



UBC Facilities Hazard Identification & Assessment Program

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1. Introduction

The purpose of hazard and risk assessments are to identify hazards or hazardous conditions that are inherent or may arise out of a project, task or job. Work site assessments enable UBC Facilities to effectively take measures necessary to protect the health and safety of our workers. Once hazards have been identified, controls for eliminating or minimizing the risk from these hazards can be determined and implemented.

2. Scope

This program is designed for all UBC Facilities staff who may be exposed to hazards when performing job duties.

3. References

- [UBC Health and Safety Policy - SC1](#)
- [UBC Facilities Health and Safety Program Manual](#)
- [UBC Working Alone or in Isolation](#)
- [I-B-01 – UBC Confined Space Entry Program](#)
- [I-B-02 – UBC De-Energization and Lockout Program](#)
- I-B-05 – Asbestos Policy
- [I-B-11 – UBC Facilities PPE Program](#)
- I-B-16 – Fume Hood Maintenance and Repair
- I-B-24 – Fall Protection
- [I-B-44 – UBC Respiratory Protection Program](#)
- [I-B-54 – UBC Hearing Conservation Program](#)
- [UBC Risk Assessment & Safe Work Procedure](#)
- [WorkSafeBC Identifying Hazards](#)
- Worker's Compensation Act – [Part 2 Division 4, Section 21 \(2\)\(b\)](#)

4. Legal Requirements

As per Part 2 of the [Workers Compensation Act \(WCA\)](#), employers, supervisors, and workers have a duty to ensure the health and safety of the workplace.

All employers have a [general duty](#) to ensure that work is carried out without undue risk of injury or occupational disease to any person. Therefore, hazard identification and assessments are required when a new job or task is conducted or when there are changes in design including scope, size, crew, equipment or site that may create a hazardous situation not previously assessed.

5. Definitions

Hazard – means a thing or condition that may expose a person to a risk of injury or occupational disease.

Hazard Identification – part of a systematic approach used to evaluate if any particular situation, item, etc. may have the potential to cause harm.

Hierarchy of Controls – a system used for controlling risks in the workplace that provides a step-by-step approach to eliminating or reducing risks. It ranks risk controls from the highest level of protection and reliability through to the lowest and least reliable protection. Eliminating the hazard and risk is the highest level of control in the hierarchy, followed by reducing the risk through substitution and engineering controls, then reducing the risk through administrative controls. Reducing the risk through the use of personal protective equipment (PPE) is the lowest level of control.

Personal Protective Equipment (PPE) – equipment worn by a worker to reduce or minimize exposure or contact to hazards; See Appendix A – Generalized PPE Requirements and Appendix B – Location-specific PPE Requirements in I-B-11 UBC Facilities PPE Program.

Project Work – Work scheduled through a project coordinator.

Qualified Person – knowledgeable of the work, the hazards involved and the means to control the hazards, through education, training, and/or experience

Risk – The likelihood that the hazard will lead to an injury or the probability of harm actually occurring

Risk Assessment – a systematic approach that identifies any hazards and risk factors that have the potential to cause harm (hazard identification), analyzes and evaluates the risk associated with the hazards, and determines appropriate ways to eliminate the hazards, or control the risk when the hazard cannot be eliminated (risk control)

Risk Control – part of the systematic approach in which methods for neutralizing or reduction of identified risks are implemented to protect workers and the workplace

Routine Work – Everyday work; routine work tasks for each job position (e.g. maintenance and repairs, inspections, tests)

Supervisor – A supervisor is a person who instructs and directs workers in the performance of their duties. A supervisor can be any worker (management or staff) who meets this definition, whether or not they have the supervisor title.

