



CONSTRUCTION  
INDUSTRY RESEARCH  
AND POLICY CENTER

# Construction Fatality Digest



JANUARY — MARCH 2013

QUARTERLY REPORT

## Topics of Interest:

- Fatality Case File Statistics
- Case File Regional Report
- Top Standards Violated
- Summary of Fatal Events

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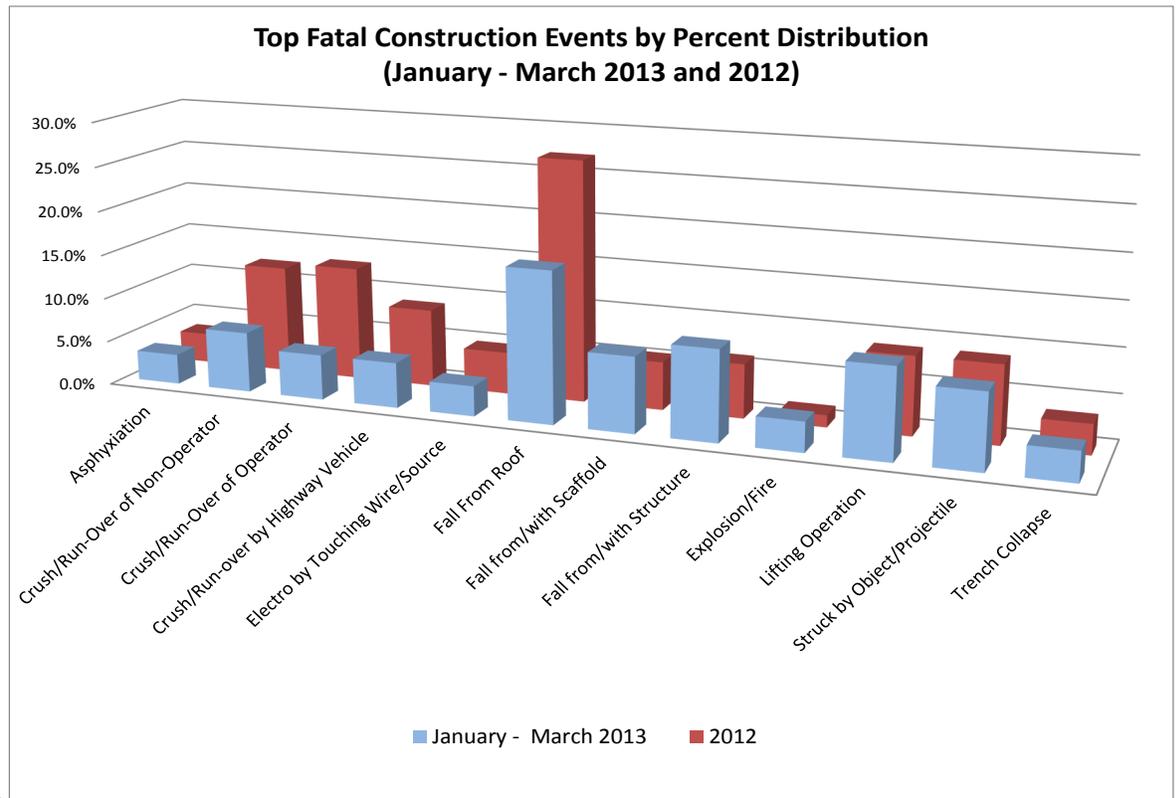


## Fall From Roof Tops All Fatal Events

“Fall from Roof” led all fatal events in the fatal construction case files reported to CIRPC for the first quarter of 2013. There were 59 cases received in the first quarter of 2013 (January to March) and “Fall from Roof” accounted for 16.9% (10 cases) of all the case files. Rounding out the leading fatality causes for the quarter are “Fall from/with Structure” with 10.2% (6 cases) followed by “Lifting Operations” with 10.2% (6 cases), “Fall from/with Scaffold” with 8.5% (5 cases), and “Struck by Object/Projectile” with 8.5% (5 cases).

All types of falls (ladder, roof, vehicle, scaffold, bucket, structure, platform, and opening) accounted for 42.4% (25 cases) in the first quarter case reports. For 2012 “Fall from Roof” were 27.0% (40 cases) and all types of falls were 36.7% (83 cases) of the total.

