56-60, and 61 & over reported three fatalities each. Of the 29 victims, 24 were male employees.

### **PROGRAM-RELATED FATALITIES BY MONTH OF OCCURRENCE**

Fatality data categorized by the month of occurrence is shown in **Table 5**. The months of May and July recorded the highest number of program-related fatalities with 6 each. Three fatalities were reported for the months of April and August. The months of March, June, November and December each reported 2 fatalities.

### **PROGRAM-RELATED FATALITIES BY INDUSTRY GROUPS AND DAYS OF THE WEEK**

Program-Related fatalities by industry groups and days of the week are shown in **Table 6**. The highest number of fatalities by day of the week shows Tuesday and Friday with 7 each, followed by Wednesday with 5, Saturday with 4, Monday with 3, Thursday with 2 and Sunday with 1 fatality reported.

### **PROGRAM-RELATED FATALITIES BY COUNTY OF OCCURRENCE**

The distribution of fatality cases by counties shows that Program-Related fatalities were reported as occurring in 17 counties during 2015. Five fatalities were reported in Wayne County, 3 each in Kent and Saginaw counties and 2 in Macomb County. Sixty-five counties had no program-related fatalities. A complete distribution of fatality cases by county of occurrence is shown in **Table 7**.

Even though Michigan's 2015 total Program-Related fatality cases are far less than the thousands of cases reported nationwide, the consequences of these on-the-job deaths in terms of human suffering, lost workdays, decreased production, and increased compensation rates are too significant to be overlooked.

In order for Michigan to reduce the number of on-the-job fatality cases, it requires a conscious effort on the part of employers to recognize and comply with MIOSHA standards, develop and implement safe working procedures, and assure that employees observe and practice these procedures. The MIOSHA program offers onsite consultation, and consultation, education and training (CET) opportunities to employers and employees alike to help them achieve this goal.

Those Michigan employers, who would like to request education and training services, as well as onsite consultation programs, may contact:

**Consultation Education and Training (CET) Division  
Michigan Occupational Safety and Health Administration (MIOSHA)  
Michigan Department of Licensing & Regulatory Affairs  
530 W. Allegan Street, P. O. Box 30643, Lansing, Michigan 48909  
Telephone (517) 284-7790**

The Program-Related fatality data for Michigan are presented in the following series of **Tables 1 through 8**. A brief description of how the Program-Related fatalities occurred is also provided following the series of tables. The descriptions are listed by industry groups based on the North American Industry Classification System (NAICS), which is based on the activity in which the establishment is primarily engaged. Safety professionals may find this information useful for accident prevention.

