Western United Electric Supply Corporation

The Supplier

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The Supplier

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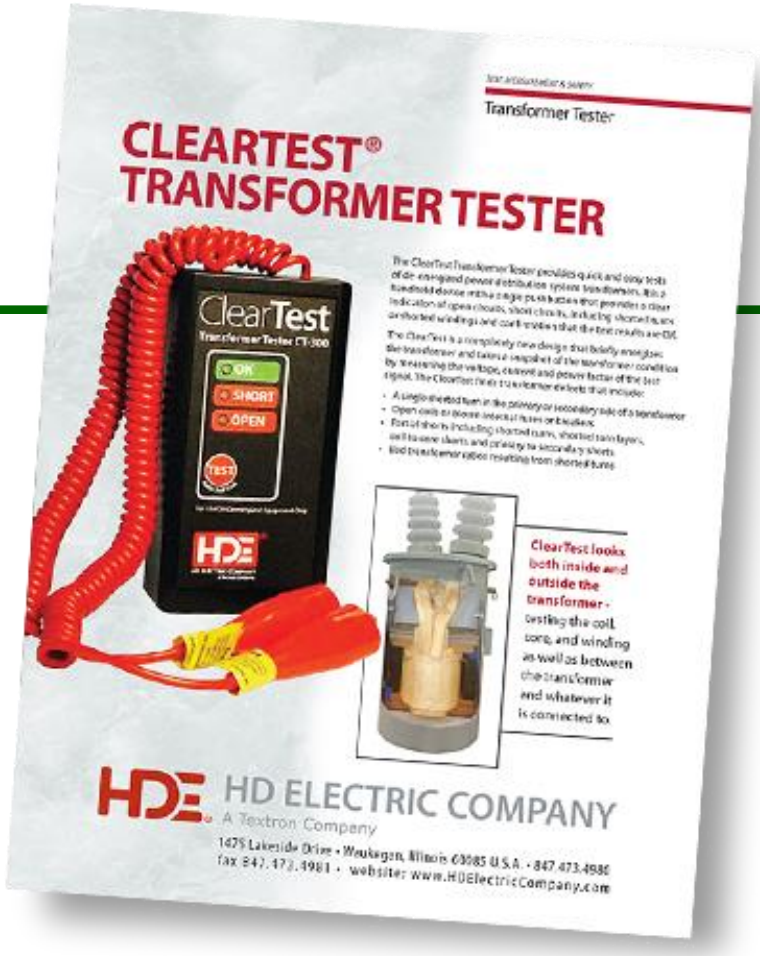
WESTERN UNITED MISSION STATEMENT

To be the distributor of choice for all electric utilities in the Rocky Mountain Region

Serving CO, WY, NM, NE, UT, AZ , NV & KS

NEW TRANSFORMER TESTER INTRODUCED

HD Electric Company has improved on their TILT ll transformer tester with a new product introduction. The new CLEARTEST Transformer tester checks both inside as well as outside the transformer (coil, core, winding, and whatever the transformer is connected to). Effectively used, the tester will prevent line workers from installing a fuse on a shorted transformer. The unit is compact, lightweight and battery powered (two 9V batteries) with both visual and audible indicators. Long test leads (96" extended) and built in self-test ensures both accuracy and ease of use. Reasonably priced. See your WUE account representative for a demo.



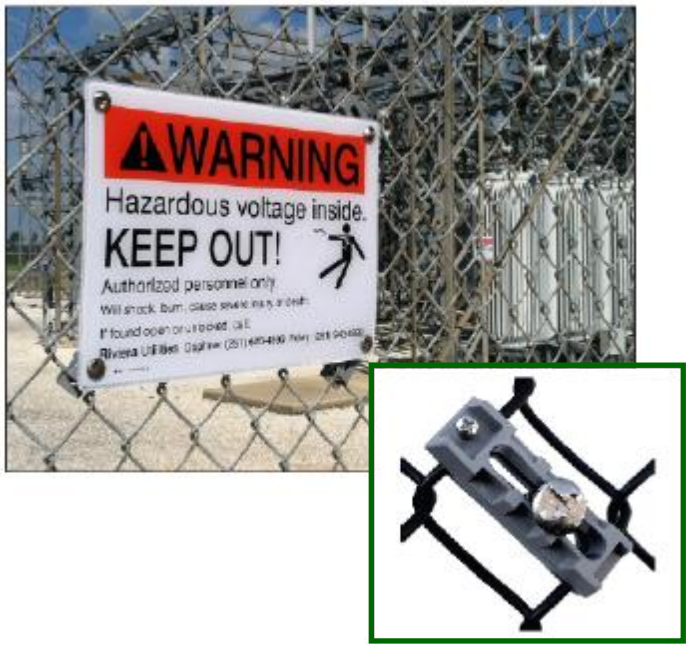
WUE UPDATE

The WUE board of directors, in October, approved the redemption of $2.9M (all) of the outstanding 2009 WUE patronage certificates. Checks have been sent to all members. Thus WUE now has a 7 year rotation on their outstanding certificates.

Ermco a cooperatively owned transformer manufacturer has also redeemed all of their outstanding 2008 certificates with a check extended to WUE at the end of calendar year 2016.

WUE has expanded their list of vendors to now include products that are required for the installation of a fiber optic system either to the home or substation which many co-op members are now performing. WUE is also stocking many fiber system products. Please see your WUE account manager rep for any fiber requirements or associated tooling that you may have.