“Fall from Scaffold” experienced the largest increase in percent of cases from the fourth quarter of 2012 to the first quarter of 2013 with an increase of 5.6% (2.9% to 8.5%) from the previous quarter. It should be noted, roof falls percentage also increased (11.4% to 16.9%) as did “Fall from/with Structures” and “Lifting Operations” both nearly double the previous quarters percentage (5.7% to 10.2%).



# Regional Breakdown

Regional Map



A total of 59 case reports were received from the regions in the first quarter of 2013. Of these 59 reports, a little more than 32% came from region 6 (19 reports), 15 came from region 4, and 11 from region 2.

Of the 19 from region 6, 5 were received from Baton Rouge, followed by Austin, Dallas, and San Antonio with 3 cases each. Other offices had 1 each.

The 15 from region 4 included 9 cases from Fort Lauderdale and 4 cases from the Atlanta East office. Other offices had 1 each.

Case Files by Region

Jan to Mar 2013			2012		
Region	# of Cases	Percent	Region	# of Cases	Percent
1	4	6.8%	1	8	3.5%
2	11	18.6%	2	5	2.2%
3	3	5.1%	3	7	3.1%
4	15	25.4%	4	38	16.8%
5	1	1.7%	5	41	18.1%
6	19	32.2%	6	105	46.5%
7	4	6.8%	7	9	4.0%
8	2	3.4%	8	11	4.9%
9	0	0.0%	9	1	0.4%
10	0	0.0%	10	1	0.4%
<b>Total</b>	<b>59</b>	<b>100.0%</b>		<b>226</b>	<b>100.0%</b>

*The “Scaffolding” standard was the top violated standard in the first quarter...*

## Top Construction Standard Violations

The 59 cases reported to CIRPC included 205 violations of OSHA standards. Of the 59, 10 reported no violations. With the 10 cases without violations removed, the average number of violations per case with citations issued was 4.18. This compares to an average of 3.04 for the previous quarter. The previous three quarters all saw a decrease in the average.

When comparing the quarterly violations with OSHA’s Top 10 standards violated in FY2012 (per [www.osha.gov](http://www.osha.gov)), there are similarities and differences. Five of the most frequently violated OSHA standards can be found on the quarterly report list (Fall Protection, Hazard Communications, Scaffolding, Respiratory Protection, and Ladders).

The “Scaffolding” standard was the top violated standard in the first quarter and experienced the greatest jump in positions from the previous quarter (from not ranked to 1st). Fall Protection ranked no lower than third during the four previous quarters.

### Top Standard Violations Reported During Jan. to Mar. 2013

Rank	Std #	Description	# of Occurrences
1	1926.451	Scaffolding	17
2	1926.501	Fall Protection	15
3	1910.134	Respiratory Protection	12
4	1926.21	Safety Training and Education	12
5	1926.651	Excavation	10
T6	1910.1200	Hazard Communication	9
T6	5a1	General Duty Clause	9
8	1926.1053	Ladders	8
9	1926.454	Scaffolding Training	7
10	1926.503	Fall Protection Training	6

# Trends in Fatalities: Breakdown of 2007-2011 Project End Use

Since the early 1990's, CIRPC has undertaken an annual analysis of fatal construction events<sup>1</sup>. One part of this analysis is collecting the projects end use and related construction operations. The table to the right shows the percentage of fatalities by the end use and operations during the 2007 to 2011 time period. Residential, Commercial, and Highway Construction ranked as the top three end uses with fatalities. Residential Construction, both single family homes and multi-family buildings, accounted for over one-fourth of all fatalities (26.1%). The table also shows which operations had the greatest percentage of the fatalities for each of the three end uses. There are similarities between Residential and Commercial operations with Roofing, Exterior Painting, and Exterior Masonry ranking in the top five for both end uses. Most likely these operations involve working at heights and have the dangers of falling from roofs or ladders. In Highway Construction the Paving operation leads all operations followed by Traffic Protection, and Site Grading and Rock Removal. Where Residential and Commercial end uses had possible falling hazards for each operation, Highway Construction operation has the danger of moving construction equipment and highway vehicles.

