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1 Introduction

The University is committed to promoting the health, safety and well-being of its employees, students, visitors, and contractors, as well as providing a safe and healthy building environment in which to conduct activities, in accordance with the University of Calgary Occupational Health & Safety Policy.

Persons responsible for causing false fire alarms and subsequent business interruptions to the University of Calgary community by failing to abide by university policies and procedures may be invoiced up to the amount of \$1500. Prime Contractors are responsible for the actions of any sub-contractors in their employ.

2 Definitions

Hot Work and Dust – Refers to work that involves open flames or work that produces heat, sparks or dust that will affect the fire alarm system. Such operations include but are not limited to welding, brazing, cutting, coring, grinding, riveting, chipping, soldering, and thawing pipes. This program can also be used to prevent the unnecessary activation of building fire alarm

systems through use of show or stage devices to produce smoke, haze, fog or any other heavy atmospheric conditions.

Responsible Supervisor – Refers to the person representing the University of Calgary who has engaged the Hot Worker to perform the hot work. This person could be a university project manager, facilities manager or supervisor, staff, faculty representative, or contractor.

Hot Worker – Person performing the hot work.

Hot Work Permit – A document used to request approval to proceed with hot work and identify necessary safety precautions. The permit is posted at the workplace during the work process and remains posted until the fire watch is completed. The Hot Worker must be able to produce this permit on demand.

Dust Producing Work Permit – A document used to request approval to proceed with dust producing work only and identify necessary safety precautions. The permit follows the same procedure as the Hot Work Permit.

Fire Watch – Monitoring of the work area during and after the hot work to prevent the unintended ignition of anything within the area surrounding the hot work. This includes interstitial spaces adjacent to the job site. If unintended ignition does occur, the fire watch must be equipped and trained to sound the alarm and extinguish the fire if possible. A person trained in the use of fire suppression equipment and alarm activation is qualified to perform fire watch. Fire suppression equipment and a means of communication must be immediately available during a fire watch.

3 References

National Fire Code - Alberta Edition

Alberta Government - Occupational Health & Safety Act, Regulations, and Code

CSA Standard W117.2-94 Safety in Welding, Cutting, and Allied Processes

NFPA 51B Standard for Fire Prevention During Welding, Cutting, and Other Hot Work

4 Scope

The Hot Work & Dust Program applies to University of Calgary employees, Prime Contractors, contractors, and sub-contractors. Permits are required for all temporary operations involving open flames or processes producing heat, smoke, sparks, dust, or heavy atmospheric conditions.

Permits are required for all operations that suspend or affect the operation of the fire alarm system.

Exception: Hot work permits are not required for work conducted in designated welding areas or shops with appropriate ventilation and fire alarm devices. A Hot Work permit is also not required for normal laboratory operations. Laboratories are subject to annual workplace inspections that includes the assessment of fire hazards and control methods.

5. Responsibilities

5.1. **Responsible Supervisor**, (UofC representative such as project manager, faculty or staff or contractor)

- 5.1.1. Ensure that permits are completed for all temporary operations involving open flames or processes producing heat, smoke, sparks, dust, or heavy atmospheric conditions. Advise employees and contractors of their obligations and responsibilities under the University of Calgary Hot Work & Dust Program and completes Part 1 of the Hot Work permit.

NOTE: This includes the initiation of a University of Calgary ARCHIBUS (online) work order for the appropriate university tradesmen to respond to any applicable system shutdowns or bypasses.

- 5.1.2. Provide the hot worker with the hot work permit and assist them with completing Part 2 of the permit.

NOTE: It is **important** to clearly state the nature of the work, whether it is welding, brazing, cutting, coring, grinding, riveting, chipping, soldering, or thawing pipes, etc as the nature of the work will determine what system bypasses will be necessary. It is also **important** to indicate the location of the work by identifying the building name and room numbers on the permit as this will pinpoint any fire alarm devices in the vicinity which could be impacted by the hot work. Failure to do so may delay the work.

- 5.1.3. Email the hot work permit to the university Life Safety Systems group at lifesafety@ucalgary.ca three (3) business days prior to commencing the hot work.

- 5.1.4. Retain the completed hot work & dust permit as part of the project documentation records.

5.2. **Hot Worker**, (Employees, contractors, and sub-contractors)

- 5.2.1. Will complete Part 2 of the Hot Work permit and return to the responsible supervisor to complete the process.
- 5.2.2. Will post the approved hot work permit at the location of the hot work in a position where the University of Calgary community can review it and understand the nature of the work underway.
- 5.2.3. Ensure the hot work area conforms to all requirements at the beginning of the hot work.
- 5.2.4. Will complete Part 5 of the hot work permit and fill out the appropriate portions when the work is completed. The hot worker will return the completed permit to the responsible supervisor if they are performing fire watch duties.
- 5.2.5. Ensure the hot work area has been returned to the university in a satisfactory condition when the work is completed.

