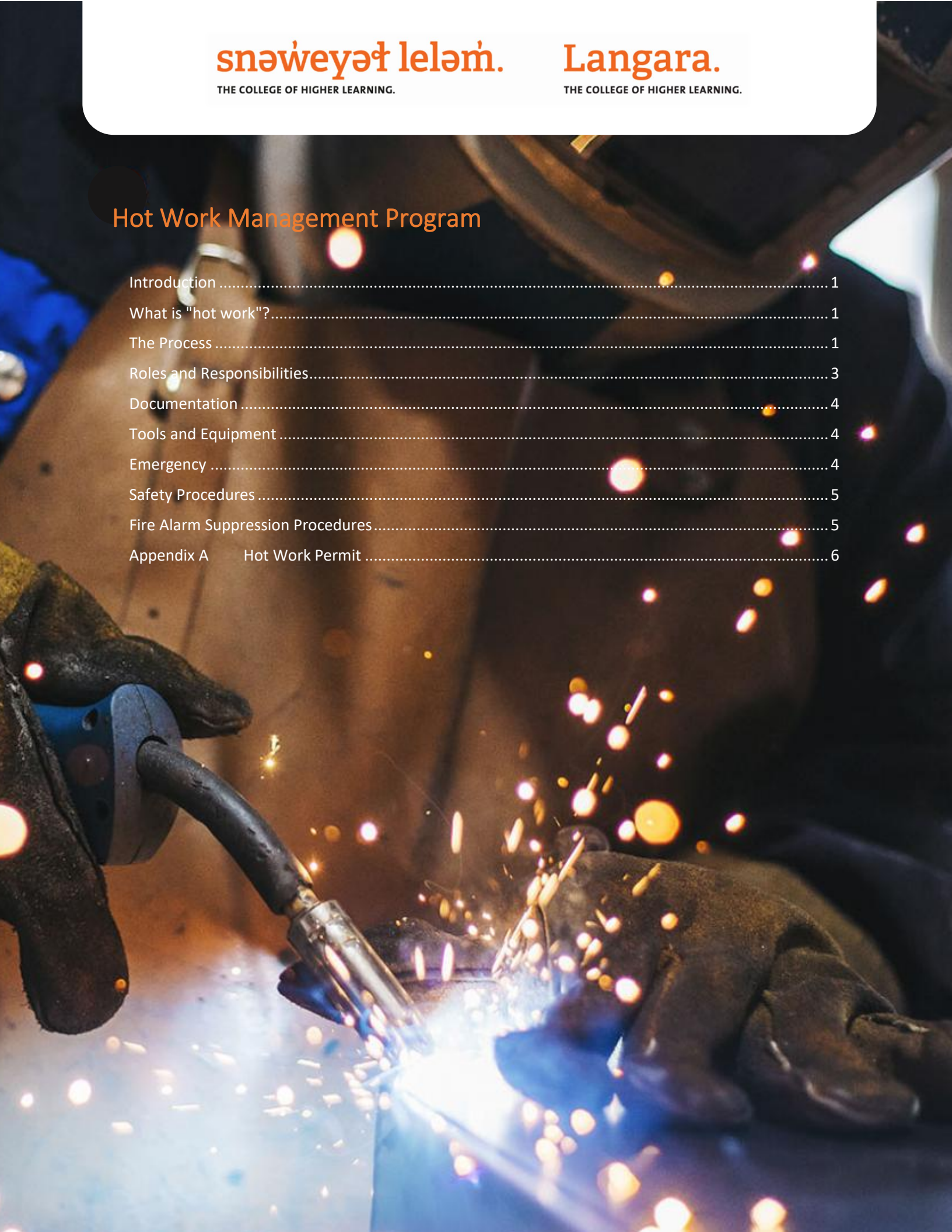


Hot Work Management Program

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Hot work Permit

Introduction

Langara College has implemented a hot work management program to help reduce the risk of starting a fire by hot work in areas where flammable or combustible materials are present.

Prior to conducting any work activities that can potentially affect the fire safety of Langara College properties, preventive measures must be developed, implemented and maintained. Any work activities that can potentially activate the fire alarm/suppression system or cause fire must adhere to the Hot Work Protocol. The purpose of the protocol is to prevent fire, ensure the safety of all personnel on campus and to protect life.

