



## ***District 10 Monthly Message – May 2022***

May is Electrical Safety Month and I thought I'd share a few thoughts around this familiar hazard. As familiar as it is, we still have challenges recognizing and controlling it. We learn electrical theory early in our career and apply what we learned in our everyday work. Electrical theory can seem abstract at times, taken for granted in others. I'll concede that managing this hazard isn't cut and dry and is extremely situational. On top of that, electricity can be unpredictable. Differences in ground resistance, system protection schemes, and our personal characteristics all play a role in how electricity will behave. A common theme in my messages is the importance of pre-job planning, giving the crew as much time and resources possible to evaluate and resolve issues found on the worksite. I know that this approach is relative, contractors and their crews are not always handed their work on a silver platter. We often do the best we can with what we have.

The task can quickly become complex with considerations like highly loaded transmission lines that create induction issues, complex distribution automation schemes that isolate and restore in unconventional ways, and the fast-moving Electrical Vehicle market that is creating a lot of concern around back feed and isolation. These are just a few examples that a crew must consider and address on a routine basis. The question is how do we make sense of it all?

Admittedly, this is not a simple issue and one that cannot be fixed with a wave of a hand. However, I submit that the issue is best approached with basic work practices.

1. **Communication** – Make sure there is open communication throughout the entire process. Project managers and general foreman must evaluate work that is being prepared for their crews. Making sure the end user is familiar with any existing or potential hazards associated with the scope of work and the site. Foremen must conduct solid pre-job briefs with their crew to discuss roles and responsibilities, hazards, and controls. The person in charge must adhere to clearance procedures and communicate with the designated authority during outage work.
2. **Insulation** – When working with energized conductors and in an environment of secondary contact points, the crew must apply effective protective cover and wear insulated protective equipment suitable for the voltage class they are working with.
3. **Isolation** – Isolation is important for both energized and de-energized work. Distance is your friend when working energized lines. Stay out of the MAD as much as possible, work from the end of the stick or better yet, with an extending stick from the ground. With de-energized work, creating a "Zone of Protection" is required. Crews must isolate themselves with physical, visible breaks on the line.
4. **Testing** – Testing for the absence of voltage must be performed to ensure the crew has proper isolation and that induction isn't an issue.
5. **Tagging** – Adherence to the customers or your internal LOTO program is essential for creating a "Zone of Protection". The person in charge must verify their conditions and make sure conditions requested in a clearance exist. The person in charge must coordinate with operations to ensure the system operator is aware of the work taking place and has given



permission for the crew to start work. In situations where self-tagging is employed, the crew must stay within the scope of that process. Since this is handled differently with various customers, it is important to train all affected employees on the applicable LOTO procedures.

6. **Grounding** – Without a doubt, the most protective measure for crews working de-energized lines is to properly install an effective Equipotential Zone through grounding and bonding. When this is performed correctly, workers are protected from unexpected voltage sources and will limit the current flow at the worksite to safe levels.

This work can be done safely if we focus on the basics. There is no doubt that as the grid becomes more sophisticated and automated, protecting our workers will become more and more challenging. By focusing on fundamentals, we give our crews the solid, practical methods of protection that will protect them regardless of system complexity.

Thank you,

Mike Starner

