CALLAWAY ENERGY CENTER CLARIFICATION FOR ESTABLISHING A DE-ENERGIZED ELECTRICALLY SAFE WORK CONDITION

NOTE

This is an enhancement to Step 4.2.22 of the Electrical Safe Work Practices Manual (ESWPM).

1.0 DE-ENERGIZED ELECTRICAL SAFE WORK CONDITION

1.1. Can be achieved when a circuit is verified de-energized using all the following, as applicable:

1.1.1. Visually verify, when possible, that all blades of the disconnecting device are fully open or withdrawn.

1.1.2. Perform a Live Dead Live voltage test on circuit parts being worked on.

a. The desire is to perform the Live-Dead-Live as close to the component to be worked on; however, if it is not feasible or performing a Live-Dead-Live presents additional safety hazards due to be in the arc flash gear that supports the voltage of the work, then the circuit should be verified dead using a Live-Dead-Live check at the remote circuit location and a 'Test before Touch' as described in Step 2.0 below should be used at the electrical component.

b. Explanation of how to perform a Live-Dead-Live Test:

1. Don the appropriate Personnel Protection Equipment (PPE) for the arc flash concern for which the Live-Dead-Live is being performed as required from ESWPM, Addendum 1.

2. Verify the meter is on the appropriate scale and not on auto range or hold.

3. Test the meter against a known voltage source to verify proper operation.

4. Test each phase of the circuit A phase to ground / B phase to ground / C phase to ground, and then test each phase to phase of the circuit A to B phase / B to C phase / C to A phase.

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Step 1.1.2.b Cont'd

5. Test the meter against a known voltage to re-verify that the meter is working properly.

6. If there is a concern that DC voltage could be present, then the meter should be placed in a mode to check DC voltage and repeat Steps 1.1.2.b.2 through 1.1.2.b.4.

1.1.3. Where it could be reasonably anticipated that the conductors or circuit parts being deenergized could contact other exposed energized conductors, apply ground connecting devices rated for the available fault current.

1.1.4. Follow the CEC WPA requirements of APA-ZZ-00310.

2.0 HOW TO PERFORM A 'TEST BEFORE TOUCH'

2.1. After a Live-Dead-Live has been performed at a remote location (breaker cubicle, junction box, etc.) and due to a safety hazard at the component or circuit, a 'Test before Touch' should be performed at the component to ensure that the component or circuit is truly de-energized. No additional PPE except for normal PPE is required for performing a 'Test before Touch'.

2.2. Technician who will be performing the work, using a proximity detector that has been properly verified to be functioning, check each phase of the wires coming to the circuit or component.

2.2.1. Limitations of Proximity Detectors:

a. Does not work with shielded cables

b. Does not detect DC voltage

2.2.2. If any voltage is detected during the 'Test before Touch', then a Live-Dead-Live test will be required in proper PPE prior to continuance of work.

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3.0 REFERENCES

3.1. Implementing

3.1.1. APA-ZZ-00310

3.1.2. ESWPM Addendum 1, Callaway Energy Center – Ameren Hazardous Risk Categories (AHRC) for Arc Flash Exposure

3.2. Developmental

3.2.1. ESWPM, Electrical Safe Work Practices Manual

4.0 SUMMARY OF CHANGES

Pages	Section or Step Number	Description
	Throughout	Updated formatting to align with Callaway Standards