What is "hot work"?

"Hot work" is work that could produce a source of ignition, such as a spark or open flame. Examples of hot work include welding, cutting, soldering, grinding, brazing and the use of non-explosion proof electrical equipment.

Note: When a task that meets the definition of hot work must be performed, one must first consider whether an alternate method is available. For example, instead of cutting with a saw or with a blowtorch, it is possible to use manual hydraulic shearing.

One of the most important 'parts' of performing hot work is conducting a risk assessment and safety check via a hot work permit. Hot work permits are required for all hot works, and must be completed before any work involving welding, grinding, gas-cutting, flame heating or any other flame / spark producing equipment is commenced.

Tasks undertaken in recognised workshops where welding, grinding and burning are routine operations will not require a Hot Work Permit.

The Process

Prior to conducting any work activities at Langara College, all contractors and employees must have attended a Langara College safety orientation.

A Hot Work Permit is to be obtained from Facilities which will form the structure of your approach to hot work safety. This is to be completed at least 5 business days (10 days for multi-day projects) prior to performing any Hot Work operation.

In order to obtain a Hot Work Permit, contractors or workers must coordinate with their project manager to meet with a Facilities Designate.

Complete the form in appendix A and submit to the Facilities Department. A Facilities representative will process the request and forward to Campus Security before hot work will be permitted on Campus. A Hot Work Permit will be issued for a maximal duration of 5 working days.

If precautions cannot be met, hot work is not permitted, and a Hot Work Permit will not be issued. In emergency situations, a Facilities Manager or designate may issue a Hot Work Permit. However, all permit requirements must be met, and a copy of the Hot Work Permit must be provided to the Facilities Department.

On completion of the hot work or the expiration of the permit, the person conducting the hot work must return the **completed and signed permit/s** to the Campus Security. The completed permit and the hourly fire watch report provided by Campus Security is then returned to Facilities (or Permit Distributor).

As part of the project/work to perform hot work activities, the following procedures applies:

1. The Contractor or worker who is responsible to perform the hot work will evaluate the work area to ensure that the necessary precautions to prevent accidental fire or system activation are in place, prior to the start of work. The Project Manager, Facilities reps, on site Engineer, Health and Safety and other applicable departments can be involved in the initial evaluation of the work area to help determine the appropriate controls and if there are fire alarm/suppression system that needs to be de-activated temporarily.
2. Hot Work Permits are required for every contractor or sub-contractor or worker performing Hot Work. For example, if there are three different sub-contractors/trades performing Hot Work on one project, each sub-contractor/trade is responsible for obtaining a permit for their own work.
3. The contractor or worker will meet with the Project Manager and a Facilities Supervisor (or designate) to complete the Hot Work Permit. The contractor/worker and the Permit Distributor will:
 - Complete the required section on the permit and provide a Permit #.
 - Review the overall work and ensure the appropriate control measures are in place.
4. Once the permit has been completed and issued, the Permit Distributor will forward the permit to the appropriate Langara departments (Campus Security, Facilities Department). Campus Security will hold a copy of the permit and a protective pouch ready for collection.
5. While on site and preparing the hot work activity, the contractor or worker will complete the safety Checklist on appendix A and ensure the appropriate fire control equipment are in place. **At a minimum, a fire extinguisher capable of extinguishing the potential fire hazard must be available on site.**
6. Prior to starting the actual hot work, the contractor or worker will contact Campus Security (604.374.2373). The information provided to Campus Security should include, but not limited to:
 - Reference to the Hot Work Permit #,
 - The hot work activity, and
 - The location of the hot work activity on campus.
7. Once the hot work has been completed, the contractor or worker will conduct a 60-minute continuous fire watch to ensure no fire hazards are present. Ensure to remove all debris, tools and equipment out of the work area, as required.
8. When the 60-minute continuous fire watch is completed, the contractor or worker will contact Campus Security to inform them that the fire watch has been completed and that Hourly Fire Watch must begin.
9. Submit completed and expired Hot Work Permits to Campus Security.