#### **NOTE ON PROGRAM-RELATED CASES**

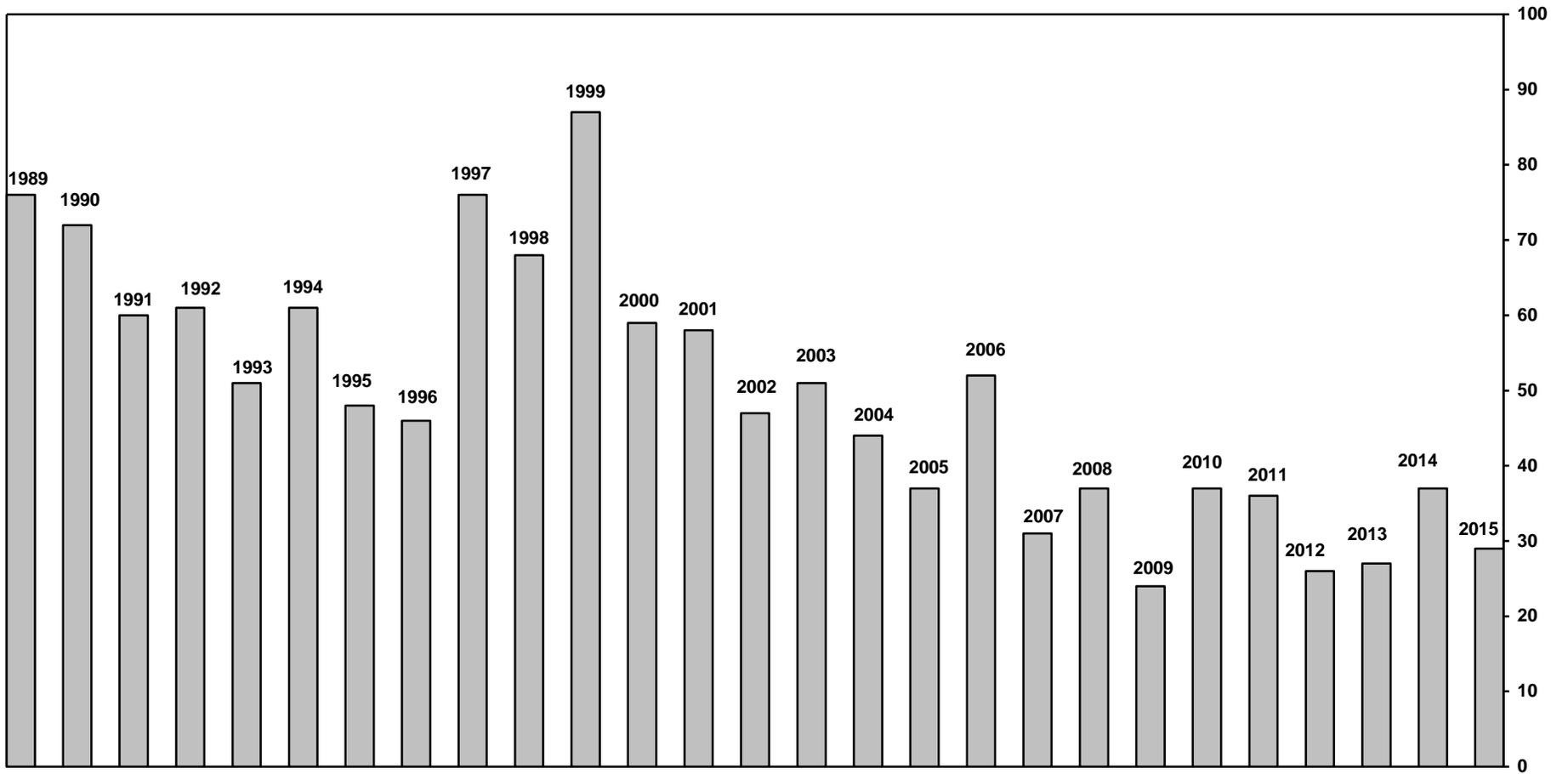
A fatality is recorded as “Program-Related” if the deceased party was employed in an occupation included in MIOSHA jurisdiction as defined in Public Act 154 of 1974, as amended, and the fatality appears to be related to one or more of the following conditions:

1. The incident was found to have resulted from violations of MIOSHA safety and health standards or the “general duty” clause.
2. The incident was considered to be the result of a failure to follow a good safety and health practice that would be the subject of a safety and health recommendation.
3. The information describing the incident is insufficient to make a clear distinction between a "Program-Related" and "non-Program-Related" incident, but the type and nature of the injury indicates that there is a high probability that the injury was the result of a failure to adhere to one or more MIOSHA standards, the “general duty” clause, or good safety and health practice.

Any inquiries may be addressed to:

**Management Information Systems Section  
Technical Services Division  
Michigan Occupational Safety and Health Administration (MIOSHA)  
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530 W. Allegan Street, P. O. Box 30643  
Lansing, Michigan 48909-8143  
(517) 284-7790**

**CHART 1**  
**PROGRAM-RELATED FATALITY TRENDS,**  
**MICHIGAN 1989-2015**



**TABLE 1**  
**PROGRAM-RELATED FATALITY TRENDS,**  
**MICHIGAN 1987 – 2015**

YEAR	NUMBER	PERCENT CHANGE FROM PREVIOUS YEAR	PERCENT CHANGE FROM 1987
1987	73	--	---
1988	64	-12.3	-12.3
1989	76	18.8	4.1
1990	72	-5.3	-1.4
1991	60	-16.7	-17.8
1992	61	1.7	-16.4
1993	51	-16.4	-30.1
1994	61	19.6	-16.4
1995	48	-21.3	-34.2
1996	46	-4.2	-37.0
1997	76	65.2	4.1
1998	68	-10.5	-6.8
1999	87	27.9	19.2
2000	59	-32.2	-19.2
2001	58	-1.7	-20.5
2002	47	-19.0	-35.6
2003	51	8.5	-30.1
2004	44	-13.7	-39.7
2005	37*	-15.9	-49.3
2006	52	40.5	-28.8
2007	31	-40.4	-57.5
2008	37	19.4	-49.3
2009	24	-35.1	-67.1
2010	38*	58.3	-47.9
2011	36	-5.3	-50.7
2012	26	-27.8	-64.4
2013	27	3.8	-63.0
2014	37	37.0	-49.3
2015	29	-21.6	-60.3

