



# Hazard Identification and Risk Management Element November 2018

## Table of Contents

- 1.0 Purpose ..... 1
- 2.0 Scope..... 1
- 3.0 Definitions..... 1
- 4.0 Roles and Responsibilities..... 2
  - 4.1. Senior Executives, Deans and Directors..... 2
  - 4.2. Supervisors..... 2
  - 4.3. Workplace Health and Safety Committees..... 2
  - 4.4. Members of the University Community ..... 2
  - 4.5. Environmental Health & Safety (EHS) Unit ..... 3
- 5.0 Procedure..... 3
  - 5.1. Risk Register ..... 3
  - 5.2. Hazard Recognition and Risk Management process..... 3
    - 5.2.1 Select a Task..... 3
    - 5.2.2 Identify Hazards ..... 3
    - 5.2.3 Assess Inherent Risk..... 4
    - 5.2.4 Manage Risk ..... 4
    - 5.2.5 Assess Residual Risk ..... 4
- 6.0 Hierarchy of Controls ..... 4
- 7.0 Monitor Risk Activities ..... 5
  - 7.1. Job Hazard Analysis (JHA) ..... 5
  - 7.2. Field Level Risk Assessment (FLRA)..... 5

## 1.0 Purpose

The Hazard Identification and Risk Management element outlines the process for identifying hazards and steps required to manage associated risks. Memorial University (university) recognizes that all members of the university community have a right to a healthy and safe work and study environment. The university strives to develop a health and safety culture with special emphasis on the prevention of injuries, illnesses and violence in the workplace. Hazard identification is the cornerstone of any health and safety management system (HSMS), as unidentified hazards cannot be eliminated or controlled. The objective is to reduce risk to as low as reasonably achievable (ALARA).

## 2.0 Scope

All occupations, processes and activities whether routine or non-routine, conducted on university property or on behalf of the university, will be assessed for risk to employees, operations, the environment and stakeholders.

## 3.0 Definitions

**Acceptable Risk:** Risk that has been reduced to a level tolerable to the organization having regard for its legal obligations and its own Health and Safety policy.

**Consequence:** The likely outcome if an incident/exposure occurs. Hazards may lead to a variety of potential consequences.

**Control:** A measure taken to reduce and/or eliminate the risk of harm or damage to people, process, equipment, materials, or the environment. Control tools include: elimination, substitution, engineering/isolation, administration/training and PPE (refer to Section 6.0 - Hierarchy of Controls).

**Field Level Risk Assessment (FLRA):** Review of a Job Hazard Analysis (JHA) prior to starting work to identify any hazards not previously identified, evaluated and controlled.

**Hazard:** A source, situation or act with the potential for harm or damage to people, process, equipment, materials, or the environment (see JHA form for examples of common hazards).

**Inherent Risk:** The risk an activity poses if no controls or other mitigating factors were in place.

**Residual Risk:** The risk that remains after controls are taken into account.

**Risk Assessment (RA):** Documented process of identifying hazards, evaluating the risk arising from hazards in the workplace, taking into account the adequacy of existing controls and evaluating whether or not the risk is acceptable.

**Risk:** Combination of the probability/likelihood of an incident/exposure occurring and the consequence/severity of the resulting incident/exposure.

**Risk Register:** Documented list of hazards, risks and associated ratings, key risk indicators, controls (either planned or in place) and the status of these risks.

**Job Hazard Analysis (JHA):** Step-by-step procedure for recognizing, evaluating and controlling hazards associated with specific activities (jobs) in the workplace. In a JHA each basic step of the job is evaluated in order to identify potential hazards and to recommend the appropriate control measures to be implemented.

**Risk Management:** Management of risks in the workplace through hazard/risk analyses and control implementation.

**Worker:** As per the provincial *Occupational Health and Safety Act*, a person engaged in an occupation with either the university or a contractor.

## 4.0 Roles and Responsibilities

Risk management is a shared responsibility at all levels of the university. A comprehensive list of EHS roles and responsibilities is provided in the HSMS manual. The responsibilities with respect to hazard identification and risk management are summarized below.

### 4.1. Senior Executives, Deans and Directors

Including Unit Heads and Managers will ensure:

- this element is communicated to members of the university community, as required and that compliance is maintained;
- adequate resources are available to implement appropriate measures;
- this element is implemented and maintained within their areas of responsibility;
- [risk registers](#) and [JHAs](#) are developed in accordance with this element, including identification of the hazards, evaluation of the risk and implementation of controls to minimize or eliminate hazards;
- documents created as part of this element are created, maintained and disposed of in accordance with the Document and Record Management element; and
- monitor the adequacy and effectiveness of this element and make recommendations for improvement to EHS.