## Construction Fatalities by Project End Use and Operation (2007 - 2011)

<b>Residential Construction - 26.1%</b>	
1 Roofing	18.7%
2 Exterior Carpentry	9.9%
3 Exterior Masonry	6.5%
4 Exterior Painting	5.6%
5 Excavation	5.4%
<b>Commercial Building - 22.8%</b>	
1 Roofing	11.2%
2 Exterior Painting	6.5%
3 Demolition	6.5%
4 Exterior Masonry	6.2%
5 Erecting Structural Steel	5.6%
<b>Highway Construction - 14.2%</b>	
1 Paving	19.3%
2 Traffic Protection	12.6%
3 Site Grading & Rock Removal	6.7%
4 Pouring Decks	4.8%
5 Excavation	4.5%

## Analysis of Roofing Fatalities from 2005 to 2010

Residential Roofing is a high risk occupation, more than nine times as risky as the average occupation and more than three times as risky as the average construction trade. To better understand the factors involved in residential roofing fatalities, 112 case file reports filed by Occupational Safety and Health Investigators for the years 2005 to 2010 were examined. In almost all of the recorded cases there was not an adherence to the then current safety standards. It was found that there was little or no appropriate use of fall protection practices or equipment and employer planning and employee training were minimal.



<sup>1</sup> CIRPC's [An Analysis of Fatal Events in the Construction Industry](#) uses the data collected in IMIS from the fatal construction event case files. The report categorizes and ranks the fatality causes, project types, end uses, etc. Reports from 1991 to 2011 can be found on the CIRPC website: [www.bus.utk.edu/cirpc](http://www.bus.utk.edu/cirpc).

# Summary of Fatal Events

## CATEGORY: ROOF FALLS

OSHA Inspection Number 634179

A roofer was fatally injured when he fell from a roof. The victim was replacing a metal roof of a commercial building, when a gust of wind caused him to lose his balance and fall from the roof. The employer was cited for lack of fall protection, lack of fall protection training, and 4 additional violations unrelated to the event.

OSHA Inspection Number 315741132

A 23 year old Hispanic roofer was fatally injured when he fell from a roof. The victim was installing a new roof on a residential home, when his shoe lace caught on a nail causing him to lose his balance and fall from the roof. The employer was cited for lack of fall protection, lack of fall protection training, and not performing a jobsite inspection.

OSHA Inspection Number 316327188

A 34 year old HVAC mechanic was fatally injured when he fell through a roof. The victim was installing copper piping on a roof of a restaurant under renovation, when he stepped on a metal sheet that gave way and he fell 40 feet down a shaft into the building. The employer was cited for lack of fall protection and lack of fall protection training.

OSHA Inspection Number 316327758

A 25 year old painter was fatally injured when he fell through a skylight. The victim was on the roof painting, when he stepped on a skylight and fell 29 feet. The employer was cited for lack of fall protection.

OSHA Inspection Number 316328640

A 22 year old Hispanic roofer was fatally injured when he fell from a roof. The victim was installing weatherproofing paper on a residential home re-roofing job, when he slipped on the paper and fell 31 feet off the roof. The employer was cited for lack of fall protection, lack of fall protection training, and not inspecting the PPE equipment.

OSHA Inspection Number 554658

A Hispanic roofer was fatally injured when he fell from a roof. The victim had climbed up on the roof to repair a section of the overhang. He bent down to install some plywood and lost his balance, falling over the edge of the roof. The employer was cited for lack of fall protection, no competent person inspection, and not reporting the event within 8 hours.

OSHA Inspection Number 588080

A Hispanic roofer was fatally injured when he fell from a roof. The victim was found inside the bottom of a smoke stack. There were no witnesses to the fall, but it is believed he fell from a roof down the stack. No citations were issued.

OSHA Inspection Number 472401

A 46 year old roofer was fatally injured when he fell from a roof. The victim was re-roofing an 11/12 pitch residential roof, when he stepped on an improperly designed roof bracket, which shifted with his weight, causing him to lose his balance and fall. The employer was cited for lack of fall protection, no fall protection training, improperly installed and designed roof brackets, and eight additional violations not related to the event.

