TO: Director, National Institute for Occupational Safety and Health

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

SUBJECT: A Groundsman Working on a Tree Trimming Crew Dies When He is Dragged or Propelled onto a Wood Chipper Feed Table

SUMMARY
California FACE Report #10CA010

A groundsman working on a tree trimming crew died when a climber's rope was pulled into a wood chipper. The rope became tangled in the tree branch the victim was feeding into the wood chipper. As the tree branch entered the chipper, the rope became taut, and the victim was either dragged or knocked onto the feed table, striking his head. The CA/FACE investigator determined that, in order to prevent future incidents, tree service companies should:

- Ensure that cut tree branches are staged and free of obstacles before being fed into wood chippers.
- Assign another employee as a safety watch whenever cut tree branches are being fed into wood chippers.

INTRODUCTION

On Monday, November 15, 2010, at approximately 1:30 p.m., a 33-year-old Hispanic groundsman died when he was dragged or struck by a rope that was pulled into a wood chipper. The CA/FACE investigator received notification of this incident on November 16, 2010, from the California Department of Public Health, Occupational Health Branch. On November 30, 2010, the CA/FACE investigation team interviewed the owner of the company at his office, and 12 employees at the company main facility. The incident scene was visited and photographs obtained.

The employer of the victim was a professional tree company that provided complete tree care. The company has been in business for 30 years and had 17 employees at the time of the incident. The victim was a high school graduate and had worked as a tree climber and groundsman for the company for the past eight years. The victim was born in the United States.

The tree service company had a written Injury and Illness Prevention Program (IIPP) that included management and employee responsibilities, safety meeting schedules, training, safety incentive and disciplinary programs, and overall safety procedures for

activities related to tree services. The employees of the tree service company were well trained in all aspects of tree care. Employees attended weekly documented safety meetings that were also provided in Spanish. According to the training documents, several employees were certified arborists through the International Society of Arboriculture (ISA) and certified tree workers, credentialed through the western chapter of the ISA (WCISA). These employees also instructed others in the industry at local seminars. The victim was not certified but was trained in many aspects of tree care, including the use of wood chippers.

INVESTIGATION

The location of the incident was a green belt walkway between homes in a residential area. The green belt was lined with many varieties of trees including eucalyptus and pine, and had paved walking and hiking trails that local residents used daily. The tree service company had been at this location for seven days. On the day of the incident the work crew arrived at the work location at approximately 8:30 a.m., and the crew supervisor held the daily tailgate safety meeting with the crew of six employees. He asked the crew to identify all the safety hazards on the job. When they evaluated the scope of the day's work, they decided to place the truck and wood chipper in an area away from the walking paths and to put up safety barrier tape to protect the public as they used the walkways within the green belt. Three crew members wore tree climbing fall protection equipment while working at varied heights in separate trees, trimming branches. The victim and two other crew members were on the ground. The victim's job on that day was to gather the cut branches and feed them into the wood chipper.

At approximately 1:30 p.m., the victim was dragging a branch from the base of a eucalyptus tree to the wood chipper which was approximately 40 feet away. As he passed another tree, the branch became entangled in the white colored climbing rope of the tree trimmer in that tree. When the victim reached the wood chipper, he fed the branches into the chipper with the climbing rope. Although this incident was not witnessed, evidence suggests that as the rope went through the wood chipper it immediately went taut. The victim was either dragged or thrown onto the chipper, striking his head. As his body landed on the feed table, it most likely struck the safety bar located on the front and shut the machine down.

The tree trimmer, who was approximately 30 feet up in the tree, said he felt a sudden strong and fast pull on his climbing rope but his flip line prevented him from being pulled from the tree. He repositioned himself in the tree and saw the victim lying on the feed table of the wood chipper. The other two tree trimmers who were up in other trees did not witness the incident. The other two employees working on the ground were engaged in other activities at that time and also did not witness the incident. Emergency medical services were immediately called (911) and the local fire department responded. Co-workers began CPR and continued until emergency crews arrived. The victim was pronounced dead at the scene.

CAUSE OF DEATH

The cause of death according to the death certificate was blunt force neck injury.

RECOMMENDATIONS / DISCUSSION

Tree service companies should:

Recommendation #1: **Ensure that cut tree branches are staged and free of obstacles before being fed into wood chippers.**

Discussion: In this incident, the victim dragged a tree branch that became tangled in a tree trimmer's climbing rope that was coiled at the base of the tree. Because the cut branch was large and full of foliage, it snagged the rope as it was being dragged past the tree. When the victim got to the wood chipper he most likely fed the cut branch into the wood chipper, not realizing there was a rope entangled within it. All cut branches and brush should always be inspected just prior to being fed into wood chippers to ensure that they are free of any foreign objects that might do harm to the wood chipper or cause personal injury. Staging the brush for inspection prior to starting the chipper would be the most protective procedure. As part of the chipper start-up procedure, the safety interlocks should be re-checked. Had the victim taken the time to inspect the cut branches prior to feeding them into the wood chipper, he might have noticed the entangled rope and prevented this incident from occurring.

Recommendation #2: **Assign another employee as a safety watch whenever cut tree branches are being fed into wood chippers.**

Discussion: In this incident, the victim was working alone even though there were two other employees working on the ground performing similar functions. When this incident occurred, no one witnessed the event, even though they were all in close proximity. Many hazardous work assignments, such as high voltage electrical work or confined space work, mandate the use of a safety watch to be present when certain activities occur to help prevent injuries. When a wood chipper is in operation, at least one worker in addition to the operator placed in the immediate vicinity of the work area and in close proximity to the operator would be able to observe the actions of the operator as well as the material being fed into the wood chipper. In this incident, a designated safety watch stationed near the chipper may have noticed the rope entangled in the cut branches and prevented the victim from feeding the branches into the wood chipper.

References:

California Code of Regulations, Subchapter 7. General Industry Safety Orders Group 3. General Plant Equipment and Special Operations Article 12. Tree Work, Maintenance or Removal §3424. Mobile Equipment. (c) Brush Chippers.

New York FACE Report: http://www.cdc.gov/niosh/face/stateface/ny/05ny034.html

California FACE Report:
http://www.cdph.ca.gov/programs/ohb-face/Documents/00ca010.pdf

NIOSH Report: Injury Associated with or Working Near or Operating Wood Chippers:
http://www.cdc.gov/niosh/docs/99-145/

EXHIBITS:

Exhibit 1. The wood chipper involved in this incident.

Exhibit 2. The feed table where the victim landed.

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April 26, 2011

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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:

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