

THE PRIVATE TREE WORKER AND ENERGIZED LINES¹

by Erik H. Haupt

Abstract: The growing number of fatal or near-fatal accidents in the private sector resulting from direct or indirect contact with energized lines is cause for alarm. There is mounting evidence that employers and employees alike are either unaware of, or unfamiliar with the provisions of the federal OSHA regulations that pertain to this type of hazard or the ANSI Z-133 Standard adopted by the industry that specifically applies to safety standards for the industry. Several factual incidents are included to emphasize these points.

The circumstances you are about to read are true or based on fact. The names have been changed in some instances to protect the innocent.

For 23-year-old Louis Pease, Tuesday, October 28, 1975 was a routine day. He left his Housatonic home at 7:15 heading for the job in Hinsdale, Massachusetts. The weather was crisp and clear and he felt good about the job he and his fellow employees of the Dalton Janitorial and Tree Service Company were going to do that day. The crew had been working on a tree removal contract for the town of Hinsdale for the past two and one half weeks and were about half way through the job. They had looked at the tree scheduled for removal on the previous night, and Lou felt it was going to be a "piece of cake." He had planned the way in which they would do the tree and he did not anticipate any problems. The one thing that Lou had not planned on what the fact that less than four hours later he would be dead.

At 11:00 A.M. on that October morning the tree crane on which Louis Pease was riding came in contact with a 22,000 volt primary line of the electric company's Pittsfield to Hinsdale distribution line.

When the Pittsfield Fire and Police Departments arrived on the scene some eleven minutes after the accident, the boom of the tree crane was extended over the lines and was touching the outside primary. The truck tires were blazing, as were the wooden pads under the extended outriggers. Louis Pease was suspended about thirty feet in the air from the ½" steel cable attached to the

boom. The two men who had been working with Pease were on the side of the road in shock. The foreman of the crew who had set up the unit had not witnessed the accident as he had taken a load of wood to the dump after setting up the crane. Louis Pease died instantly of electrocution and was pronounced dead at the scene by the medical examiner.

The Dalton Janitorial and Tree Service, Inc. was charged with the following OSHA violations: *Section 1910-180(H)(3)(v)* employer failed to prohibit climber from lowering and/or swinging from load line. *Section 1910-180(J)(1)(i)* employer failed to prohibit truck crane operation within established ten (10) foot minimum clearance of power lines 50 KV or below. *Section 1910-180(J)(3)* employer failed to properly notify owners of the lines or their representatives before commencement of operations near electrical lines. The Dalton Janitorial and Tree Service Co., Inc., went out of business the day of the accident.

Friday, August 10, 1965 was a routine day for 18 year old Jeff Hugg. He was just about to complete his second week of work as a climber for the Peerless Tree Surgeons of Schenectady, NY. He was a good athlete and had taken quickly to the job of climbing. His employer was so impressed with his natural ability that he had put Jeff with one of his seasoned men and an unskilled ground man on a large estate just outside Jeff's home town of Johnstown. His employer had divided the trees between his foreman and Jeff and after a quick description of what he wanted done had left to check on another crew. The trees on which Jeff were to work were on the rear of the property adjacent to the town road and remote from the other two Peerless employees.

Jeff was pleased with the assignment he had been given. The trees were small and easy to climb and as he planned the way in which he was going to do the tree he thought to himself that this

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would be another routine day. What Jeff had not planned on was the fact that five minutes later he would be dead. He had not detected nor was he familiar with the 4800 volt bare primary line that ran through the tree.

The following is a portion of the letter written by Jeff's mother to the American National Standards Institute on May 31, 1967: "Homeowners call well advertised tree experts to trim, treat or cut as necessary. Electric lines of varying voltages run across private property. Employees of horticulturists, landscape artists, arborists, tree experts or tree surgeons work near these lines. Certainly these workmen deserve the protection of the same safety rules as the thoroughly trained employees of a power company." This letter led directly to the writing and adoption of the Z-133 code of the American National Standards Institute.

For Ronald Black March 3, 1979 was also a routine day. He had been assigned by his employer to trim trees on property belonging to the British Embassy. The four man crew consisted of a foreman, assistant foreman, top climber and Black. Both foremen had worked for a (major) national tree service firm and were qualified line clearance tree trimmers. Although the representative of the company who had inspected the job had not detected the 7000 volt primary which crossed the property, Black and his foreman were not concerned with the line as they had previously spent time working around energized lines. At approximately 2:30 p.m. that day Black came in contact with the primary line as it passed through the tree in which he was working. He was rendered unconscious and for the next 7½ minutes was clinically dead as all body functions had ceased. The senior climber who was with Black extricated him from the line and lowered him to the ground. Within three minutes CPR was being administered and some seven minutes after the accident the first rescue team arrived on the scene.

