



## Electrical Safety Community of Practice

### Electrical Safety Position/Guidance Paper 2024-01

## Test Before Touch Voltage Testing

ISSUED Date: February 2024

### Introduction:

On behalf of the Energy Facility Contractors Group – Electrical Safety Community of Practice (EFCOG-ESCoP) this guidance serves as a recommended practice for performing additional electrical safety testing Test Before Touch (TBT), prior to a qualified electrical worker coming in contact with any electrical conductors and/or circuit parts after the establishment of an *electrically safe working condition* (see def.). This additional TBT does not replace the absence of voltage verification test required to be performed during the process of establishing an electrically safe working condition. TBT is a recommended practice when any of the following conditions apply or at any point after an electrically safe work condition has been established:

- a. When the qualified electrical worker has left the work location for an extended period of time.
- b. When a personnel or shift change occurs with qualified electrical workers where an electrically safe working condition is established.
- c. When circuit conditions may have changed that could affect the established electrically safe working condition.
- d. When the location of the work has changed i.e. new junction box or enclosure to be accessed where not part of the original absence of voltage during the LOTO process, but part of the LOTO boundary (NFPA 70E 120.(B)(6)(3)).

**Note:** A qualified electrical worker may perform TBT at any time for any reason prior to contacting electrical conductors or circuit parts.

### Discussion:

TBT is a supplemental electrical safety test and is performed only after an electrically safe working condition has been established. When performing TBT, Personnel Protective Equipment (PPE) such as arc flash clothing or voltage rated gloves are not required since the system/equipment under lockout tagout was previously confirmed to be in an electrically safe working condition. A Nationally Recognized Testing Laboratory (NRTL) listed portable test



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instrument (voltmeter), permanently mounted test device, or proximity tester may be used to perform TBT provided the limitations of the device used is taken into consideration and are rated for the system's nominal voltage, type of voltage, and designed for the environment.

### **Conclusion:**

TBT is a recommended practice as it reaffirms the absence of voltage prior to qualified electrical workers contacting electrical conductors or circuit parts. This recommendation is not intended to replace the absence of voltage verification for establishing an electrically safe working condition. Rather, TBT is designed to supplement the absence of voltage testing performed in support of establishing an electrically safe working condition. All qualified electrical workers are encouraged to re-confirm absence of voltage through TBT prior to contacting any electrical conductors or circuit parts of electrical systems or equipment.

### **Definitions:**

**Electrically Safe Working Condition** – A state in which an electrical conductor or circuit part has been disconnected from energized parts, locked/tagged in accordance with established standards, tested to verify the absence of voltage, and, if necessary, temporarily grounded for personnel protection.