Source: MISS/TSD/ MIOSHA/Michigan Department of Licensing & Regulatory Affairs

Note: An amendment has been made to both the 2005 and 2010 fatality counts. They were reported previously as 36 and 37 total fatalities respectively.

**TABLE 2**  
**PROGRAM-RELATED FATALITIES**  
**BY INDUSTRY GROUPS,**  
**MICHIGAN 2015**

<b>NAICS MAJOR SECTOR</b>	<b>INDUSTRY GROUP</b>	<b>TOTAL</b>
11	AGRICULTURE, FORESTRY, FISHING AND HUNTING	3
21	MINING	0
22	UTILITIES	0
23	CONSTRUCTION	10
31-33	MANUFACTURING	10
42	WHOLESALE TRADE	0
44-45	RETAIL TRADE	0
48-49	TRANSPORTATION AND WAREHOUSING	2
51	INFORMATION	0
52	FINANCE AND INSURANCE	0
53	REAL ESTATE AND RENTAL AND LEASING	0
54	PROFESSIONAL, SCIENTIFIC AND TECHNICAL SERVICES	0
55	MANAGEMENT OF COMPANIES AND ENTERPRISES	0
56	ADMINISTRATIVE AND SUPPORT AND WASTE MANAGEMENT AND REMEDIATION SERVICES	3
61	EDUCATIONAL SERVICES	0
62	HEALTH CARE AND SOCIAL ASSISTANCE	0
71	ARTS, ENTERTAINMENT AND RECREATION	0
72	ACCOMMODATION AND FOOD SERVICES	0
81	OTHER SERVICES (EXCEPT PUBLIC ADMINISTRATION)	0
92	PUBLIC ADMINISTRATION	1
<b>TOTAL</b>		<b>29</b>

Note: The industry group categories are based on the Northern American Industrial Classification System (NAICS), which is based on the activities in which the establishments are primarily engaged.

Source: MISS/TSD/ MIOSHA/Michigan Department of Licensing & Regulatory Affairs

**TABLE 3**  
**PROGRAM-RELATED FATALITIES BY AGE,**  
**MICHIGAN 2015**

AGE	NUMBER OF CASES	PERCENT OF CASES
20 and Under	2	7
21 - 25	2	7
26 - 30	3	10
31 - 35	1	4
36 - 40	4	14
41 - 45	3	10
46 - 50	4	14
51 - 55	4	14
56 - 60	3	10
61 and Over	3	10
<b>TOTAL</b>	<b>29</b>	<b>100</b>

Source: MISS/TSD/MIOSHA/Michigan Department of Licensing & Regulatory Affairs

**TABLE 4**  
**PROGRAM-RELATED FATALITIES BY GENDER,**  
**MICHIGAN 2015**

GENDER	NUMBER OF CASES	PERCENT OF CASES
MALE	24	83
FEMALE	5	17
<b>TOTAL</b>	<b>29</b>	<b>100</b>

Source: MISS/TSD/MIOSHA/Michigan Department of Licensing & Regulatory Affairs

**TABLE 5**  
**PROGRAM-RELATED FATALITIES**  
**BY MONTH OF OCCURRENCE,**  
**MICHIGAN 2015**

MONTH OF OCCURRENCE	NUMBER OF CASES
JANUARY	1
FEBRUARY	0
MARCH	2
APRIL	3
MAY	6
JUNE	2
JULY	6
AUGUST	3
SEPTEMBER	1
OCTOBER	1
NOVEMBER	2
DECEMBER	2
<b>TOTAL</b>	<b>29</b>