5.3. **Fire Watch**

- 5.3.1. Will complete Part 6 of the hot work permit.

- 5.3.2. Will monitor the area where hot work is occurring during and after the hot work has been completed. Fire Watch must be provided during the hot work and for a minimum of 60 minutes after its completion.
- 5.3.3. If indicated on the permit, further periodic monitoring for up to an additional 3 hours at the end of the work may be required. This need for further monitoring is determined by the presence or lack of automatic fire detection or suppression systems tied into the building fire alarm system, or, if the work has included any heavy duty cutting or welding.
- 5.3.4. Fire watch will notify life safety when fire watch is completed and return the completed permit to the responsible supervisor.

5.4. University of Calgary Life Safety Systems

- 5.4.1. Will complete Part 3 and 4 of the hot work permit and evaluate the nature of the work to determine operational requirements in order to identify the required precautions for the hot worker and ensure the safety of the university population and property.
- 5.4.2. Will make any necessary modifications to the fire alarm systems based on information supplied on the permit.
- 5.4.3. Will ensure any temporary modifications to fire alarm systems are restored to normal operations when hot work is completed.

5.5. Environment, Health, and Safety

- 5.5.1. Inspect hot work jobs/tasks, as appropriate.
- 5.5.2. Periodically review the hot work & dust program and update as necessary to ensure the program is current and meeting the needs of the university community.

6. Procedure

- 6.1. The responsible supervisor contacts the hot worker to engage their services to perform work and completes Part 1 of the permit. The permit is available on the EHS website.

NOTE: The hot work permit must be submitted at least 3 business days prior to conducting the hot work. This is necessary to provide enough time for a proper evaluation of the impact of the work on the University of Calgary systems and community.

The Hot Worker must receive verification of any system modifications before the hot work proceeds. Any costs incurred as a result of non-compliance will be assigned to the appropriate person.

- 6.2. The responsible supervisor provides the permit to the hot worker, explaining the hot worker's obligations and responsibilities as per the Hot Work & Dust program. The hot worker completes Part 2 and 5 of the permit.
- 6.3. The responsible supervisor forwards the permit to the university Life Safety Systems group (lifesafety@ucalgary.ca)

- 6.4. The Life Safety Systems group evaluates the work to be performed and implements temporary fire alarm system modifications, as required, and completes part 3 and 4 of the permit. The permit is then forwarded to the responsible supervisor or sent to the Environment, Health, and Safety department, if further approval is required.
- 6.5. If further approval is required, the Environment, Health, and Safety department will evaluate the permit to determine any appropriate safety precautions, inspect worksites and liaise with the Calgary Fire Department, as appropriate.
- 6.6. The responsible supervisor will provide the permit to the hot worker and inform the fire watch if needed of the start of the hot work and the need for periodic monitoring of the worksite.
- 6.7. The hot worker will post the permit at the jobsite in a location where the university community can see the permit and understand the nature of the work in their area. When the hot work is completed, the hot worker will notify the responsible supervisor and complete part 5 of the permit and part 6 if designated as fire watch.
- 6.8. The responsible supervisor will ensure the worksite is returned to the university in a satisfactory condition and will ensure the fire watch is completed as directed on the permit. The fire watch will complete Part 6 of the permit when the fire watch is complete. Once complete, the fire watch shall return the completed permit to the responsible supervisor.
- 6.9. The Life Safety systems technicians will remove any fire alarm system modifications.

The responsible supervisor will keep the completed hot work permit as part of the project documentation records.

7 Emergency hot work

In the event of an emergency, the University of Calgary recognizes that notification of hot work 3 business days prior to work commencing may be unreasonable. However, a completed hot work permit will be kept as part of the incident records.

8 Determination of Fire Watch

The Hot Worker may perform fire watch duties if the risk of fire or explosion is assessed by the responsible supervisor as low. The Hot Worker must be able to see all areas that could be ignited by the hot work and the area must be able to be controlled to ensure no flammables or combustibles are introduced during work. A separate fire watch is **required** for a hot work permit if **ANY** of the following conditions exist:

- Environment, Health, and Safety and/or Life Safety Systems have indicated a separate fire watch is required.
- Any flammable and combustibles are located within 10m.
- The hot work is being done in an area where flammable and combustibles are located more than 15m away but could be ignited by sparks.
- The hot work is being done where wall or floor openings are within a 15m radius which could expose combustibles in adjacent spaces.

- The hot work is being done where combustibles are adjacent to partitions, ceilings or roofs being worked on.
- Conditions change during the hot work that increases the risk of fire.

If you are not sure if your project requires a fire watch please forward a description, in writing, of the hot work to be completed to the University of Calgary, Environment, Health, and Safety department at ucsafety@ucalgary.ca.

Descriptions of intended work must be received at least 3 business days prior to the scheduled work.