Definitions:

Assigned Fire Watch - The assignment of a person or persons to an area for the express purpose of notifying the fire department and the building occupants of an emergency; preventing a fire from occurring; extinguishing small fires, or protecting the public from fire or life safety dangers.

Continuous Fire Watch - The 60-minute work activity that involves a person to stay alert and be responsible to actively prevent and fight any incipient fires that is in the premise of the hot work activity or fire alarm/suppression system de-activation or failure.

Hourly Fire Watch - The work activity that involves a worker/person to patrol the hot work area after the continuous 60-minute fire watch has been completed by the permit user. The Hourly Fire Watch has the worker/person to observe the area every hour for the next 4 hours.

Project Manager / Supervisors - A person/s that is responsible for requesting, assigning, hiring or instructing another person or contractor to perform a specific task, work or job.

Fire Alarm/Suppression - Any system, equipment or device that is used for the purpose of alerting people of smoke/fire, or to extinguish a fire.

Roles and Responsibilities

The contractor or worker performing Hot Work is ultimately responsible for conducting their Hot work activities in a sound, fire-safe manner and following the precautions outlined on the Hot Work permit. However, Facilities staff and/or the Project Manager may periodically check the work and job site to verify that the contractor is carrying out the requirements of the Hot Work permit.

Contractor/Supervisor: Contractors are to identify all potential fire hazards present or likely to be present in the work location. Ensure that Hot Work tools and equipment are in good condition. Staff are trained in the safe operation of their equipment and ensure that they are familiar with Hot Work requirements. These individuals must have an awareness of the risks involved and understand the emergency procedures in the event of a fire. Determine that fire protection and extinguishing equipment are readily available. Ensure sufficient local exhaust ventilation is provided to prevent accumulation of any smoke and fume. Ensure that an Assigned fire watch is posted on the work site and / or where hot work hazards exist. Work that requires additional Assigned fire watch by Security, may be billable back to the contractor.

Employee/s performing Hot Work: The Operator shall be responsible for obtaining, completing, and returning the hot work permit – appendix A. The operator shall be fully qualified to perform required hot work. The operator shall be responsible for using appropriate safety equipment (eye and face protection, hand protection, etc.) and verifying their equipment and tools are in good working condition. The operator shall be responsible for stopping hot work activities when conditions change from those established when the permit was issued.

Project Manager: Will select suitable personnel that are trained in the safe operation of their equipment, the safe use of the process, and know emergency procedures in the event of a fire. They will contact Facilities department and appropriate personnel responsible for area in which hot work operations are to take place, inform them of the scope of work to be performed and determine if they have any specific concerns about the operations.

Facilities Permit Distributor: Assist in reviewing and updating Hot Work permits. The Permit Distributor plays a key contact for communication when coordinating permits. They will notify Campus Security and the Facilities Building Operations Manager on any new or continuing Permits issued. Maintains records of all completed documentation relating to Hot Work Permits and Fire Watch.

Campus Security: Security are to understand, familiarize and follow the Fire System Impairment & Hot Work Protocol. Report any non-documented or non-permit hot work activities to Facilities as well as any Fire Alarm suppression/deactivation. They must document calls from the Contractors on their hot work notification. Security may be required for Assigned fire watch duties - this may be billable to contractor and/or department responsible.

Security are to issue a Permit Pouch to Hot Worker to safely display permit on work site. After Hot work has been completed, and the Continuous fire watch is over, Security personnel are to initiate Hourly fire watch for a duration of 4 consecutive hours. Security are to respond to any emergency reported in a timely manner, this may include first-aid.

Building Maintenance Manager and In house Engineer: Responsible for coordinating the Fire Suppression system as per Facilities protocols. Ensure that all relevant information is communicated to appropriate parties (project manager, campus security etc) and that messages are documented and sent out should any Alarms be suppressed/deactivated. Reviews and supports decisions for any needed additional Assigned fire watch.

Facilities – Health and Safety: Responsible for developing and maintaining this program to ensure compliance. Periodic and annual audits of hot work activities. Maintain completed hot work permits.

