

Toolbox Talks 2

007: Assumptions That Can Kill You: Temporary Power and Light

Discussion leader duties for this session:

Review the company's methods of providing temporary power and light. Review Article 590 of the NEC.

What this Safety Talk covers:

Assumptions that can lead to death when providing or using temporary light or power.

Discussion notes:

Cautions

- Because temporary circuits are run with cords instead of wire and raceway, they are more vulnerable to damage. This is why Article 590 provides special requirements.
- Inspect your equipment prior to use. Pay particular attention to portable cords for jacket damage and to temporary lighting fixtures for adequate guarding.
- Verify breakers and fuses are correct for the temporary circuits.
- When working in confined spaces, use battery powered equipment and lighting whenever possible. This will eliminate the chance of electrical shock due to a frayed power cord or broken 120V lamp.

Assumptions

- “The breaker will protect me.” A fault through a high resistance path may not draw enough current to trip a breaker or blow a fuse. On a 120VAC circuit, the current drawn through a resistance of 10 ohms is only 12 amps. A 20 amp circuit breaker will never trip in that situation. It takes only milliamps to stop your heart.
- “The breaker is the right size.” Often, the overcurrent protective device for a temporary circuit is oversized because the correct size wasn't available.
- “The temporary step-down transformer is properly bonded and grounded per NEC requirements.” Due to the widespread misuse of the word “grounding” in place of “bonding,” this is often not the case. Article 100 defines grounding as connecting to the earth and bonding as creating a metallic path. Grounding does not eliminate differences in potential; only bonding can do that.
- “The equipment grounding conductor is properly connected and the ground pin on the line cord is in place.” Once you've been electrocuted, it's too late to check these things. Check them before an accident occurs.
- “The temporary wiring is in good condition, well-secured, and protected.” Make sure.
- “A few fumes from a generator never killed anybody.” Actually, they have. Ensure proper ventilation or locate the generator outside.
- “It's a little dark, but I can see well enough.” Also, “Task lighting, if really needed, would already be here.” If you have any problems seeing, don't try to get by on inadequate light. You need to be able to clearly see the work in front of you, and you need to be able to see nearby hazards without squinting.

Review and discussion

1. Why are temporary circuits more vulnerable to damage than permanent ones are?
2. What should you do with temporary power and light equipment before using it?

- Participant's Signature and Date***

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