

Safe Work Procedure

Electrical Safety

Program/Services Trades, General, Biosafety, Laboratory and Chemical Safety, Visual Arts, Carpentry Studio, Culinary Arts		Document ID RSS 18.11.4	Department: Risk and Safety Services
Personal Protective Equipment or Devices Used - Safety glasses - CSA-approved protective footwear - Work gloves - Voltage tester (where required) - Arc-rated PPE (where required)	Training Requirements - Electrical Safety Training - Equipment-Specific Training - Lockout Training (where applicable) - Verification of Understanding	Applicable Documents - Lockout & Zero-Energy Procedures - Personal Protective Equipment Program - Working Alone Program - Manufacturer Instructions - Safety Data Sheets (SDS)	Creation Date: 15 Sept 2014 Effective Date: 28 July 2026 Next Review: July 2027 Revision no.: 4 Reviewer: Safety Technician

HAZARD IDENTIFICATION — VISUAL SUMMARY

ELECTRICAL HAZARD	SLIPS / TRIPS	FOOT INJURY	EXPOSURE (CHEMICAL / BATTERY)
			
Do not work on energized electrical equipment. De-energize equipment and follow Lockout & Zero-Energy Procedures before servicing.	Keep work areas clear of extension cords, equipment leads, and other tripping hazards.	Wear CSA-approved protective footwear where electrical equipment, tools, or materials may create impact or crush hazards.	Review SDS requirements before handling damaged batteries or electrical equipment containing hazardous substances.

PURPOSE

This Safe Work Procedure outlines safe work practices for the use, inspection, testing, and management of electrical equipment at TRU. It establishes requirements for identifying electrical hazards, inspecting equipment prior to use, reporting defects, and safely conducting electrical testing activities. Electrical isolation and control of hazardous energy shall be performed in accordance with the Lockout & Zero-Energy Procedures.

PRE-USE REQUIREMENTS

- Complete required electrical safety training.
- Inspect cords, plugs, receptacles, and equipment for damage before use.
- Verify equipment appears CSA-approved or otherwise approved for use.
- Ensure equipment is suitable for the environment and intended purpose.
- Remove defective equipment from service immediately.
- Confirm testing equipment is in good condition before use.
- Review Lockout & Zero-Energy Procedures before performing maintenance, repair, or troubleshooting activities.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Required PPE shall be based on the task being performed and the results of the hazard assessment.

- Wear safety glasses where there is a risk of flying particles, sparks, or electrical contact.
- Wear CSA-approved protective footwear where impact, crush, or electrical hazards exist.
- Wear work gloves appropriate to the task.
- Wear arc-rated electrical PPE where required by the hazard assessment or applicable electrical safety requirements.
- Additional PPE may be required based on manufacturer instructions and work conditions.

OPERATING RULES

- Use electrical equipment only for its intended purpose.
- Do not use equipment with damaged cords, plugs, switches, covers, or guards.
- Keep electrical equipment clean and dry.
- Do not bypass grounding devices or safety features.
- Do not use makeshift wiring, damaged extension cords, or unapproved adapters.
- Disconnect equipment before cleaning, adjusting, or changing accessories where practical.
- Electrical panels, switchboards, and electrical rooms must remain accessible.
- Access to electrical infrastructure shall be restricted to authorized personnel.

SAFETY RULES

- Never work on energized conductors unless specifically authorized and qualified to do so.
- Treat exposed conductors as energized until verified otherwise.
- Follow Lockout & Zero-Energy Procedures before servicing equipment.
- Verify absence of voltage using approved testing equipment where electrical exposure may exist.
- Remove damaged equipment from service and tag appropriately.
- Report electrical shocks, arcing, overheating, damaged insulation, or unusual conditions immediately.
- Do not perform temporary repairs using tape, unsecured splices, or unapproved components

HOUSEKEEPING

- Keep work areas clean, dry, and free from unnecessary combustible materials.
- Maintain clear access to electrical panels, disconnects, breakers, and emergency shut-off devices.
- Manage cords and cables to prevent trip hazards and damage.
- Remove defective electrical equipment from service immediately.
- Store electrical equipment to prevent damage to cords, plugs, and protective components.