Documentation

Please review and submit the original documentation to the Facilities Department. **Incomplete forms including improper authorization will not be processed.**

The Permit covers the following:

- Date and time of beginning of work.
- Expiration or end of work
- Nature of work being conducted.
- Location and Preparation of the work area
- Safety Checklist
- Identification of potential hazards
- Conformity of surveillance during and after the work
- Identification of workers/representatives

Tools and Equipment

All tools and equipment used for the purpose to perform hot work activities must be in good working condition. Tools or equipment that are required to be certified, inspected or serviced on a recommended/specified frequency must be completed prior to their use on campus. Tools and equipment must not be altered, modified or changed in any way that is not authorized by the manufacturer.

Emergency

In the event of an emergency, Langara Campus Security is the primary contact that needs to be informed immediately. Campus Security is available 24/7/365 by calling ext. 4444 from any internal phone or calling 604.562.1011.

Emergency events includes, but not limited to:

- Fire/Smoke incidents.
- Smoke or burning odour/smell.
- Accidental activation of fire alarm/suppression systems
- Failure of fire alarm/suppression systems
- Any incident that may require urgent first-aid

Safety Procedures

After conducting a risk assessment and safety check, all contractors, employees, workers must follow the safety protocols.

- The Hot Worker must have appropriate Personal Protective Equipment is provided and in good condition.
- Communication device/s are available for immediate use in case of an emergency.
- Hot work permit is posted in its pouch in a conspicuous location. Properly signing and marking areas and entry points near performed work ensures that parties moving through and around site are not exposed to hot works without the right safety gear, and that they don't disrupt the concentration or work of the person doing the job.
- Fire extinguishing device/s are present, in service, and in good operating condition.
- Smoke/Heat detectors and sprinkler systems affected have been noted and temporarily disabled. While disabled the building's fire safety plan's alternative measures shall be implemented, and notification communicated to the building occupants.
- Hot work equipment is inspected and is in good operating condition.
- The worker will continue to assess the site of any hazards and implement steps to mitigate risk of potential incident.
- Any Assigned Fire Watch shall be established to monitor the work and adjoining areas during the course of the work, and for a minimum of 60 minutes upon its completion (followed with 'Hourly Fire Watch').

Fire Alarm Suppression Procedures

- On major construction and renovation projects, at least a 10 days notice is required from the project manager requesting the bypass.
- The person requesting the fire alarm bypass will contact Facilities or Facilities Project Manager to coordinate the bypass with Engineering and Security.
- When in doubt of the presence of fire alarm devices, smoke detectors (including smoke detection in duct work), inquiries must be made with the Building Operations Manager or Engineering supervisor.
- A fire watch will be implemented and provided by the contractor when large areas of a system coverage is bypassed or affected, (e.g. entire building or floor of a building).
- The person directed to perform a fire-watch shall routinely walk through all the bypassed areas at least once per hour. If a fire is suspected or observed, they shall immediately call the Security supervisor, activate a pull station and call 911 if necessary.
- When a Tyco monitored fire alarm signal, city disconnect or speaker control zone is bypassed there shall be a qualified person solely dedicated and stationed at a True-site to continually monitor the fire alarm system while the system signals or zones are bypassed.
- Precautions must be taken when restoring sprinkler zones or otherwise as to not cause a faults fire alarm.
- Notification of any system bypass and zone restoration shall be shared with Security and Engineering and Facilities Project Manager.

Tyco Monitoring – 1 888 475 1255

Permit #

Appendix A

Hot Work Permit

BEFORE INITIATING HOT WORK, CAN THIS JOB BE AVOIDED? IS THERE A SAFER WAY?