Source: MISS/TSD/MIOSHA/Michigan Department of Licensing & Regulatory Affairs

**TABLE 6**  
**PROGRAM-RELATED FATALITIES**  
**BY INDUSTRY GROUPS AND DAY OF THE WEEK,**  
**MICHIGAN 2015**

<b>INDUSTRY GROUP</b>	<b>DAY OF THE WEEK</b>							<b>TOTAL</b>
	<b>SUN</b>	<b>MON</b>	<b>TUE</b>	<b>WED</b>	<b>THUR</b>	<b>FRI</b>	<b>SAT</b>	
AGRICULTURE, FORESTRY, FISHING & HUNTING	0	0	2	0	0	1	0	<b>3</b>
CONSTRUCTION	1	2	2	1	1	2	1	<b>10</b>
MANUFACTURING	0	0	3	2	1	2	2	<b>10</b>
TRANSPORTATION & WAREHOUSING	0	1	0	1	0	0	0	<b>2</b>
ADMINISTRATIVE AND SUPPORT AND WASTE MANAGEMENT AND REMEDATION SERVICES	0	0	0	1	0	1	1	<b>3</b>
PUBLIC ADMINISTRATION)	0	0	0	0	0	1	0	<b>1</b>
<b>TOTAL</b>	<b>1</b>	<b>3</b>	<b>7</b>	<b>5</b>	<b>2</b>	<b>7</b>	<b>4</b>	<b>29</b>

Source: MISS/TSD/MIOSHA/Michigan Department of Licensing & Regulatory Affairs

**TABLE 7  
PROGRAM-RELATED FATALITIES BY  
COUNTY OF OCCURRENCE,  
MICHIGAN 2015**

<b>COUNTY</b>	<b>NUMBER OF CASES</b>
ALLEGAN	1
EATON	1
GENESEE	1
HOUGHTON	1
INGHAM	1
IONIA	1
JACKSON	1
KALAMAZOO	1
KENT	3
MACOMB	2
OAKLAND	3
OGEMAW	1
OTTAWA	1
SAGINAW	2
SHIAWASSEE	1
WASHTENAW	2
WAYNE	5
WEXFORD	1
<b>TOTALS</b>	<b>29</b>

Source: MISS/TSD/MIOSHA/Michigan Department  
of Licensing & Regulatory Affairs

**PROGRAM-RELATED FATALITY INCIDENTS  
BRIEF DESCRIPTIONS OF CASES BY INDUSTRY GROUPS**

**AGRICULTURE, FORESTRY, FISHING AND HUNTING:**

1. A family member was working with other immediate family members loading hay bales onto an elevator when her clothing became entangled in the power takeoff (PTO) shaft resulting in fatal injuries.
2. A high school co-op student was working on a hog farm as a farmhand. She was found unresponsive in an area where a steam generator had been in use while high pressure power washing. Atmospheric testing found elevated levels of carbon monoxide and possibly hydrogen cyanide.
3. Three employees were attempting to load a bull into a trailer when the bull turned and ran back into the barn. One employee ran after the bull and the bull charged him. The employee was pinned against a stall and repeatedly rammed in the chest by the bull resulting in fatal injuries.

**CONSTRUCTION:**

4. The deceased and the crew boss were tree trimming on a golf course due to a recent storm. The employees were in the process of removing a limb that was approximately 8-12 inches in diameter. They attached a chain to the tree limb and the bucket of a front end loader. The crew boss was operating the loader with the employee standing in the bucket. He backed up the loader and the tree branch broke pinning the employee in the bucket. The crew boss was unable to move the loader bucket but the employee in the bucket fell 12-15 feet to the ground below.
5. An employee was painting a guardrail on the third story of a house and climbed over the guardrail to paint. While holding onto a ballast and painting with the other hand, the guardrail gave way. The employee fell to the ground thirty feet below.
6. While torch cutting and welding during the relining of an aggregate/sand hopper, the flame-retardant insulation ignited between the hopper and the building structure. The fire traveled up a 65-foot tall structure trapping an employee inside the hopper. The employee received multiple severe burns and suffered from smoke inhalation. He succumbed to his injuries that were a result of the fire.
7. While an electrician was wiring a fire pump at a commercial location, the employee was electrocuted.