Uticom Systems introduces a new Anti-Theft Fence Bracket for connecting signs to chain link fencing in substation environments. Stainless steel hardware and nylon bracket allows for an easy and safe installation (from one side of the fence). Both vertical and horizontal travel to connect holes. Available in black or grey. Specify part # U1902S-SS (10 sets per package).



STAYING GROUNDED

Lightning, human error, static electricity, induced voltage, back-feed… all reasons that the electric line you are working on could become energized. Keeping electricity grounded when work is being performed is critical in order to avoid electricity seeking your body as the grounding path. Staying safely grounded includes working with the correct equipment, daily inspection, proper cleaning, maintenance and recertification, and proper storage.

Before Beginning—Review Safe Work Practices

Completing a job safely should always begin with the knowledge and understanding of your company's Safe Work Practices including a hazard assessment prior to work (see OSHA 29 CFR 1910.269(a)(3) & .269(c)). This will guide you through the completion of a job in a safe and efficient manner from beginning to end, and will include proper grounding practices.

Grounding Standards

Protective grounding should have an electrical impedance low enough to cause the immediate operation of electric line protective devices in case of accidental operation of the lines or equipment on the lines (OSHA 29 CFR 1910.269(n)(4)). Grounding equipment must b e capable of conducting the resulting fault current that could flow at the point of grounding for the time necessary to clear the fault.

Installation and removal of protective grounds should always be done with live-line tools, with the Ground-End connection being installed first (and removed last when removing the grounds) ((OSHA 29 CFR 191.269(n)(6)). Live-line tools should be properly inspected before use for any damage that could inhibit their protective properties, and equipment that has suspected damage should be removed from use in the field (American Society for Testing and Materials/ASTM 711-02, 8.1) and sent to a professional testing facility. According to John "Grizzy" Gryzwacz, Professor Emeritus of the OSHA National Training Institute, "most utility accidents and fatalities with respect to line contact are a result of lack of appropriate PPE, lack of insulated line cover up, or lack of appropriate grounding."

The Correct Equipment for the Job

Grounding components. When ordering grounding sets, you can choose from a variety of grounding components. Because grounding components (cables, ferrules, and clamps) are furnished to meet the needs of various applications, each must meet the maximum current that could flow through the completed ground set at any time. As a general rule, your equipment in only as strong as the weakest component. For example, if one component is a grade 2 and the rest of the set is equipped to meet the current flow of a grade 4, the grounding equipment is only rated at a grade 2.

STAYING GROUNDED continued

Clamps. In addition to ensuring all components meet the fault current requirement for the job at hand, consideration should also be given to the clamp style and cable length. Under fault conditions, grounding cables can whip violently. For this reason, clamps should be selected based on what they will be clamped onto to avoid fly off. Stocking grounding sets of various cable lengths is advised as a cable that is too long will create an added hazard and could cause further injury, additional damage or worse during use.

Cable Jackets. Cable can also be purchased with either colored jackets or clear jackets. Colored jackets, such as yellow, can offer better visibility of the ground set, and a clear jacket can provide better visibility when inspecting the copper stranding within, making damage inspection easier. Ground cables are stated in American Wires Gage numbers (AWG), and are also classified by type. Specification for temporary grounding equipment can be found in ASTM F855-1990.

Regular Cleaning and Storage.

Regular cleaning of ground sets can prolong the life and safety of the set. Several factors can reduce the effectiveness or contribute to the demise of a set. For example dirt and water can actually conduct electricity and the everyday petroleum-based products the grounds come in contact with can damage the integrity of the ground set and reduce protective properties. Wire brushing of the ground clamps to remove corrosion and dirt as well as cleaning of the grounding cable with a rubber goods cleaner, should be done immediately before and after each use. Don't forget to wire brush the conductor that the clamps will be attached to—proper cleaning will also allow for a better inspection of the equipment, and may reveal any damage that would have previously gone unnoticed.

Wire brushing should occur before and after use to remove dirt and corrosion.

When storing ground sets, keep them in a protective ground set bag. As with all safety equipment, care should also be taken to ensure sets are stored in a temperature-controlled environment, out of direct sunlight and high humidity.

STAYING GROUNDED wrap up

Daily Inspections

Inspections of clamps, cable, support studs, shrink tubing, and ferrules to ensure there is no structural damage should occur before each use. Clamps should be free of loose parts, sharp edges, splits, cracks, and should be able to be operated smoothly by hand (see ASTM F855-09, 10, 23, 36). Carefully inspect the area where the cable meets the ferrule for any breakage. Then begin inspecting the cable jacket for any corrosion (indicated by swollen or soft spots), flattened or smashed sections, or any cuts or breakage in the cable jacket. Any damaged ground set should be taken out of service and sent for repair and recertification. While damage can sometimes be easily identified, regular wear and tear, extreme voltage, and moisture can all cause unseen damage. For this reason, and to meet the utility industry best practices planned repair and recertification intervals based on the type and frequency of work should be established

Maintenance and Recertification

Broken and damaged grounds should be sent in for repair and recertification, It is highly recommended that ground sets without seemingly obvious structural damage also be sent to a certified test lab. Once the ground set passes testing, it is then labeled with test dates and due dates for recertification, which will keep crews alerted to upcoming test interval expiration dates. The complexity of the recertification and repair process requires highly skilled and experienced personnel.

Proper grounding will keep you compliant, and will also ensure that you remain safe while working on the line. Remember, a line that is de-energized can easily become energized in the blink of an eye, so stay safe and safely ground at all times and remember . . .