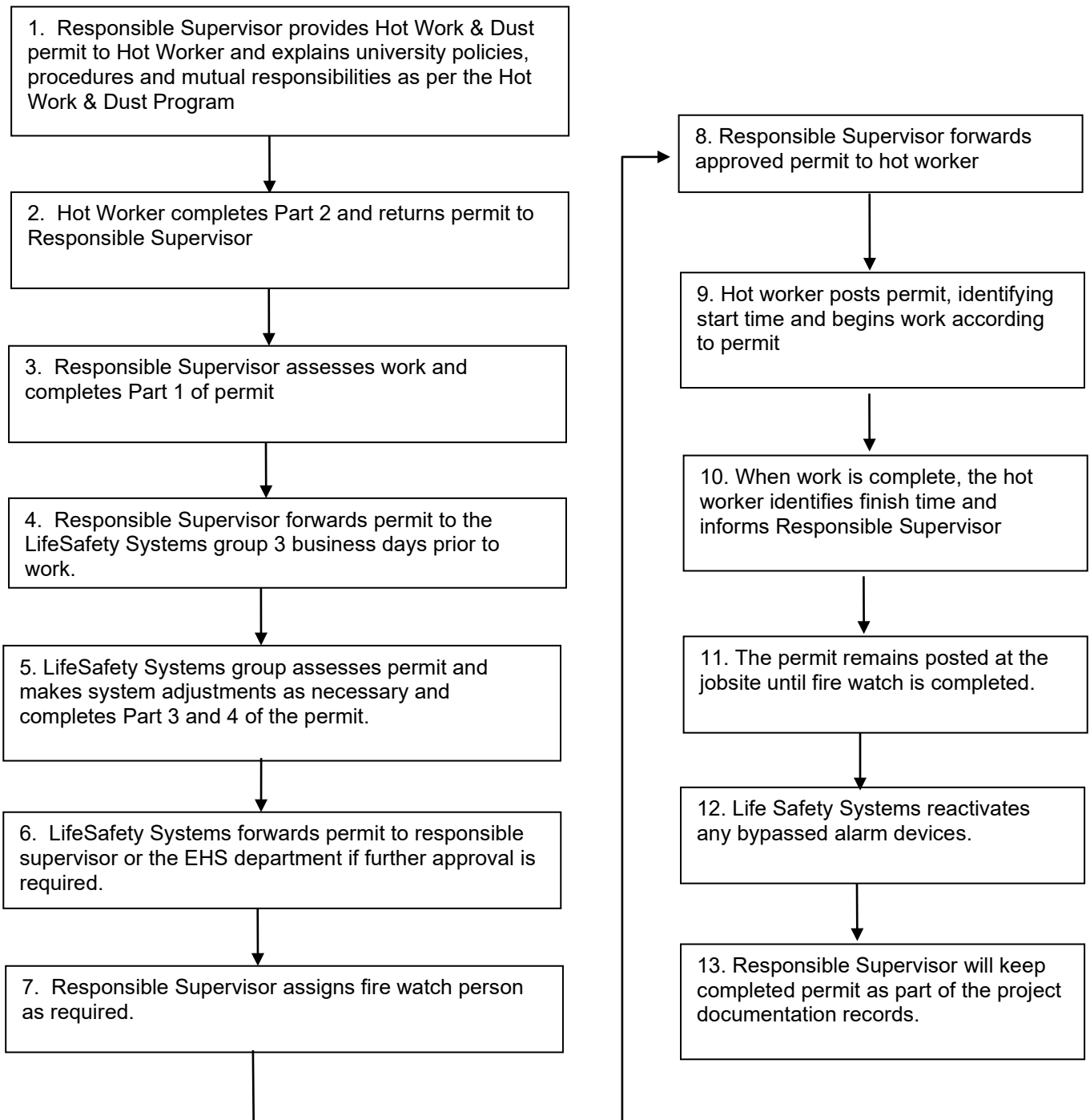
NOTE:

Permit – Hot Work Permit or Dust Producing Work Permit

Responsible Supervisor – Refers to a Supervisor, Manager, or Project manager.

Hot Worker – Refers to employee, contractor, or subcontractor.

Appendix 1 - Hot Work & Dust Procedural Flowchart



Appendix 2 – Revision Record

Apr 28, 09	Inclusion of a table of contents and the additional reference to the use of show or stage devices	TRW
Jun 10, 09	Updated hot work & dust permit to reflect feedback and suggestions from end users. Clarified permit and program relationship through the addition of identified parts & sections.	TRW
Aug 28, 09	Updated hot work & dust permit to reflect feedback and suggestions from end users.	TRW
Nov 6, 19	Updated to reflect changes to hot work and dust permit (combined section 3 & 4). Included Emergency Management role and contact information.	AM
Jun 27, 24	Updated to include EHS rather than emergency management. Minor process changes.	EHS