

Toolbox Talks 2

014: Assumptions That Can Kill You: Power Lines

Discussion leader duties for this session:

Review any company safety information that addresses working around power lines.

What this Safety Talk covers:

Assumptions that people should not make around power lines.

Discussion notes:

Some power line facts to think about

- Unfortunately, not every installation gets completed per code. The fact an overhead power line *should be* at a certain height doesn't mean it is at that height.
- Crane operators can't see everything, and can't always judge distances precisely.
- Not all power lines are overhead. The fact you don't see a power line doesn't mean one isn't present.

Cautions

- Don't rely on visual indications. Conduct (or obtain) a survey of all power and communications cables in (and adjacent to) the work area. Know exactly where these cables are.
- You can be killed by a power line, without ever touching it.

Assumptions

- "Since power lines must be installed per code, the clearances for all power lines I will be working around are adequate." The initial power line height may not be its present height (things change). That clearance is for normal conditions—it does not account for equipment you may be bringing in. Also, code violations do occur.
- "The crane operator knows what he's doing." You have to add, "...based on the information he has." Talk with the crane operator before the job and account for where the crane boom will be in relation to every overhead line.
- "If I can't see it, I don't have to worry about it." Actually, you do. Know the location of all power lines, regardless of any visual indications.
- "The PPE I'm wearing will protect me from anything I've overlooked." If you've overlooked something, how do you know you have the correct PPE for it?
- "The survey on file is current." Why risk the use of outdated information? Don't assume. Check the dates.
- "As long as I am grounded, I will be safe because I will be at zero potential." This assumption confuses grounding with bonding. Grounding is an earth connection (NEC, Article 100). It won't make you safe, and it won't put you at zero potential. This assumption often leads to ignoring the safety practices that do protect you (e.g., observing clearances, following lockout/tagout, and wearing the right PPE).
- "As long as I am ungrounded, I will be safe because there will be no path for the electricity to follow." The absence of a dedicated path to earth doesn't mean there isn't a path or one won't be created by ionization, flashover, or your body. An earth connection isn't necessary for any of these to kill you.

Review and discussion

1. You are assigned to do some bucket work outdoors. What assumptions should you not make about the overhead power lines?
2. In what ways can you help a crane operator to avoid accidental contact with power lines?
3. If you're in the bucket, the metal shell will protect you. Right? *[Note to Presenter: The point of this question is to open up discussion of what exactly does protect a person in a bucket and what safety measures should be used.]*
4. How can you be in danger if you're not in the bucket?
5. How can you get electrocuted working around power lines even if you are grounded?
6. If you're not working on a power line, how can it be dangerous to you?
7. How can you know for sure a power line is de-energized? *[Note to presenter: Lockout/tagout, verify by measuring, ground per de-energized conductor grounding policy].*
8. What are some standard safety procedures for protecting yourself around power lines? *[Note to presenter: These include such things as using the correct PPE, equipment rated for that voltage if working hot, proper lockout/tagout, verifying de-energization with measurements, and properly grounding de-energized conductors].*
9. What should you do so that you know where all of the buried cables are?
10. While trenching, you suddenly expose a buried cable that you didn't know was there. Somehow, it got missed on the survey. Does this mean it is "obviously de-energized?" What should you do?

Participant's Signature and Date

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.