HANDLING PROCEDURES

A. Visual Inspection Before Use

1. Inspect cord insulation.
2. Inspect plug condition.
3. Verify grounding pin is present where required.
4. Inspect switches, guards, and covers.
5. Check for signs of overheating, burning, cracks, or exposed conductors.
6. Remove defective equipment from service.

B. Electrical Testing Activities

1. Use approved testing equipment.
2. Inspect leads and probes before use.
3. Verify meter function before testing.
4. Follow manufacturer instructions.
5. Wear required PPE.
6. Maintain safe approach distances.
7. Verify test results before contact with conductors.

C. Defective Equipment

1. Stop using the equipment immediately.
2. Tag equipment Out of Service.
3. Isolate from use.
4. Notify supervisor/instructor.
5. Return equipment to service only after inspection or repair by qualified personnel.

HAZARD CONTROLS — DETAILED TABLE

Hazard	Control Measure
Electrical Hazard	De-energize equipment before work begins. Follow Lockout & Zero-Energy Procedures and verify absence of voltage where required.
Exposure (Battery/Electrolyte)	Follow SDS requirements and wear appropriate PPE when handling damaged batteries or electrical components.
Cuts / Punctures	Wear task-appropriate gloves and avoid contact with damaged conductors and sharp equipment edges.
Foot Injury	Wear CSA-approved protective footwear where impact or crush hazards exist.
Slips / Trips	Maintain good housekeeping and manage cords to prevent tripping hazards.
Flying Particles	Wear approved eye protection when testing, repairing, drilling, grinding, or working near energized equipment.
Hot Surfaces / Thermal Burns	Allow equipment to cool before servicing and avoid contact with overheated components.
Stored Energy	Capacitors and similar devices may retain charge after shutdown. Verify zero-energy before contact.
Exposure to Damaged Equipment	Remove defective equipment from service and report immediately.

RECORDS/VERIFICATION OF UNDERSTANDING

- Training records must be maintained by departments or instructors.
- Verification of understanding must be completed where required.
- Records must be available upon request.

WORKING ALONE

Students are strictly prohibited from working alone in any lab or shop. If an employee anticipates isolation during work activities, a Working Alone assessment and check-in procedure must be implemented per TRU policy.

ANNUAL REVIEW

Risk and Safety Services (RSS) will complete a review of this Safe Work Procedure annually to ensure it remains current and effective. The Joint Occupational Health and Safety Committee (JOHSC) may be consulted during this review.

A review will also occur if:

- Regulatory requirements change.
- The procedure is reported to be ineffective.
- An incident occurs involving operation.

APPLICABLE OCCUPATIONAL HEALTH AND SAFETY REGULATION (OHSR)

SWP Section	Requirement Met	WorkSafeBC Regulation Reference
Training Requirements	Training and supervision	OHSR 3.23–3.25
Hazard Identification and Assessment	Identification and control of workplace hazards	OHSR 4.1
Electrical Safety	Electrical work practices	OHSR Part 19
Lockout and De-energization	Control of hazardous energy	OHSR 10.2–10.12
PPE Requirements	Selection and use of PPE	OHSR Part 8
Housekeeping	Safe access and work areas	OHSR 4.32–4.42
Working Alone	Working alone requirements	OHSR 4.20.1–4.23
Training Requirements	Training and supervision	OHSR 3.23–3.25
Pre-Use Requirements and Safety Rules	Identification and control of workplace hazards	OHSR 4.1
Electrical Safety	Electrical work practices	OHSR Part 19
Lockout and De-energization	Control of hazardous energy	OHSR 10.2–10.12

SUMMARY OF CHANGES

Rev#	Date	Change	Issued By
1	15 SEP 2014	NEW	OHS Officer
2	17 APR 2019	Review, Revisions and New Format	Safety Officer
3	22 AUG 2024	RSS update	Safety Advisor
4	28 JUL 2026	Complete rewrite to align with the RSS SWP template. Removed obsolete definitions, testing program administration content, and duplicated lockout requirements. Added hazard identification summary, electrical equipment inspection requirements, defect reporting requirements, hazard controls, and updated OHSR references	Safety Technician