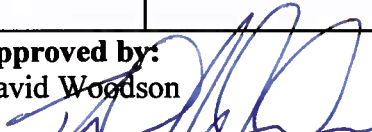


The University of British Columbia Building Operations		WORKING ON LOW VOLTAGE ELECTRICAL EQUIPMENT	I-B-31
Work Procedure			
Prepared by: Armin Reckhard/Colin Flock	Approved by: David Woodson 	Issue Date: May 1, 2012	Replaces: May 9, 2005

1. Purpose

This procedure is to ensure that work performed on all low voltage equipment is done in the safest manor to ensure the safety of the worker and University assets.

2. Definitions

"low voltage" - means a potential difference (voltage) from 31 to 750 volts inclusive, between conductors or between a conductor and ground;

3. Policy

- 3.1. Electrical work performed by Building Operations personnel will conform to guidelines set by various Federal and Provincial bodies. These include primarily, The Workers' Compensation Board of BC ("WorkSafe BC"), BC Safety Authority and Canadian Standards Association ("CSA")
- 3.2. Low voltage electrical equipment must be completely disconnected and locked out before starting work on it. (OHS Regulation 19.10(1))
- 3.3. Except for lighting circuits as specified in subsection 3.4, working on or near exposed energized parts of electrical equipment is allowed if:
 - 3.3.1. If it is not practicable to completely disconnect low voltage electrical equipment. or
 - 3.3.2. When diagnostic testing needs to be carried out or
 - 3.3.3. When disconnecting the equipment, installation, or conductor would create a greater hazard to a worker than proceeding without disconnecting it.

NOTE: For the purpose of this procedure the OHS Regulation does not consider the disruption of normal building operations or any increased expense associated with providing temporary power to be "not practicable"

- 3.4. Work must not be done on equipment associated with lighting circuits operating at more than 250 volts-to-ground without the prior written permission of the Workers Compensation Board
- 3.5. Work must be performed only by qualified and authorized workers and in accordance with this procedure.
- 3.6. CSA Z462-08 is to be used when creating safe work procedures and determining appropriate tools and personal protective equipment.

4. Reference

This procedure is to be followed in conjunction with applicable Federal and Provincial regulations, acts and standards and UBC Policy and Procedures. These include:

- UBC Building Operations I-B-2 (Isolation and Lockout)
- Occupational Health & Safety Regulation (“OHS Regulation”) Part 19
- CSA Z462- 08 (Workplace Electrical Safety)
- CSA Standard C22.2 No. 160-M1985 (Reaffirmed 2008), Voltage and Polarity Testers or
- CSA Standard CANI CSA-22.2 No. 231 Series-M89 CSA Safety Requirements for Electrical and Electronic Measuring and Test Equipment.

5. General

- 5.1. If practicable, uncontrolled liquid is not permitted close to any worker working on the equipment
- 5.2. When working on or near exposed energized equipment, the use of metal ladders (including wooden ladders with metal reinforced side rails), metal scaffolds or metal work platforms is not permitted.

6. Procedure

- 6.1. Working on Low Voltage Electrical Equipment
 - 6.1.1. Test CSA approved multi-meter to ensure it is properly functioning.
 - 6.1.2. Test low voltage device for correct circuit.
 - 6.1.3. Completely disconnect, lock-out and tag electrical equipment.
 - 6.1.4. Perform work.
 - 6.1.5. Check work, remove locks and reenergize.
- 6.2. Working on Energized Low Voltage Equipment
 - 6.2.1. Review work to be performed with Head Electrician.
 - 6.2.2. If Head agrees that work needs to be performed live following this policy, complete “Energized Electrical Work Permit” and obtain approval.
 - 6.2.3. Perform work using appropriate tools and personal protective equipment following the established safe work procedure.
 - 6.2.4. Return permit to Head Electrician for filing
- 6.3. Working near Energized Low Voltage Equipment
 - 6.3.1. Complete Part 1 of “Energized Electrical Work Permit” and submit to crew Head
 - 6.3.2. Crew Head to review with Head Electrician and complete permit
 - 6.3.3. Perform work using appropriate tools and personal protective equipment following the established safe work procedure.
 - 6.3.4. Return permit to Crew Head for filing

7. Responsibility

- 7.1.** Authorized workers shall have ready access to the personal protective equipment required for working on live low voltage systems.
- 7.2.** Damage to personal protective equipment shall be reported to the Head electrician immediately.
- 7.3.** The electrician shall be responsible for inspections of the personal protective equipment to ensure compliance with this procedure before use.