Report of the Week

"Electricity isn't the only downed line hazard."
5/17/2012

Report Number: 12-0000069
Report Date: 03/05/2012 14:45

Synopsis
Officer injured removing tree from power line.

Event Description
Note: Brackets denote reviewer de-identification.

In January, [date omitted], my engine responded to a report of a downed power line. We had been having a high wind event for several days and had gusts over 80 miles per hour that morning.

On arrival, I made contact with a sub-contractor for the power company who was on scene and had shut down all power to the area. We checked the scene and found a large tree that had broken off about half way up. The top half of the tree was now supported by a wooden fence and the power lines, which were running down the alley. The fallen part of the tree was 30" in diameter and had fallen in such a way that the power line, which was normally 15' above the ground, was now only five feet above the ground.

After confirming again that the was power off, I asked the line foreman if he could clear one of the two crews from our scene in order to assist a second engine company who had live lines in a tree that was currently on fire. I felt after assessing the scene that we could remove the downed tree and clear the line at my location. As the line crew left the scene, I had my firefighter and engineer move up to my location in the alley to start removing about eight feet of the tree that was overhanging the fence and blocking the alley.

Although we do not have a protocol for assisting the local power company with tree and branch removal, I felt that it would be appropriate for several reasons. First, I was the one who requested that the power company crew clear the scene to assist one of our other crews. This left the remaining crew short-handed. Second, my engineer and I are both certified Class B Fallers through the National Wildfire Coordinating Group and have had a lot of training and experience with chainsaw work. Third, we had a firefighter on our crew with limited saw experience and I felt that this would be a good training opportunity. (I just had no idea how good of an opportunity it would turn into.)

After removing most of the overhanging tree, we had about eight inches left to cut in order to free the line. My engineer climbed on top of the downed section of the tree so that he could make the last cut. I remained on the ground to watch for any problems and to make sure we did not cut the line. At the time we felt that, once freed, the line would come up about six to twelve inches.

When my engineer was about three-quarters of the way through the final cut, the saw bound in the tree. After a discussion we decided to use a pry bar to open the cut just enough to remove the saw. As my engineer and firefighter started to pry open the cut I reached over the line with my right hand to remove the saw. This is when the last of the wood that was holding broke loose.
An eight inch thick, 30 inch diameter disc of wood struck me in the face, broke my nose, cut my face in several places, and gave me a mild head injury. My right elbow was broken by the line as it snapped back up to its original height. I was knocked to the ground, with my helmet and the wood disc landing about 15 feet away down the alley. I was transported to the hospital and ended up with over 250 stitches in my face and my arm in a sling. I have been on light duty for the last six weeks.

Lessons Learned
Though we talk about the dangers of power lines, we often overlook the amount of tension in the system. In this case, I spoke with the power company after the incident and the representative I spoke with said the tension on the line could have been in the tens of thousands of pounds. Based on what I experienced, I can say that the reaction was a LOT more than I had expected.
The power company also explained that, in cases like this, they secure the line with rope before removing the load. Once the load is removed, they release the line in a controlled manner.

Be careful of the unknown.

Demographics
Department type: Paid Municipal
Job or rank: Lieutenant
Department shift: 48 hours on - 96 hours off
Age: 43 - 51
Years of fire service experience: 30+
Region: FEMA Region VIII
Service Area: Urban

Event Information
Event type: Non-fire emergency event: auto extrication, technical rescue, emergency medical call, service calls, etc
Event date and time: 01/19/2012 09:00
Hours into the shift:
Event participation: Involved in the event
Weather at time of event: Clear and Dry
Do you think this will happen again?
What were the contributing factors?

- Decision Making
- Training Issue
- Procedure
- Individual Action
- Weather

What do you believe is the loss potential?

- Lost time injury

- Environmental

Report of the Week

Storm periods strain emergency and utility service crews. Multiple calls for downed power lines and the commitment to getting things back to "normal" after severe storms can press crews into actions that expand risk. Hazards that would normally be seen and identified are overlooked due to the increase in calls for service, nature of the calls and the rate at which the calls are dispatched. During storms, the opportunity for a near miss escalates due to the overload factor.

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Incidents such as these remind us of the presence of unforeseen hazards. Transportable skills, like the expertise in felling trees, can come in handy on any given incident. However, matching a transportable skill to an incident should always be accompanied by an additional hazard scene assessment to ensure the skill and task are in sync. As the reporter in **12-069** observes in the Lessons Learned, the power company uses an additional step when they remove a tree from a downed line under tension. Once you have read the entire account of report **12-069** and the related reports, consider the following:

1. What role do you believe the power company played, or should have played in the near miss that occurs in report **12-069**?
2. A "transportable skill" is one that is learned in one industry and used in another. In this case, what were the pros and cons of the transportable tree felling skill?
3. Where is the nearest available chain saw to you? If it is in your company, has the company been formally trained and certified in its use, or is the training ad hoc (in house/informal) in nature?

4. List three actions that went right with this incident.
5. Report **12-069** identifies a secondary hazard (lines under tension) to the downed power line scenario. Can you identify any other hazards in addition to electrocution and lines under tension that downed power lines present?

Wanting to "mitigate the hazard" is an easy reach for emergency responders. It is the overarching goal of every response. The hazards we face upon arrival are not always readily visible. One of those hazards is clearly being on the lookout for "the unknown." The second is the amount of pressure put on us, often by our own doing, to make a situation better. Mitigating incidents is what we do best. How we accomplish that mitigation needs to be weighed against the ranked incident priorities of life safety, incident stabilization and property conservation.

Related Reports – Topical Relation: Downed Power Lines

05-415	**06-503**	**07-764**	**08-270**
09-093	**10-738**	**11-340**	

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Note: The questions posed by the reviewers are designed to generate discussion and thought in the name of promoting firefighter safety. They are not intended to pass judgment on the actions and performance of individuals in the reports.

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