<i>Applicant to Complete</i>			
Identification of workers/representatives			
	Name	Department or Contractor	Phone
Permit Distributor			
Facilities Representative			
Hot Work Operator			
Fire Watch			
Location of Hot Work			
<input type="checkbox"/> Indoor	Building:	Floor:	Room #:
<input type="checkbox"/> Outdoor	Roof:	Road:	Other:
Schedule of Hot Work			
Date: _____ (Day 1) Date: _____ (Day 2) Date: _____ (Day 3) Date: _____ (Day 4) Date: _____ (Day 5)	Start Time:	Finish Time:	Name of Firewatch:
Fire protection systems		Assigned Fire Watch	
This hot work requires shut down of fire protection systems: Yes: No:		I require Assigned Fire Watch by Langara Security teams: Yes: No:	
Work/Project Description (specify needs)			
Nature of Hot Work			
Soldering: <input type="checkbox"/>	Welding: <input type="checkbox"/>	Grinding: <input type="checkbox"/>	Brazing: <input type="checkbox"/>
Cutting: <input type="checkbox"/>	Torching: <input type="checkbox"/>	Glass-blowing: <input type="checkbox"/>	Heat Treating: <input type="checkbox"/>
Other/s (please define): <input type="checkbox"/>			
Instructions for Hot Work Permit Holders			
<ol style="list-style-type: none"> 1. Immediately before performing Hot Work, Campus Security must be notified and provide them with your work location. Upon completion of the 60-minute continuous fire watch, Campus Security must again be notified and will then initiate an 'hourly fire watch' for the next 4 hours. 2. Before and during any hot work, review the ventilation and fire detection systems with the Campus staff to ensure the appropriate actions are taken. 3. Fire watch personnel must be trained in initiating the alarm system and in the safe use of the fire suppression equipment. 4. Fire watch must be continuous during the hot work and 60 minutes after the completion of the daily hot work operation, including lunch/coffee breaks. 5. A copy of the Hot Work Permit must be posted inside a permit pouch (from security) and is accessible on site. 6. Contact Campus Security in case of any emergency (medical response, first aid, fire, chemical spill, etc). 7. This Hot Work Permit does not imply that work can be conducted in any Confined Spaces. 			
<p>Campus Security: Calling ext. 4444 from any internal phone or call 604.562.1011</p>			

Site Specific Hazards			
Hot work operation	Yes	No	Review hazard
Performed on mobile equipment?			
Disruption of walkways or roads?			
In close proximity to Hazardous materials?			
Near or beside an air intake, door, window, vent?			
Performed in trench or excavation?			
Near or beside power lines?			
Working alone?			
Working at heights of 10' or greater, incl rooftop?			
Working in a confined space?			
Potential to disturb asbestos or asbestos material?			
Potential to disturb building materials (i.e drywall)			
Safety Checklist - worker to complete when on site			
Mandatory requirements			
Site and Safety concerns have been reviewed by a Facilities designate			
Campus security will be contacted 604.562.1011 prior to and upon completion of Hot Work protocols			
Fire safety system/controls are in place			
Hot Work equipment has been checked and is in good repair			
Fire suppression equipment is provided and remains on site until the 60-minute fire watch is complete.			
Personnel are familiar with campus fire watch procedures			
Requirements within 11metres (35ft) of Hot Work:			
Flammable liquids, lint, dust and oily deposits are removed from work area, floors are swept clean.			
Explosive atmosphere in work area is eliminated			
Combustibles are removed from work area or properly shielded from heat source/s			
Fire-resistive pads are suspended beneath work			
Cable trays are protected with fire-resistive sheets			
All wall and floor openings are covered (include any ducts or conveyors that carry sparks to distant material)			
Hot work conducted on Walls, Ceiling or Roofs?		Yes	No
Construction is non-combustible and without combustible covering or insulation			
Combustibles on other side of walls/ceilings/roofs are removed			
Hot work conducted on Enclosed Equipment?		Yes	No
Enclosed equipment is cleaned and free from combustibles			
Containers are purged of flammable liquids/vapours			
Pressurized vessels/piping/equipment are removed from service, isolated and vented			
Authorization			
I verify that the location and planned hot work has been reviewed and the above requirements are implemented and maintained.			
Signature of Hot Worker: _____		Date: _____	
Signature of standing Fire Watch: _____		Date: _____	
Reviewed and approved by Facilities designate: _____		Date: _____	
Hot Work can only be carried out at Langara College when verified that the above location has been examined by a Facilities designate, the precautions marked on the checklist have been taken, and permission is granted for this work.			
Permit Expires		Date: _____	Time: _____
Return Permit to Campus Security when Hot Work, monitoring and 60-minute fire watch is completed or permit expires.			