6. Roles and Responsibilities

Employers

- Ensure that a hazard identification and assessment process is developed and implemented
- Assign responsibility for the implementation and day-to-day functioning and maintenance of the program and activities has been assigned
- Ensure that training and resources are made available for the functioning of the program
- Ensure employees are protected from known hazards within the workplace through the implementation of the hierarchy of controls, in order of effectiveness, with personal protective equipment only being used when other control options are not feasible or adequate at mitigating the identified risk(s)
- Monitor and review the program as required to ensure its effectiveness

Department Manager/Supervisor/Lead

- Complete/review hazard identification and assessment form(s)
- Ensure the hazard identification and assessment process are followed and all required forms are completed as required
- Ensure hazards are identified and that mitigation methods selected follow the hierarchy of controls



- Ensure employees review and understand this program
- Ensure workers have been trained and are competent to perform the task
- Provide and review completed forms with employees and ensure that they are aware of and understand the hazards and control methods listed
- Retain all education, training, and hazard identification and assessment forms

Employees

- Participate in hazard identification and assessments as required
- Review and understand the hazards and control methods on completed hazard assessment forms for routine and scheduled or project work
- Understand and follow safe work procedures and immediately report any additional hazards identified to their supervisor

Safety & Risk Services (SRS)

- Ensure the UBC Facilities Hazard Identification & Assessment program and associated documents are complete and current with the OHSR requirements
- Assist with the implementation of this program, where applicable
- Consult with supervisors, employees, and JOHSC members during the updating of this program
- Assist with hazard identification and assessments as required

Joint Occupational Health & Safety Committee

- Consult with the employer and employees on topics related to hazard identification and assessments
- Provide recommendations on the improvement of the health and safety of workers
- Participate in the review of the Hazard Identification & Assessment program

7. Hazard Identification & Assessment

The supervisor (management or staff), an individual who instructs and directs workers in the performance of their duties, is responsible to conduct a hazard identification and assessment.

Hazards are to be identified and assessed so that plans can be made to eliminate, minimize or control hazards prior to the start of any work activity or project.

Depending on the work that will be conducted, the completion of one or more assessment forms may be required.

Table 1: Levels 1 and 2 Hazard Identification and Assessments

Assessment Level	Type of Work	Examples
Level 1: Job Safety Review	Routine Work	Routine operations (e.g., everyday work, routine maintenance and repairs, inspections, tests, etc.)
Level 2: Site Specific Hazard Identification and Assessment	Non-routine work	Any job tasks outside of routine operations such as: <ul style="list-style-type: none"> • Project work • Work in unfamiliar spaces (e.g., restricted areas, rooftops). • Work with unfamiliar tools/equipment • Job involves an unfamiliar scenario

Note: Service Centre/emergency calls may initiate the use of any of the assessment levels.



Level 1 – Job Safety Review

Everyday work performed by a worker as described in a job description is to be assessed by the direct supervisor and workers involved using a Job Safety Review form. The aim of a Job Safety Review is to identify everyday work performed by a worker, the hazards associated to the work and list control methods to minimize likelihood of someone being injured, which includes determining the required training and documentation needed.

UBC Facilities has developed Job Safety Reviews for each department, including one for administrative staff. Job Safety Reviews are to be reviewed and updated as required, and at a minimum on an annual basis.

Level 2 – Site Specific Hazard Identification and Assessment

For work outside of routine work (examples in [Table 1](#)), a written hazard identification and assessment must be filled out for the work as per the stated responsibilities in [Section 6](#). The hazard assessment form will be specific to the non-routine work, documenting the activities involved, associated hazards and control methods to minimize likelihood of someone being injured.

Depending on the inherent site conditions or hazards involved, additional documents and forms may be required to be completed or reviewed (e.g., fall protection plan, hot work). Within certain sections of the Occupational Health and Safety Regulation, specific assessments are required and, in some instances, must be completed by a Qualified Person (e.g., confined space assessment). Properly trained individuals may then perform the work as per the assessment. The trained individual is responsible for confirming that the work and/or working conditions have not changed since the assessment. Should changes be identified, the assessment must be reviewed and updated accordingly.

The Level 2 form is to be approved by the responsible supervisor, the Head, Subhead, or Project Coordinator.