### 4.2. Supervisors

Will ensure:

- this element is implemented within areas of their control;
- they are an active participant in the development of a [risk register](#) and creation of [JHAs](#) for areas under their supervision and control;
- all members of the university community, under their supervision, are aware of the hazards in the workplace and that they have received the appropriate training to undertake a task;
- all those under their supervision complete field level risk assessments as outlined in section 7.2.;
- risks associated with the activities they supervise are managed; and
- this element is monitored for adequacy and effectiveness and make recommendations for improvement to EHS.

### 4.3. Workplace Health and Safety Committees

- Support and promote the implementation of this element.
- Review workplace [risk registers](#) to become familiar with known hazards.
- Monitor the adequacy and effectiveness of this element and make recommendations for improvement to EHS.

### 4.4. Members of the University Community

Must:

- be familiar with and comply with this element;
- participate in hazard identification and risk management activities and training as required; and
- report any conditions that could lead to unsafe conditions to their supervisor.

#### 4.5. Environmental Health & Safety (EHS) Unit

- Provide guidance to all levels of management, employees and students on matters pertaining to hazard identification and risk management.
- Ensure this element is reviewed every three years and updated as required and the university's [risk register](#) is periodically reviewed and updated as necessary.

### 5.0 Procedure

#### 5.1. Risk Register

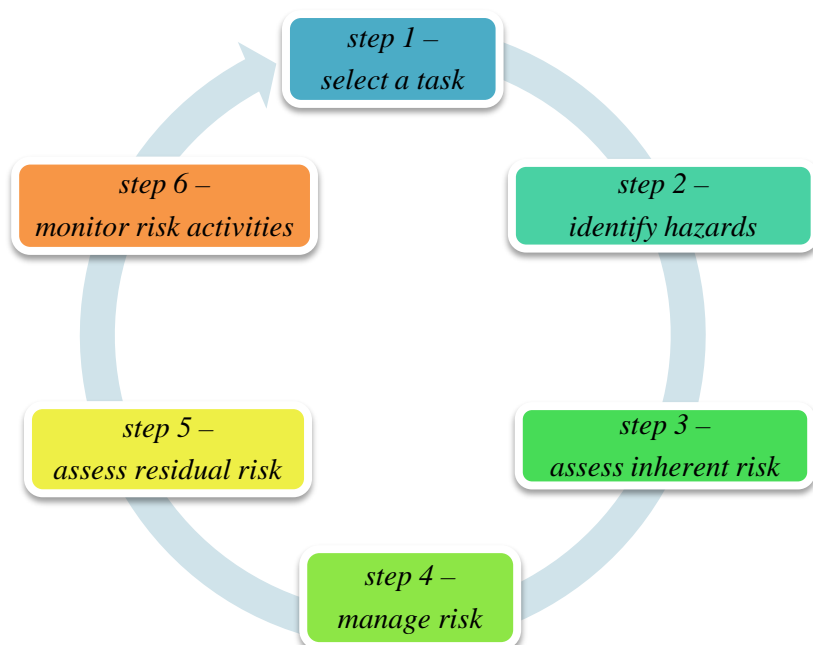
Individual units are responsible for the development and maintenance of a [risk register](#) for areas within their responsibility. [Risk registers](#) must include the following categories:

- specific hazard (i.e. chemical, biological, radiation, asbestos, electrical etc.);
- description of the hazard;
- inherent [risk rating](#);
- applicable legislation, standards, codes and university procedures;
- implementable controls; and
- residual [risk rating](#).

A high level [risk register](#) has been developed for university wide hazards. This [risk register](#) serves as a repository of hazard/risk/control information; which can be used for units developing unit specific [risk registers](#) and [job hazard analysis](#).

#### 5.2. Hazard Recognition and Risk Management process

The hazard recognition and risk management process can be best illustrated in the following way.



##### 5.2.1 Select a Task

List the tasks required to complete each activity.

##### 5.2.2 Identify Hazards

List hazards that may be encountered during each task, and the events that may cause an injury or illness.

- Ensure all aspects of job are considered, including routine & non-routine activities.
- Review records of incidents and near-misses related to the specific task.

- Look at the way the work is done and consider all foreseeable unusual conditions.
- Examine risks to various members of the university community.

