

ELECTRICAL EQUIPMENT SAFETY GUIDANCE

**Campus Safety & Facilities Management Department
University of Toronto Scarborough**



UNIVERSITY OF
TORONTO
SCARBOROUGH



1.0 Introduction

The purpose of this document is to set forth the policy for the safe use of electrical equipment, and high power consumption electrical equipment (e.g. portable space heaters, microwaves, kettles, ovens, and laboratory/industrial equipment such as kilns, freezers, heat generating, non-work-related equipment, etc.) at the University of Toronto Scarborough.

2.0 Overview

All electrical equipment must be used safely on campus following applicable legislation, guidelines and standards. High power consumption electrical equipment are particularly hazardous as they can overload the electrical circuit causing the breaker to trip and can have inherent safety (e.g. fire, exposure) and operational (e.g. outages, delays, failures) issues. Therefore, it is necessary to establish and maintain strict guidelines for the use of electrical equipment in accordance with Campus Safety, Facilities Management, and the Joint Health & Safety Committee.

3.0 Responsibilities

All Staff, Faculty, Librarian, Student and Contractor:

- Consult with Facilities Management and Campus Safety before using electrical equipment. Contractors must consult with UTSC project contact before using electrical equipment on site.

Department Chair/Business Officer:

- Consult with Facilities Management and Campus Safety before approving purchases of electrical equipment
- Only approve purchases based on approval from Facilities Management or Campus Safety for temporary use of space heaters
- Proactively review departmental electrical safety issues, and provide information to Facilities Management and Campus Safety regarding existing equipment that require electrical/safety review



Facilities Management Department:

- Review requests for electrical equipment in a timely manner to provide approval and guidance based on electrical infrastructure

Campus Safety Department:

- Review requests for electrical equipment that have safety implications (e.g., portable space heaters, kiln, lab equipment) in a timely manner to provide approval and guidance

Joint Health and Safety Committee:

- Review electrical safety of areas during monthly inspections
- Assist in identifying high demand electrical equipment during monthly inspections

4.0 Electrical Safety Guidelines

4.1 Recognized Certification Markings

All electrical equipment shall have a recognized certification marking displayed on the equipment. Please see this page for recognized certification marking:

<https://esasafe.com/electrical-products/recognized-certification-marks/>

4.2 General Electrical Safety Tips

- Do not leave heat generating equipment unattended.
- Do not leave heat-producing electrical products plugged in when not in use.
- Do not place heat-producing electrical products (portable electric heaters, irons, toasters, etc.) too close to combustible material. Always read the instruction manual for your electrical product to determine the acceptable distance between the product and combustible material
- Keep electrical products dry and away from water
- Do not leave portable electronic devices on soft surfaces such as a bed or couch, especially when they're being charged as they can overheat or start a fire, including:
 - laptops
 - mobile phones
 - any other device containing lithium-ion batteries (e.g. chargers)



4.3 Power and extension cords

Be sure to:

- Connect the power bar/extension cord directly to the wall outlet. Do not connect 2 power bars/extension cords together
- Only use surge protected power bar
- Unroll cords completely before use to avoid overheating
- Keep cords a safe distance from heat and water sources
- Use the proper indoor and outdoor cords for electrical products
- Pull on the plug, not the cord, when disconnecting an electrical product
- Read the directions for your electrical product to see if it's safe to use with an extension cord or power bar:
 - Check to see if the cord is rated for the electrical product in use; the rating will indicate the power, voltage and current
 - The power cord should be able to safely supply electrical power in accordance with the product's electrical needs.
- Check the cords regularly on electrical products for fraying or damage that may pose an electric shock or fire hazard
 - discard or replace worn or distressed cords and plugs
- Do not cover extension/power cords except in accordance with the manufacturer's instructions. To help prevent overheating and damage, extension cords should **not** be:
 - run through
 - walls
 - doors
 - ceilings
 - run under rugs
 - used to support heavy objects
 - used as fixed (permanent) wiring
 - permanently secured, such as stapled
 - run behind or on radiators, baseboards, or other sources of heat
- **Never** remove the ground prong of a plug because this prong reduces the risk of electric shock.
- **Never** use 3-prong to 2-prong adapters, sometimes known as cheater plugs, because this is similar to removing the third prong of a plug.



4.4 Chargers

- Make sure to use the charger that came with your laptop, mobile phone, vaping device, or any other product that has a rechargeable battery. If you need to buy or replace a charger, make sure the voltage and current are compatible with your device.
- Learn more: [precautions for charging your lithium-ion battery](#)

4.5 Portable space heaters

Electric space heaters, when used properly, can provide temporary comfort over and above a facility's heating system. Unfortunately, with the use of these heaters comes the increased risk of fire, potential injury and it can overload the electrical system. A portable electric space heater shall only be permitted in office areas of non-residential buildings for temporary use, subject to the following conditions and restrictions:

4.5.1 Heating Problems

Portable electric space heaters are not intended for use as permanent heating appliances. Approved portable electric space heaters are only intended to temporarily supplement an office area's heating needs until a permanent solution can be found to correct the area's heating problem, or as an authorized emergency use measure when a building's normal heating system fails.