The Site-Specific Hazard Identification and Assessment and the associated form(s) are to be posted at the worksite (e.g. site safety board) and workers are required to review it before starting work on the project. If it is not practical to post the documents at the worksite, a similar means should be established. Alternatively, there should be documentation of all workers entering the site to have reviewed and been made aware of the information provided on these documents.

8. Controls

Hazards can be found in every workplace and can come from a wide range of sources. The types of hazards that may be encountered include, but are not limited to chemical (e.g., organic vapours, solvents, fumes), ergonomic (e.g., manual material handling, repetitive motion, lighting), biological (e.g., viruses, mould, bacteria), physical (e.g., temperature, noise, ventilation, radiation), safety (e.g., electrical, machinery, tools, confined space), and psychosocial (e.g., stress, bullying/ violence). Given the diverse and dynamic work environments at the UBC Vancouver campus, the identification and effective control of hazards is critical to ensure the health and safety of staff, faculty and students.

It is important to follow the Hierarchy of Controls (Figure 1) when determining what controls to implement. The most effective control is elimination, which is the removal of the hazard. If elimination is not feasible, the next best method is substituting the source of the hazard. If both elimination and substitution are not possible, engineering controls and then administrative controls should be considered. The least effective control is personal protective equipment (PPE) and should only be used when all other controls are determined as not practicable. More than one type of control can be implemented to address hazards in a job. For example, when PPE is used, at a minimum, administrative controls should also be used.

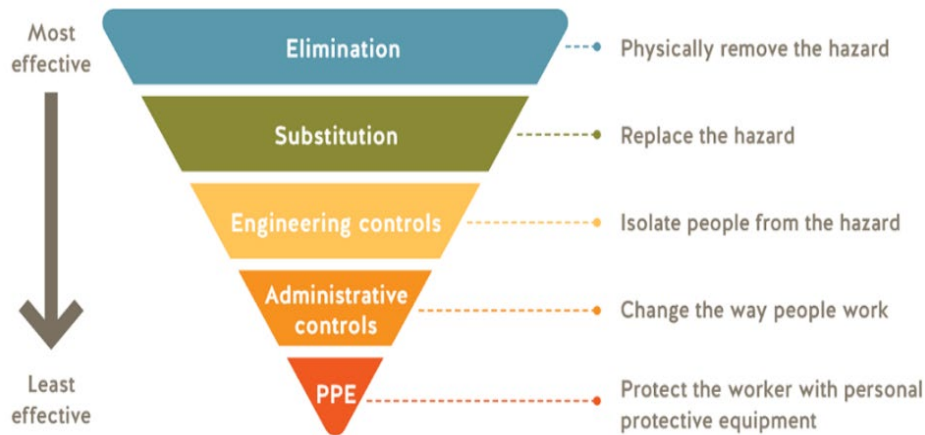


Figure 1: Hierarchy of Controls Diagram received from Controlling risks - [WorkSafeBC](#)

Examples of each type of control is not limited to the following:

1. **Elimination Controls:** Removing the use of a hazardous substance or process from the workflow such as removing the need to use a sharp tool on the job.
2. **Substitution Controls:** Replacing a hazardous substance or process with one that is less hazardous such as using a safer cleaning product.
3. **Engineering Controls:** Prevent contaminants from being released into the workspace such as using local exhaust ventilation when welding and grinding. Putting in mechanical guards to prevent inadvertent contact with moving parts in a machine.
4. **Administrative Controls:** Having safe work procedures/programs, job rotations, and posting hazard awareness signs.
5. **Personal Protective Equipment:** Using protective equipment such as fall protection, respirators, hearing protection, safety footwear, eye protection and gloves during work activities.

9. Education and Training

Effective orientation and training play an important role in preventing workplace incidents that can cause injuries or damage to property and equipment. Workers must be prepared for the job before they start working. This includes training workers on their specific tasks, and providing supervision and ongoing training so that they continue to work safely. Re-orientation is required if the work circumstances change or new hazards develop (i.e. new work process, equipment, or work location).