**Determine potential incident and exposure types, examples include:**

- violence and injury caused by a person or animal;
- transportation incident;
- fire or explosion;
- slip, trip, or fall;
- exposure to harmful substance or environment;
- contact with object or equipment; and
- overexertion

**Classify nature of the potential injury, examples include:**

- trauma or musculoskeletal disorder
- fracture, wound, or burn
- systemic disease or disorder
- heart attack, asbestosis, hernia
- infection or parasitic disease
- hepatitis, rabies
- cancer
- psychological disorder

### 5.2.3 Assess Inherent Risk

Inherent risk is the risk an activity poses if no controls or other mitigating factors were in place. When determining risk rating for an activity the objective is to determine the probability or likelihood of a hazardous event or exposure (i.e. almost certain, likely, possible, unlikely, almost impossible) along with the severity of the event/activity. Severity of an event or activity can range from injury, but no treatment required to loss of life.

The university has established a [Risk Framework](#) to provide guidance on assessing and managing risks to an acceptable level while ensuring the strategic goals of the university are met.

### 5.2.4 Manage Risk

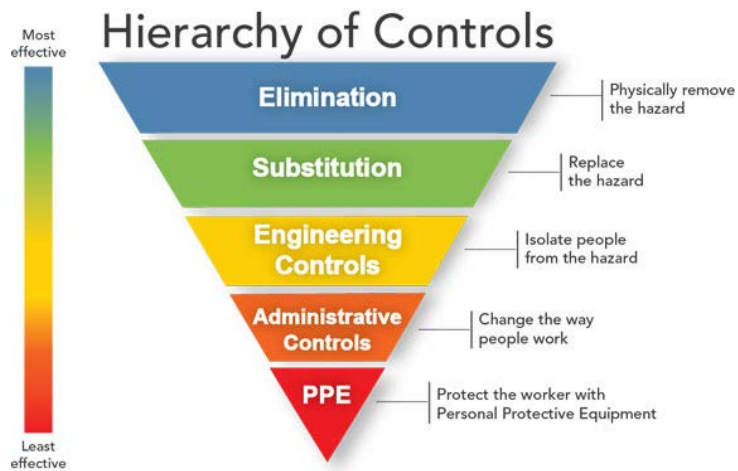
If inherent risks are within the risk appetite of the university as per the [Risk Framework](#) then no further action is required. If the risk rating for an activity exceeds the risk appetite then additional controls must be introduced and assessment of the residual risk is required.

### 5.2.5 Assess Residual Risk

Residual risk is the risk remaining after existing controls are taken into account. The most effective controls are those that eliminate the hazard and associated risk. Once control measures are implemented the risk rating of the activity must be reevaluated and compared to the risk appetite of the university.

## 6.0 Hierarchy of Controls

There are a wide variety of control types to minimize or eliminate exposure to hazards, each having a particular use. The implementation of hazard controls is a management responsibility. Supervisors are required to understand how to effectively eliminate and minimize hazards. Below is an illustration of the various control types:



By National Institute for Occupational Safety and Health - <https://www.cdc.gov/niosh/topics/hierarchy/default.html>, Public Domain, <https://commons.wikimedia.org/w/index.php?curid=55610678>

## 7.0 Monitor Risk Activities

Once controls are implemented they must be monitored to ensure they are effective at reducing the risk and that the controls selected remain cost effective. Examples of monitoring activities include inspections, [risk register](#) review, safety meeting, audits, etc.

### 7.1. Job Hazard Analysis (JHA)

A [JHA](#), also known as [Job Safety Analysis \(JSA\)](#), is considered a “task-specific” assessment where hazards associated with specific jobs/activities are identified and potential risks are evaluated. [JHAs](#) must be undertaken prior to the commencement of activities where there is a reasonable occupational health and safety risk associated. This also includes the introduction of new equipment, procedures or processes; the modification of equipment, procedures or processes; specific circumstance changes that increase the risk. [JHAs](#) are also required when an injury or near miss occurs, which reveals a previously unidentified hazard.

The [JHA](#) process includes front line workers (i.e. staff/students responsible for a task), supervisors as well as EHS unit representative and external organization or subject matter expert (when appropriate).

[JHAs](#) utilize information from the university and unit specific [risk registers](#) and aims to identify situationally-specific risks not previously identified and documented on the [risk register](#).

### 7.2. Field Level Risk Assessment (FLRA)

Prior to the start of an activity a review of the [JHA](#) is required and any hazards not previously identified must be evaluated and controls implemented. This process is referred to as a FLRA. New hazards can be added to the existing [JHA](#) and anyone involved in the activity must be made aware of additions/revisions to the [JHA](#).

All participants of the FLRA must sign and date the [JHA](#).