OSHA Inspection Number 730528

A 25 year old Hispanic roofer was fatally injured when he fell through a skylight. The victim was repairing the roof of an office building, when he unclipped his lanyard to exit the roof, but was temporary blinded by the sun causing him to step on the skylight and fall through it. The employer was cited for lack of hole covers and needing fall protection re-training.

OSHA Inspection Number 544922

A 41 year old construction laborer was fatally injured when he fell down an elevator shaft. The victim removed guardrail protecting the open shaft and placed planks around the opening. He fell while walking across the planks. The employer was cited for lack of hole protection and lack of scaffold fall protection.

# Summary of Fatal Events (Continued)

## **CATEGORY: FALL FROM/WITH STRUCTURE**

OSHA Inspection Number 605098

A 46 year old construction laborer was fatally injured when he fell from a bridge. The victim was retrieving a traffic control sign and jumped over the barrier between the north and south lanes, but unknown to him there was a gap in the bridge between lanes, causing him to fall 60 feet. No citations were issued.

OSHA Inspection Number 461733

A 41 year old welder was fatally injured when he fell from a mezzanine. The victim was cutting and removing metal grating from the mezzanine walkway, when the grate shifted, snagged the victims pant leg, pulling him and causing him to fall to the lower level. The employer was cited for lack of fall protection and lack of fall protection training.

OSHA Inspection Number 456114

A Hispanic construction laborer was fatally injured when he fell 50 feet from an elevated highway. The victim was carrying a sheet of metal decking to install in a hole. As the victim was attempting to place the steel, he lost his balance and fell through the hole. The employer was cited for lack of fall protection (for the victim), no fall protection training, and allowing a free fall of over 6 feet in the fall protection system.

OSHA Inspection Number 603101

A Hispanic construction laborer was fatally injured when he fell with and was struck by falling equipment. The victim was part of a crew changing out a 20 foot heater/treater. The victim had climbed up the unit to hook cables to the top of it, when the unit collapsed and fell onto the victim. The employer was cited for lack of a competent person jobsite inspection and one additional violation not related to the event.

OSHA Inspection Number 329089

A 35 year old painter was fatally injured when he fell through a weaken section of corrugated metal. The victim was the foreman on a bridge painting and corrugated metal replacement project when he stepped on a weakened section and fell through. The employer was cited for lack of fall protection, no independent anchorage point, and two additional violations unrelated to the event.

OSHA Inspection Number 626458

A 67 year old bricklayer was fatally injured when a portion of the building collapsed causing him to fall. The victim was working on the 4th floor, when the townhouse floor was overloaded and collapsed. The employer was cited for overloading steel joists, lacking a qualified signal man, and five additional violations not related to the event.

## **CATEGORY: LIFTING OPERATIONS**

OSHA Inspection Number 315503128

A 69 year old crane operator was fatally injured when his crane tipped over. The victim was in process of "leapfrogging" concrete pads, when the crane was overloaded and tipped. The employer was cited for not having slings marked with their capacity and performing a lift in excess of cranes stated capacity.

OSHA Inspection Number 315359877

A 47 year old rigger was fatally injured from a failed lifting operation. The victim had just rigged a welding machine to a crane and it had lifted it 50 feet, when the machine became unrigged and fell striking the victim. The employer was cited for improper rigging, no overhead lifting danger zone, and not having a qualified signal person.

OSHA Inspection Number 471879

A construction laborer was fatally injured during a mobile home lift. The victim and co-workers were removing the wheels from a mobile home. The home had been lifted and the victim was under the home when one of the jacks tipped over causing the home to fall. The employer was cited for lack of hazard recognition training and lack of cribbing/blocking for lift/jack.

# Summary of Fatal Events (Continued)

## OSHA Inspection Number 472338

A 24 year old Hispanic laborer was fatally injured when he was struck by a forklift. The victim was placing wooden spacers under the forklift load, when the forklift began to tilt and fall, striking the victim. The employer was cited for lack of fork lift training and lack of hazard recognition training.

## OSHA Inspection Number 705919

A 32 year old laborer was fatally injured when a crane boom fell and struck him. The victim was working the rigging for a bridge project, when the crane boom became side loaded, sheared off, and fell on the victim. The employer was cited for lack of level/solid foundation for the crane, lack of crane inspections, and no boundaries for working/danger area.