Supervisors must ensure that the following are completed:



1. Workplace and job-specific orientation and training is provided by the supervisor (e.g. tools/equipment, WHMIS, Level 1 job safety review, Level 2 hazard assessments)
2. Job-specific health and safety courses through training with a subject matter expert (e.g. fall protection and confined space entry) and/or online (e.g. noise awareness, heat stress awareness)
3. [UBC Mandatory Training Courses](#) (e.g. new worker safety orientation and safety supervision at UBC (for supervisors))
4. Review applicable health and safety program documents and safe work procedures (e.g. I-B-11 UBC Facilities Personal Protection Equipment Program, de-energization and lockout safe work procedures)

Any worker required to wear PPE must receive training in its proper use and care prior to performing work. Refer to [I-B-11 UBC Facilities PPE Program](#) for details.

10. Documentation and Record Keeping

All education and training and hazard identification and assessment forms must be retained for records.

11. Emergency Response

In the event an injury occurs during the performance of a work task, contact UBC Occupational First Aid immediately at 604.822.4444. Ensure the incident is also reported to your supervisor and entered into the [Centralized Accident Incident Reporting System](#) (CAIRS).

12. Program Review

The UBC Hazard Identification and Assessment Program will be reviewed and updated as needed by Safety & Risk Services and Facilities stakeholders to include any necessary changes.

13. Appendix A

The following templates and information can be found in the Appendix A.

- Level 1 – Job Safety Review
- Level 2 – Site Specific Hazard Identification and Assessment & references provided to access information and forms



Level 1 Assessment Job Safety Review

The Level 1 Job Safety Review is to be completed by the supervisor and workers in a joint effort for routine ongoing work tasks for each job position. This form must be filled out and workers must review and ensure that they are aware of the hazards and controls available.

JOB GROUP DETAILS			
Date		NEXT REVIEW DATE Note: As required and at least annually	
DEPARTMENT		CREW(S) NUMBER/DIVISION/SECTION	
JOB POSITION			
DESCRIPTION OF WORK PERFORMED			

TASK	POTENTIAL HAZARD	CONTROL METHODS

LOCATION(S) OF TASK PERFORMED
PERSONAL PROTECTIVE EQUIPMENT REQUIRED ON SITE AND SHOPS

REVIEW AND APPROVAL	NAME (PRINT)	SIGNATURE	DATE
SUPERVISOR			
JOINT OCCUPATIONAL HEALTH AND SAFETY COMMITTEE WORKER REPRESENTATIVE			
MANAGER			



Level 2 Assessment Hazard Identification & Assessment

This Level 2 Hazard Identification & Assessment is to be completed for non-routine work (e.g. projects, unfamiliar spaces/tools/equipment/scenario) that are not covered by the Job Safety Review. This form must be filled out and posted at the worksite or similar means to ensure workers have reviewed this document prior to the start of work. To complete this assessment, you may be required to review or fill-out additional documents/forms.

TABLE 1: PROJECT/WORK DETAILS			
PROJECT:			
START DATE:		END DATE:	
WORK REQUEST #:			
REQUIRED WORK: (Description of work to be done)			

TABLE 2: INHERENT SITE CONDITIONS	
Select <u>all</u> that apply. List the identified hazards and required controls in Table 4 below.	
<input type="checkbox"/> Asbestos present <i>(Obtain Asbestos Information)</i>	<input type="checkbox"/> Laboratories: Select any of the following: <i>(Obtain Lab Clearance Form)</i>
<input type="checkbox"/> Lead present <i>(Obtain Lead Information)</i>	<input type="checkbox"/> Lab Chemicals in immediate work area
<input type="checkbox"/> Confined space entry required <i>(Obtain confined space hazard assessment and entry procedures)</i>	<input type="checkbox"/> Biological substances
<input type="checkbox"/> Pre/post drilling/coring into concrete slab <i>(Ensure completion of concrete scanning)</i>	<input type="checkbox"/> Radiation on work surfaces disturbed
<input type="checkbox"/> Roof top with fume hood – uncleared <i>(Obtain Fume Hood Shutdown Form)</i>	<input type="checkbox"/> Working in/on fume hoods
<input type="checkbox"/> Hidden/buried Utilities impacted <i>(Complete Campus & Community Planning Permit Form)</i>	<input type="checkbox"/> Laboratory Equipment to be moved <i>(Obtain Lab Equipment Clearance Form)</i>
	<input type="checkbox"/> Extreme temperatures (i.e., hot/cold weather/environment)
	<input type="checkbox"/> Hot Work <i>(If applicable, complete Hot Work Fire Safety Plan)</i>
	<input type="checkbox"/> Other (Please Specify):

