

**TO:** Director, National Institute for Occupational Safety and Health

**FROM:** California Fatality Assessment and Control Evaluation (CA/FACE) Program

**SUBJECT:** Roof Man Dies When He Falls From the Roof of a Two-Story House While Applying a Tent for Fumigation.

**SUMMARY**  
**California FACE Report #08CA010**

A 33-year-old Hispanic roof man died after he fell approximately 25 feet from the roof of a two-story house to the ground below. The victim was carrying a tarp to cover the roof when the incident occurred. The employer of the victim did not have a fall prevention program for their employees, and the victim was not wearing any personal fall protection device. The CA/FACE investigator determined that:

- Structural fumigation companies should establish and implement a fall protection program for employees who work on roofs.

**INTRODUCTION**

On Thursday, October 30, 2008, at approximately 8:30 a.m., a 33-year-old Hispanic male died after he fell approximately 25 feet from a roof of a two-story house to the ground below. The CA/FACE investigator was notified of this incident on October 30, 2008, by the Santa Ana District Office of the Division of Occupational Safety and Health (Cal/OSHA). On November 11, 2008, the CA/FACE investigator inspected the incident scene, took photographs, and interviewed a neighbor who had witnessed the fall. He then interviewed the company office manager at the company's home office. Two co-workers of the victim and three other employees of the company were interviewed before the start of their shift at their work location on November 13, 2008.

The victim was born in Guatemala and had been in the United States for 12 years. The victim had a 6<sup>th</sup> grade education and did not speak or read English. The victim's supervisor was bilingual, and instructions were given to the victim in Spanish.

The employer of the victim was a fumigation company that had been in business for six years and had 46 employees. The victim had been employed with the company for eleven weeks and had over 10 years of experience working for other fumigation companies. The company did not have an Injury and Illness Prevention Program (IIPP) or a fall prevention program for employees. There were no specific instructions on fall protection given to the victim prior to tenting the roof. No evaluation of employee skills was made at the time of hire or at the start of work.

## **INVESTIGATION**

In the process of structural fumigation, heavy-duty gauge plastic tarps are used to cover the structure prior to fumigation with sulfuryl fluoride gas. The tarps must be placed and secured on the roof of the structure by work crews. The roof man ascends a ladder from the ground to the roof while carrying the folded or rolled tarps. Each tarp can weigh up to 150 pounds. After climbing onto the roof, he unfolds the tarps and drapes them over the sides of the structure. It is usually necessary to stand on the roof while securing the tarp in place.

On the day of the incident, a three-person tenting crew was assigned to a fumigation job at a two-story home. The victim, working as the roof man, climbed an extension ladder onto the roof while carrying a tarp. A neighbor heard the sounds of the ladder movement and saw the victim sliding off the roof and falling to the ground 25 feet below. The neighbor immediately called 911. The victim's co-workers did not witness the incident, as they were working on the other side of the house. The paramedics found the victim unresponsive and without spontaneous respirations, and pronounced the victim dead at the scene.

## **CAUSE OF DEATH**

The cause of death according to the death certificate was traumatic injuries of the head.

## **RECOMMENDATIONS / DISCUSSION**

**Recommendation #1: Structural fumigation companies should establish and implement a fall protection program for employees who work on roofs.**

Discussion: In this incident, the roof man was carrying a tarp while working on a roof 25 feet above the ground. He was not provided with any fall protection, and was at risk of serious injury or death from a fall - particularly while handling the awkward, heavy tarp on a sloped roof surface. All fumigation companies should establish and implement a fall protection program that includes fall prevention training and safety measures when workers are raising, positioning, or securing tarps to the roof. Fall prevention training should include the proper use of anchor points, body harnesses, and connecting devices, ladder safety, lifting and center-of-gravity safety, and the use of slip-resistant shoes. Fumigation companies can use various fall protection measures for their crews who work on roofs. These measures can include the use of anchor points to the structure itself or to an external point (such as man basket, scaffold, nearby tree, or truck), guardrails around the edge of the house, or mechanical lifts to bring materials to the roof. It is not known if the victim lost his balance or slipped on the roof surface. In either case, had fall protection equipment been provided for the victim, his fall would have been arrested and his death prevented.

### **References:**

Subchapter 7. General Industry Safety Orders Group 1. General Physical Conditions and Structures Orders Introduction §3203. Injury and Illness Prevention Program

Subchapter 4. Construction Safety Orders Article 24. Fall Protection §1669. General. §1670. Personal Fall Arrest Systems, Personal Fall Restraint Systems and Positioning Devices. §1671.2. Controlled Access Zones and Safety Monitoring Systems. (b) Safety monitoring systems.

Article 30. Roofing Operations and Equipment §1724. Roofing--General. (f) Personal Fall Protection.

<http://www.cdc.gov/nasd/docs/d000001-d000100/d000006/d000006.html>

**EXHIBIT:**



**Exhibit #1. The two-story home involved in the incident.**

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**FACE Project Officer**

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**Research Scientist**

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**FATALITY ASSESSMENT AND CONTROL EVALUATION PROGRAM**

The California Department of Public Health, in cooperation with the Public Health Institute and the National Institute for Occupational Safety and Health (NIOSH), conducts investigations of work-related fatalities. The goal of the CA/FACE program is to prevent fatal work injuries. CA/FACE aims to achieve this goal by studying the work environment, the worker, the task the worker was performing, the tools the worker was using, the energy exchange resulting in fatal injury, and the role of management in controlling how these factors interact. NIOSH-funded, State-based FACE programs include: California, Iowa, Kentucky, Massachusetts, Michigan, New Jersey, New York, Oregon, and Washington.

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**Additional information regarding the CA/FACE program is available from:**

**California FACE Program  
California Department of Public Health  
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