## OSHA Inspection Number 280831

A 53 year old construction laborer was fatally injured when he fell from a scissor lift. A crane ball/load came free and fell striking the scissor lift causing it to fall taking the victim with it. The employer was cited for not having a qualified person as a signal man.

## CATEGORY: FALL FROM/WITH SCAFFOLD

### OSHA Inspection Number 315742114

A 45 year old Hispanic masonry worker was fatally injured when a forklift struck his scaffold causing him to fall. The employer was cited for lack of equipment (forklift) training and 3 additional violations not related to the event.

### OSHA Inspection Number 687478

A 54 year old carpenter was fatally injured when he fell from a scaffold. The victim was painting the ceiling of a residential home when he fell off the scaffold striking his head. The employer was cited for the scaffold not fully planked, lack of scaffold training, no written hazard communications program, and five additional violations unrelated to the event.

### OSHA Inspection Number 698618

A construction laborer was fatally injured when he fell from a scaffold. The victim was working on a pump jack scaffold installing siding on a new hotel, when the scaffold swayed causing the victim to lose his balance and fall. The employer was cited for lack of scaffold training, scaffold not erected by a qualified person, lack of a mid-rail, lack of proper bracing for the scaffold structure, and lack of fall protection.

### OSHA Inspection Number 106864

A temporary laborer was fatally injured when the wooden scaffold plank he was standing on broke causing him to fall 27 feet. The victim was erecting the tubular welded scaffold at the time of the event. The employer was cited for using a scaffold that was unable to support the required weight, painted planks, scaffold with an improper base, lack of a competent person during erection, no competent person inspection, and lack of fall protection.

### OSHA Inspection Number 545198

A 62 year old Hispanic drywaller was fatally injured when he fell from a scaffold. The victim was taping and floating drywall, when the victim fell. There were no witnesses to the event. The employer was cited for not having the scaffold fully planked, scaffold wheels not locked, lack of scaffold training, and failure to report the event within 8 hours.

## CATEGORY: STRUCK BY OBJECT/PROJECTILE

### OSHA Inspection Number 315741769

A 45 year old laborer was fatally injured when he was struck by a falling tree. The victim was performing grading work, when a tree fell and struck the skid steer loader he was operating. No one witnessed the event. No citations were issued.



# Summary of Fatal Events (Continued)

OSHA Inspection Number 316289016

A 54 year old HVAC mechanic was fatally injured when he was struck by a pipe and fell from a ladder. The victim was on a step ladder repairing an overhead leak in the HVAC system pipe, when a piece of the pipe broke free and struck the victim's head. This caused the victim to lose his balance and fall from the ladder. The employer was cited for lack of hazard recognition training.

OSHA Inspection Number 108023

A 41 year old laborer was fatally injured when a wall collapsed on him. The victim had previously removed two walls of a walk-in freezer and was removing the ceiling, when the two walls (that had been removed and leaning on a building wall) tipped and struck the victim. The employer was cited for not removing scrap/waste materials from the work zone.

OSHA Inspection Number 314353095

A 47 year old laborer was fatally injured when he was struck by a falling tree. The victim was conducting tree removal operations using an excavator to pull the trunk of the tree to prevent a chainsaw from pinching as it cut. The tree shifted and rolled, as it was being cut, and fell onto the excavator. The employer was cited for improper use of an excavator, lack of safety training of equipment, and improper back cut for cutting trees.

OSHA Inspection Number 282954

A carpenter was struck in the head by a bracket that fell from a second story window. The victim was not wearing a hard hat. The bracket was lying loose on the window sill. The employer was cited for failure to wear hard hats and four additional violations not related to the event.

## **CATEGORY: OTHER FALLS**

OSHA Inspection Number 478619

A 56 year old electrician was fatally injured when he fell from a fixed ladder. The electrician was carrying a computer in one hand while climbing the ladder. The employer was cited for failure to use PPE and for failing to assess the worksite to determine the need for PPE.

OSHA Inspection Number 524178

A Hispanic laborer was fatally injured when he fell from a moving truck. The victim was moving construction warning signs, when a gust of wind blew signs in the back of the truck into the victim sitting on the tailgate. The employer was cited for not providing a worksite free from hazards, lack of hazard recognition training, lack of written hazard communication program, and not securing tools/equipment in a moving vehicle.