Employees experiencing significant heating problems in their work area should notify Facilities Management at 416-287-7579 or fmdworkorder.utscc@utoronto.ca to report the problem. Facilities Management and Environmental Health and Safety will determine if the temperature in the area is within comfort level as outlined in *the Appendix A. Procedures for Addressing Cold Temperature Issues in the Office.*

4.5.2 Campus Safety Inspection

Existing portable space heaters shall be inspected by Campus Safety/Facilities Management to ensure that the amperage draw will not overload the electrical circuit and negatively impact campus operations, as well as ensuring that the units meet the health and safety requirements outlined in this protocol.



4.5.3 Tip Protection

Portable electric space heaters shall have a low centre of gravity and shall contain a mechanism whereby the heater shuts off automatically when tipped over. This is commonly called “Tip Protection.”

4.5.4 Monthly Inspection and Regular Maintenance

Portable electric space heaters shall be inspected on a monthly basis by the user to ensure that they are in good working condition. Users are responsible for reviewing manufacturer information and following manufacturer’s instructions for inspection and maintenance.

4.5.5 Safe Use & Fire Prevention

- a) Portable electric space heaters shall be plugged directly into an electrical outlet. The use of extension cords is strictly prohibited.
- b) Heater should be monitored when in operation. Portable electric space heaters shall be turned off and unplugged when not in use, and at the end of each business day.
- c) Portable electric space heaters shall be placed in a well ventilated area at least three (3) feet from any combustible material (e.g. curtains, paper, clothing, etc.).
- d) Portable electric space heaters found to be in poor operating condition, damaged, or used improperly, shall be turned off, unplugged, and replaced.
- e) Portable electric space heater cords must never be run under carpets and/or rugs. Non-combustible/flammable cord covers can be used to reduce tripping wire hazards

4.5.6 Restrictions

- a) Portable space heaters are not permitted in laboratories of any kind – at any time. If an exception is required, approval must be granted from FMD/CS.
- b) The use of any portable heater that is fueled by kerosene or propane, or that produces open flame, is strictly prohibited. Only electric plug-in space heaters are permitted.



- c) The use of any portable heater for permanent heating is strictly prohibited.
- d) Portable electric space heaters shall not be placed underneath desks, in any means of egress (exit path), or any high traffic area.
- e) Do not use heaters in wet areas like bathrooms and kitchens.
- f) Do not use heaters in areas if small children are expected.
- g) No open coil space heaters are permitted.



Appendix A. Procedures for Addressing Cold Temperature Issues

Under the Occupational Health & Safety Act, Industrial Establishment Regulations 851, the Ontario Ministry of Labour has set a minimum temperature for an enclosed workplace to be 18 degrees Celsius for the protection of employees. Therefore, the university will take all measures to ensure all workspaces are at least 18 degrees.

If you have a medical issue that would affect your tolerance for temperatures above or at 18 degrees Celsius, please contact the University of Toronto Health & Well-Being office to discuss an accommodation plan.

At indoor temperatures at or above 18 degrees, employees who feel uncomfortable can stay warm by:

- Wearing clothing that minimizes exposed skin surfaces (e.g., open-fingers gloves, closed toe shoes)
- Wearing more layers
- Drinking hot beverages
- Staying active and exercise during breaks
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For maximum employee comfort, UTSC aims to follow the guideline for comfort:

Parameter	Comfort Standard	Reference
Temperature	Summer: 23-26 Winter: 20-23.5	ASHRAE (American Society of Heating Refrigeration and Air Conditioning Engineers) Standard 55.1 (2013)
Relative Humidity	<65%	ASHRAE (American Society of Heating Refrigeration and Air Conditioning Engineers) Standard 62.1 (2016)

1. For sudden and abnormal changes in temperature or if the temperature is below 18 degrees Celsius, call Facilities Management immediately to address the problem.
2. To determine if the temperature is within the legislated and comfort range:
 - a. Obtain a loaner hygrometer/thermometer from EHS (Environmental Health & Safety) office (SW300) and fill in the temperature log sheet.
 - b. After completing Appendix B. Temperature Log Sheet, submit it to ehs.utsc@utoronto.ca.
 - c. EHS (Environmental Health & Safety) will evaluate the situation and make recommendations for improvement if necessary (e.g., work with Facilities Management to add heating elements, recommend temporary space heater, etc.).

