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### SAFETY GUIDELINES

In life I all must observe and practice sound safety measures at all times. This is particularly true when using Crown Insulation Testers (CIT's), which are instruments capable of generating relatively high voltages and currents that can cause severe injuries or death. The purpose of this composition is to alert the reader about the electric hazards involved when using CIT's and it makes no claim to be a totally comprehensive study covering all safety aspects that should be observed and followed when manipulating high voltage producing test apparatus. Supplementing with well qualified safety guidelines from reputable sources will always be recommended and never redundant. We must always bear in mind the importance of maintaining updated engineering and work practices that provide ways of performing the safest tests.

#### **Workstation:**

Safety starts by establishing a safe workstation.

**Location:** must be carefully chosen. We should favor a place that is not conspicuous within the plant, site, or production line, preferably as isolated from normal daily activities as possible.

**Work Benches:** made of non-conductive material to reduce the occurrence of electric shocks, should be arranged in such manner as to permit authorized personnel's unimpeded mobility and to promote the observance of all safety measures.

**Grounding:** reliable grounding must be made available at all times whenever a CIT is going to be used. Proper grounding system is indispensable for the operator's welfare.

**Receptacles:** Strict polarization and grounding must be observed and complied with at all receptacle outlets.

**Main Disconnect:** it is very important to install a main power shutoff disconnect (or switch) at the entrance to the workstation at a visible spot. It must be duly identified with appropriate signs to best serve as a fast and easy means to shut off all power to the workstation.

#### **Safety Procedures**

Along with all warning and hazard signs, must be posted in several visible places around the workstation, and learned by all authorized personnel.

## **Training**

Personnel that will be involved in electrical safety tests shall be properly trained.

The main object of personnel training is to make them aware of all hazards associated with CIT's and high voltage testing, and encourage test operators to adopt the good habits (techniques) of observing correct safety measures at all times.

All test operators should be trained in the appropriate techniques to let go of an energized item, in case of emergency. The fastest way to release a victim is of course to shut off power to the workstation by means of the main power disconnect. A piece of dry stick or wood can further be used to help separate the victim from the power source. Thus reducing the possibility of others getting exposed to electric shocks.

## **Important Safety Points**

Safety Points to observe and follow at all times:

- Unauthorized and/or untrained personnel shall never be admitted within the workstation or test area.
- Proper operator training should allow identification of all hazards. If the hazards can not be identified, the operator can not avoid them.
- Familiarize yourself with the CIT's, the way they should be safely operated, the testing procedure that will be performed, and the units that will be tested.
- Before performing the test, CIT's require thorough examination of both the prods and the high voltage cable to verify proper and safe condition.
- Before performing the test, make sure all ground connections are proper and secure, and connect to proper voltage source as specified on CIT's name tag.
- When setting up the test, avoid placing the CIT and/or the tested unit in spots where they could become potential hazards or obstacles to the operator. Do not reach over a unit under test.
- Do not conduct tests on energized units (circuitry or equipment).
- Follow the guidelines delineated in the "Crown Instructions for Insulation Testers".
- While testing, do not wear jewelry or other conductive materials on your body or clothing.
- The high voltage prods should be handled only by the black insulators and sliding buttons. Never touch the brass points.
- Never come in contact with a tested unit while the test is being conducted.
- Once the test is "duly terminated", turn the CIT power off, rid the tested unit of any stored energy, and remove both the CIT and the tested unit from the work bench, leaving a clean, unencumbered work bench. A grounding hot stick can be used to discharge the tested unit.
- In case of any problems, turn off the high voltage first.
- In case of emergency, turn off the main disconnect at once.
- Keep your workstation clean and in an orderly condition.
- Do not make unauthorized modifications/changes on the CIT's.

We welcome any suggestions and/or questions regarding these recommended safety guidelines.

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