OSHA Inspection Number 545618

A Hispanic painter was fatally injured when he fell from an aerial lift. The victim was trying to pry a metal plate from an overhang with a crowbar. The prying/crowbar movement caused the lift to bounce and catapult the victim out of the basket. The employer was cited for lack of fall protection and lack of lift training.

OSHA Inspection Number 315226514

A 43 year old bricklayer was fatally injured when he fell from a platform landing. The victim was evaluating the site for slag removal, when he stepped up on the heat exchange vessel in a way that slag material gave way and he lost his balance and fell. The employer was cited for lack of PPE and one additional violation not related to the event.

## **CATEGORY: STRUCK BY, RUN OVER, CRUSHED BY OPERATING CONSTRUCTION EQUIPMENT/VEHICLE**

OSHA Inspection Number 316328095

A 53 year old Hispanic construction laborer was fatally injured when he was struck/run-over by a dump truck. The victim was performing milling and asphalt work, when a backing up dump truck struck him and ran him over. No citations were issued for the event.

# Summary of Fatal Events (Continued)

## OSHA Inspection Number 655218

A 36 year old laborer was fatally injured when he was struck by a construction truck. The victim was lying on the ground reaching into the storm water drain to trowel cement when he was run over by a truck driven by another employee. The employer was cited for not providing a worksite free from hazards and lack of hazard recognition training.

## OSHA Inspection Number 592378

A 43 year old Hispanic laborer was fatally injured when he was struck by an excavator. The victim was working on a bridge project, when he was struck by the counterweights of an excavator. The employer was cited for not providing a worksite free from hazards and one additional violation not related to the event.

## OSHA Inspection Number 627118

A pipelayer was fatally injured when he was struck by an excavator bucket. The victim signaled the excavator operator to use the bucket to push together two pipe pieces, the bucket slipped off the pipe and struck the victim. The employer was cited for not providing a worksite free from hazards and two additional violations not related to the event.

## OSHA Inspection Number 315742593

A 41 year old laborer was fatally injured when his tractor rolled over. The victim was re-seeding an embankment after fiber-optic cables were installed, when the tractor tipped and rolled. No citations were issued for the event.

## OSHA Inspection Number 491100

A HVAC tech was fatally injured when he was crushed by an aerial lift. The victim was installing pipe hangers on the ceiling of a manufacturing plant, when he accidentally activated the lift controls and was crushed between the ceiling and the lifts guard rails. No citations were issued for the event.

## OSHA Inspection Number 314347774

A 46 year old equipment operator was fatally injured when the compactor/roller he was operating tipped over. The victim was compacting a new gravel road, when he drove too close to an embankment, which caused the roller to slide down and tip over. The employer was cited for lack of hazard recognition training, equipment training, and three additional violations not related to the event.

## OSHA Inspection Number 508219

Two ironworkers were fatally injured when a crane collapsed onto them. The victims were disassembling a tower crane when a strong gust of wind caused a partial disassembled section to turn, twist and fall. The employer was cited for not addressing weather hazards on cranes, not using manufacture procedures for disassembly, not having a qualified person for disassembly, and lack of crane training.

## OSHA Inspection Number 315359844

A 57 year old laborer was fatally injured when he was struck by a motor vehicle. The victim was setting up cones for traffic control with a highway patrol car as protection, when a motor vehicle lost control and struck the victim. No citations were issued.

## OSHA Inspection Number 521628

An electrician was fatally injured when he was struck by a motor vehicle. The victim was setting up traffic cones to work on a power pole, when he was struck by the vehicle. The employer was cited for not providing a worksite free from hazards.

## OSHA Inspection Number 654318

A 45 year old truck driver was fatally injured when he was struck by a motor vehicle. The victim was standing behind his fuel truck securing the fuel hose, when he was struck from behind by a motor vehicle. The employer was cited for not using construction traffic warning signs.



# Summary of Fatal Events (Continued)

## **CATEGORY: ELECTROCUTIONS**

OSHA Inspection Number 423564

A 47 year old tree trimmer working from a bucket contacted a high voltage line when he moved the bucket. The victim was the owner, business was closed, and no citations were issued.