Ronald Black regained consciousness after 48 hours and several days later it was determined that he had not sustained any brain damage. He returned to work on April 20th apparently none the worse for his near fatal accident. Action in this case is still pending but there is no question that

he would have died were it not for the training and quick action of the other employees.

How do we relate these incidents to the private tree worker and energized lines? Dick Abbott has recently reviewed the revised ANSI Safety Standard and I would like to specifically identify those provisions that directly apply to the private tree worker.

The following is taken from the May 1979 National Arborist Association's *Arbor Action* news letter. Section 4.1 of the electrical hazards states that:

4.1 *All overhead and underground electrical conductors and all communications wires and cables shall be considered to be energized with potentially fatal voltages and shall never be touched either directly or indirectly.*

This includes fire alarm, cablevision, telephone and house drops, as well as utility transmission or distribution lines.

4.1.2 *The system operators/owner shall be advised before any work is performed in proximity to energized conductors. This rule shall not apply to persons working on behalf of, or employed by the system.*

"Proximity" is defined as 10 feet. Unless you are certain as to who owns the particular conductor you are concerned with, call the utility. They can always advise you as to whom to contact.

Under no circumstances can a tree worker operate within 10 feet of any electrical conductor unless a representative of the system owner/operator has declared that the condition is safe.

House drops (the line from the utility pole to the house) and backyard lines are always a problem. The ANSI Standard further states:

4.2.1 *A close inspection shall be made by the tree worker and by the individual in charge to determine whether an electrical conductor passes through the tree or passes within reaching distance of the tree worker before climbing, entering or working around any tree.*

Not only should the company representative check before the job is undertaken but the field crew should always be conscious of and con-

tinually check this hazard.

Any time a safety standard or any other standard or regulation uses the word **SHALL**, it is a must requirement. When the word **SHOULD** is used, the requirement is discretionary.

4.2.2 *Only a qualified line-clearance tree trimmer or qualified line-clearance trimmer trainee will be assigned to the work if it is found that an electrical hazard exists.*

Only an employee of a line clearance contractor working for that particular contractor is considered qualified under these circumstances. Even if an employee of a firm engaged in private tree care has had previous experience and was qualified as a line-clearance tree trimmer, that worker must obey the 10-foot rule.

4.2.5 *All other tree workers shall maintain a minimum clearance of 10 feet from any conductor rated 50KV or less. (The distance increases above 50KV).*

A hazard often exists when conductors are below or to the side of a tree being trimmed. A limb being hinged over may come in contact with a conductor and cause indirect contact.

Direct contact is defined as contact made when any part of the body touches or contacts an energized conductor or other energized fixture or apparatus.

Indirect contact is defined as contact made when any part of the body touches *any object* in contact with an energized electrical conductor, or other energized fixture or apparatus.

All of these ANSI Standards are either included as OSHA regulations specifically or by implication. In either case they are absolute and must be adhered to.

Why be concerned about telephone lines, cablevision or housedrops? There is no way to know if a high voltage conductor is making contact with one of these communications conductors somewhere out of sight or if the housedrop is functioning properly. This is particularly true during storm conditions when a broken primary may be lying over a telephone line a half a mile from where your crew is working.

If it is determined that the work to be done will bring tree workers within 10 feet of a conductor **CALL THE UTILITY!** They are obligated to make

conditions safe for your people to work in.

They have several options: 1) They may move the conductor; such as to lower the house drop. 2) They may de-energize the lines temporarily in the area in which you are working. 3) They may send a line clearance tree trimming crew to perform that function which proximity prohibits your tree workers from doing. In this situation there is usually no charge for this but you will be required to clean up any resulting debris.

In summary I would like to point out that those of us who have been involved with the Federal OSHA as a defendant or who have testified on behalf of a defendant in an occupational accident are all too aware of the premise on which this bureaucratic arm of the government is based. The premise is simple: Employees have the right to work in an environment free from recognized hazards. Indifference to this premise by employers invariably leads to an accident which adds to the statistics. Once the statistics indicate the existence of a hazard, a new regulation is promulgated to avoid or reduce exposure.

You may recall a proposal by the Federal Government in response to a recent fatality which would have required the electric utility to de-energize or sleeve the entire line before the contractor would be permitted to trim.

All of us in the industry are faced with the potential for electrical hazard and injury. Those arborists who function as utility line clearance contractors are, perhaps, more familiar with the nature and severity of the problem but we all have to exercise the same precautions. The regulations that have been promulgated to cover this particular area were written by people in the industry. It is incumbent on you to familiarize yourself with the Z-133 Standard and make sure your employees understand the provisions. An excellent adjunct to the standard is the soon to be released Tail Gate training sessions of the National Arborist Association which incorporates the electrical hazard provisions of the Z-133 Standard.

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