TABLE 3: WORK GENERATED HAZARDS			
Select <u>all</u> that apply. List the identified hazards and required controls in Table 4 below.			
Physical	<input type="checkbox"/> Oncoming Traffic/Pedestrians/Mobile Equipment	<input type="checkbox"/> Hazardous energy sources (e.g., electrical, pneumatic, hydraulic) - <i>De-energization and lockout required</i>	<input type="checkbox"/> Sharps (e.g., needles)
	<input type="checkbox"/> Other workers in area working above or below	<input type="checkbox"/> Noise	<input type="checkbox"/> Working from heights <input type="checkbox"/> 3 m (10 ft.) to 7.5 m (25 ft.) or <input type="checkbox"/> Greater than or equal to 7.5m (25ft.): <i>Complete Fall Protection Plan Form</i>
	<input type="checkbox"/> Overhead high voltage wires	<input type="checkbox"/> Inadequate Lighting	<input type="checkbox"/> Working alone or in isolation: <i>Complete Working Alone Assessment</i>
	<input type="checkbox"/> High voltage equipment	<input type="checkbox"/> Radiation	
	<input type="checkbox"/> Slippery/uneven surfaces or items on ground (poor housekeeping)	<input type="checkbox"/> Industrial Radiography	
	<input type="checkbox"/> Sharp tools, surfaces, and edges		
Chemical	<input type="checkbox"/> Generation of harmful contaminants (e.g., welding fumes, silica, wood dust, carbon monoxide)	Biological	<input type="checkbox"/> Bodily Fluid
	<input type="checkbox"/> Organic Vapour (e.g., paint, lubricants, degreasers)		<input type="checkbox"/> Virus/Bacteria
			<input type="checkbox"/> Mould
			<input type="checkbox"/> Biohazardous Waste
		Ergonomic	<input type="checkbox"/> Awkward posture, bending, twisting, repetitive motion, or static postures
			<input type="checkbox"/> Vibrating objects, equipment, tools
			<input type="checkbox"/> Lifting, pushing, pulling, or contact stress
Other (Please Specify):			



Level 2 Assessment Hazard Identification & Assessment

Below are the links or references to assessment forms or information that are to be obtained or completed as a part of the Level 2 Hazard Identification & Assessment Form.

- **Asbestos or Lead Information** – Refer to the [UBC SRS Asbestos Management webpage](#) for asbestos related resources (e.g., Asbestos Safety Alert) and reach out to the Asbestos Management Program for asbestos and lead information.
- **Confined Space Program** – Can be accessed through the [UBC SRS Confined Space](#) or [UBC Facilities Policies & Guidelines](#) webpage. Contact your supervisor for specific confined space hazard assessment and entry procedures.
- **Fall Protection Plan** – Can be accessed through the [UBC SRS Fall Protection webpage](#).
- **Fume Hood Shutdown Forms** – Refer to I-B-16, located in the Policies and Procedures folder in the [shared drive](#). These forms should have been completed by the lab user prior to UBC Facilities workers performing the job.
- **Hidden Utilities** – Embedded within the permit approval process by Campus & Community Planning when an applicant is wanting to build or develop on UBC property. For more information, visit their webpage [here](#).
- **Hot Works** – Refer to I-B-55 on the [UBC Facilities Policies & Guidelines webpage](#).
- **Lab Equipment Clearance Form and Laboratory Clearance Form** – Refer to the [UBC SRS General Research Safety Resources webpage](#).