OSHA Inspection Number 441239

A 26 year old laborer was removing asbestos and for unknown reason entered a gated electrical enclosure and contacted an energized source. The employee had no reason to be in the enclosure, because there was no asbestos in the area. The employer was cited for allowing the electrical enclosure to be accessible by unqualified person and not instructing in hazard recognition.

OSHA Inspection Number 280715

A 24 year old electrician was fatally injured when he contacted an energized 277 volt circuit. The victim was replacing and installing new lighting in a warehouse, when he made contact with an energized circuit. The employer was cited for lack of hazard recognition training and not de-energizing a circuit prior to working on it.

## **CATEGORY: OTHER FATALITY CAUSES**

OSHA Inspection Number 315916288

A 46 year old supervisor fatally asphyxiated in a manhole. The victim and co-workers had installed two new manholes in the prior week for a new sewer line. The victim went into one of the manholes to take measurements and became lightheaded and passed out. The employer was cited for lack of confined space training, no respirator usage, no site inspection for respirator use, and 8 additional violations not related to the event.

OSHA Inspection Number 601618

A 53 year old painter had fatal exposure to a toxic vapor. The victim was assigned to coat pipes in a confined space with a solvent to clean/thin the paint on the pipes. The victim was exposed to high levels of vapors and passed out. The employer was cited for lack of a respirator plan, no respirator training, no fit test, no chemical training, no confined space training, allowing air exposure above allowable limits for a chemical, no engineering controls to limit exposure, and 8 additional violations not related to the event.

OSHA Inspection Number 315628461

A 60 year old laborer was fatally injured when a wall collapsed on him. The victim was performing reclamation/demolition activities on a residential home, when a wind gust caused a weakened wall to fall. The employer was cited for lack of hazard recognition training, lack of an engineering survey by a competent person, and not reporting the event within 8 hours.

OSHA Inspection Number 315004358

A 54 year old welder was fatally injured from a tank explosion. The victim was performing electric arc welding on a 10,000 gallon tank containing an explosive concentration of vinyl fluoride. The employer was cited for not performing lock-out/tag-out and cutting/welding on a source of an explosive atmosphere.

OSHA Inspection Number 587409

Two Hispanic laborers were fatally injured in a combustible dust explosion. The victims were cleaning blast material from a deflector when another employee using a cutting torch ignited dust causing the explosion. The employer was cited for cutting around flammable material, not performing an air test, and seven additional violations not related to the event.

# Summary of Fatal Events (Continued)

OSHA Inspection Number 557799

A 43 year old Hispanic roofer fatally suffered heat stroke. The victim was re-roofing a residential house, when he took a break under the shade of a tree. He was found later unconscious and suffering from heat stroke. The employer was cited for lack of a competent person inspection and lack of hazard recognition training.

OSHA Inspection Number 580841

An 18 year old laborer was fatally injured when a trench collapsed onto him. The victim was replacing a section of a culvert in 7-9 foot trench when it collapsed. The trench had water accumulated on the bottom and the soil was a type B. The employer was cited for no ladder in trench, water in the trench, no trench protection, and placing equipment/materials on the edge of the trench.

OSHA Inspection Number 770345

A 22 year old laborer was fatally injured when a trench collapsed onto him. The victim was in the process of tying in a sewer line for a new building under construction. The employer was cited for lack of trench protection, materials and equipment not kept 2 feet from edge, and one additional violation not related to the event.

OSHA Inspection Number 396002

A diver fatally drowned while diving to remove silt at the bottom of a pump intake structure in a reservoir. It is unknown what exactly happened, only that the diver did not surface. The employer was cited for not having a stand-by diver and not having available life rings.

*Note: 17 of 61 (27.9%) deaths in the quarterly report were Hispanic employees*



We maintain, for OSHA, a comprehensive collection of construction fatality case files. The efforts of OSHA area offices in submitting fatality case files have been crucial to expanding our database and research capabilities.

We would like to thank each area offices for its submissions.

We welcome any suggestions and comments (they can be directed to John Wagner, [jpwagner@utk.edu](mailto:jpwagner@utk.edu)) as we work together to reduce fatal construction events.

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