8. An employee was removing supports in the basement of a structure when the first floor collapsed and crushed the worker.
9. A construction laborer was working in an excavation approximately 6 ½ feet deep when the sides of the excavation caved in on him.
10. Two employees were struck by an oncoming vehicle while working in a construction zone. One employee was fatally injured.
11. An employee fell through a hole in structural steel to the concrete floor 22 feet below.
12. A construction laborer was working in an excavation installing a drainage system. While a tractor operator was emptying a load of material into the excavation, the tractor fell into the excavation landing on the laborer.
13. An employee was working inside a plastic material container that had been placed on top of the front forks of a forklift unsecured. The box was then elevated to just below the ceiling of the greenhouse when the employee reached outside the box for tools causing the box to shift and fall from the forks. The employee fell approximately 7-feet to the concrete floor below.

#### **MANUFACTURING:**

14. While cleaning sludge from the filter press machine, the press cycled crushing the employee between the plates of the press.
15. An employee was found on the floor by his machine by his employer. It was determined that he died from blunt force trauma to the upper body after being crushed in a CNC machine.
16. While working on a form with an I-beam sitting on dunnage next to the form bed, the beam tipped on its side and fell onto the employee, crushing him.
17. A journeyman maintenance technician entered a robotic weld cell. The robot arm activated, pinning and crushing the employee between the hitch plate and a metal fixture.
18. While attempting to lift a 9,400 pound bundle of steel round stock off a conveyor using an overhead crane, the employee activated a bridge directional button. Upon realizing he activated the wrong button and before repositioning the crane bridge above the load, he activated the upward lift button. As the load lifted, it swung off the conveyor striking the employee in the head.

19. An employee was directing trucks into a loading bay where trucks drive to be loaded with steel. After directing one truck into the bay to be loaded, the employee was waving another truck up into position when the truck that just entered backed up striking the employee, crushing her.
20. An employee who was operating a powered industrial truck attempting to flip over a fabricated metal automotive rack backed up with the rack raised. While he was looking away from the raised load, the top tray flipped open, striking the employee in the back. The employee did not seek medical attention until two days later. He was hospitalized and over the next couple of weeks, his condition deteriorated and he passed away due to various health issues.
21. A plant supervisor and the company owner entered into an area of their facility that was under construction. While attempting to step across an opening, the plant supervisor fell approximately 17-feet to the lower level of the structure causing his death.
22. While attempting to leave the facility, an employee was opening the motorized gate at the shop entrance. The control box to open the gate was on the opposite side and the employee reached through an opening to insert the key. She was found wedged between the gate and stationary fence and the disconnect box in an opening approximately 10 inches wide.
23. The employee was hit by a vehicle while working on the vehicle conveyor line. This knocked him into a large tool box. It was determined that, as a result, he suffered a traumatic brain injury and he passed away at the scene.

#### **TRANSPORTATION AND WAREHOUSING:**

24. Three contract workers were replacing railroad ties and stones on the railway that was located on a grain-handling facilities property. While packing the ties and stones in place with a tamper machine, one wall of a flat storage grain building approximately 15-feet away collapsed. This released thousands of pounds of grain which engulfed and crushed one of the contracted railroad workers resulting in fatal injuries.
25. A dump truck driver was sitting in his truck while it was being loaded with rocks. Another employee was operating an excavator picking up rocks from a farm field and loading them into the dump truck. As he was doing so, the dump truck suddenly overturned, trapping the employee under the vehicle and its load. He suffered fatal crushing injuries and died at the scene.

**ADMINISTRATIVE AND SUPPORT AND WASTE MANAGEMENT AND  
REMEDATION SERVICES:**

26. An employee was in the crotch portion of a tree removing a trunk section that kicked back when it was cut, crushing him.
27. While power washing a silo from a boom lift that was raised approximately 60-foot in the air, it made contact with overhead power lines. The employee was able to exit the basket of the lift and climb onto the roof of the silo where he then fell to the ground below.
28. Workers were replacing a section of pipeline that contained diesel oil. When the replacement section was being welded into place, a spark caused an explosion. One employee received severe burns and was transported to a hospital but later died of his injuries.

**PUBLIC ADMINISTRATION:**

29. A truck driver stopped his dump truck before leaving the yard area because his right brake was sticking. He applied the air brake but did not take it out of drive. He asked a co-worker to help him free the brake. The co-worker got a tool to tap on the brake drum and told the driver to chock the tire and take off the air brake. The truck was on a slight incline so the driver chocked the back of the front right tire. The brake popped free and the truck rolled forward over the co-worker fatally injuring him.