

Drop Zone Safety - An Important Topic for All in Tree Care

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Drop zone accidents involving employees being struck by cut limbs and tree sections is an industry wide problem. Struck-by accidents are the most common cause of fatalities in the tree care industry, responsible for 39% of all deaths. The 2017 revision of the ANSI Z133 Safety Requirements for Arboricultural Operations addresses the issue, stating drop zones should be designated to protect or exclude people from active work sites (Section 3.4.6). Drop zones are the area below workers doing arboricultural operations while aloft, into which objects such as tree branches or trunk sections are to be dropped. These are areas where the potential exists for people on the ground to be struck by and sustain injuries from falling objects, including equipment dropped accidentally. Proper drop zone safety procedures require that a “Command and Response” protocol be established between the arborist working aloft and ground workers to ensure clear communication. For example, commands from the arborist aloft such as “Stand Clear” require that the ground personnel respond with the word “Clear” and with eye contact to confirm that both parties understand the communication that just took place. Non-verbal communication such as whistles, two-way hand signals or radio headsets may also be used.

Tree care companies are strongly encouraged to establish drop zone policies to eliminate struck by injuries in the workplace. In this, Lewis Tree Service has taken the lead. The company established the first Drop Zone Safety Policy and also contributed to the language, referenced above, that has been added to the ANSI Z133. Lewis’ efforts have set the tone, as other tree care companies across the country have adopted similar policies. Drop zone policies establish predetermined areas surrounding trees where personnel are not allowed without 3 way communication. Under the policy, drop zones are clearly defined and marked with cones in a 360 degree perimeter surrounding the tree, typically using cones of a different color than the work zone cones. The cones are to be placed at an established distance from the planned operation. For example, for pruning, the cones must be a minimum of 10’ from the drip line and, for removals from aloft, a minimum of 20’ from the drip line. Zones are also to be established for tree felling, at a distance typically no less than twice the height of the tree. Ground personnel handling ropes involved in the felling are not allowed within a minimum distance of 1 ½ times the height of the tree.

How Lewis Tree Developed Their Drop Zone Policy

Lewis’s Drop Zone Policy was written following a tragic accident. Lewis Corporate Safety Supervisor Steve Fassbender is sharing this incident with us below so we may benefit from the lessons learned. The accident occurred in 2008. It involved a crew that was working on the Duke Energy system near Cincinnati Ohio. The crew was a four man manual (climbing) type. They had just completed the maintenance work in an off road right of way for a 345KV transmission line. A few trees remained that were designated for removal. As the trees were at a road crossing, the crew was able to use a lift truck and chipper to remove them. At the starting location for the job, as they picked up the bucket truck, the crew noticed a young Lewis employee standing in the parking area. He had reported to the wrong starting location for the job he had been assigned to, missed his crew and now was hoping to get his hours in with this crew. After calling their General Foreman the manual crew was able to take this extra worker with

them “just for the day”. When they arrived at the work location they set up a work zone with signs and cones. It was decided to use the team leader and a crew member to act as flaggers, due to the winding and downhill location.

As soon as they were set up with the truck in position to start work on a 60 foot oak tree, this "extra man" started the chipper. Because there had not been any chippable material generated yet, the rest of the crew found this odd and asked him why he was in such a hurry. They also noticed that he appeared to be high-strung and excitable. He stated that he just liked to be ready. As soon as there was some brush on the ground, he wanted to chip it immediately. After they watched him dart in and out between the cuts that were being made and the wood being dropped from the bucket, he was repeatedly advised to wait until after the bucket operator descended before he was to retrieve and chip brush and small logs. He persisted regardless. After the bucket operator notched and dropped a few 5 to 7 foot long sections, he then made an angled (slash type) cut. Unfortunately, the anxious ground person thought he had the time to step into the fall zone and grab a few branches. As he did this a freely dropped log section approximately six feet long and eight inches in diameter bounced off of the banked terrain below the tree and stuck the employee in the neck and shoulder area, causing severe injuries. The crew members tried to save him by stopping the major bleeding but, despite their valiant efforts, they were not successful. The injuries ultimately proved to be fatal. The employee was only 19 years old.

Later that day, an employee called the General Foreman to report that the bucket operator involved in the incident was threatening to commit suicide. He felt that it was his fault that the ground person didn't listen when cautioned and that his failure to get the message across is what cost the ground person his life. That threat was prevented, but the ensuing OSHA investigation resulted in very serious emotional issues with all the crew members. The bucket operator left the company and returned to his home country. It was a very hard lesson for the company to learn about the need to have a solid job plan and to stick with it. Also, it underscored the importance of being able to call an "ALL STOP" anytime risky behavior or unsafe conditions are being observed.

I have personally observed Steve at safety meetings deliver his heartfelt description of the incident that occurred that fateful day and the effect that it has had on the employee's family, friends and co-workers. These effects are deep, personal and never-ending. This is what gives life to a safety policy that might otherwise seem just another rule to follow.

This story has stuck with me. Please - take ownership of your company's safety program and take the initiative to implement and monitor a Drop Zone Policy. Establish clear expectations and protocols for your new and inexperienced employees as well as your seasoned veterans. It just may help prevent an accident and could save a life.

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