



## Hazard Management Procedure

Office of Administrative Responsibility	Agri-Food Discovery Place
Approver	Executive Director
Scope	Compliance with this procedure extends to all employees, faculty, students, researchers, clients, contractors, sub-contractors, visitors and suppliers at Agri-Food Discovery Place

### Overview

Health and Safety is an integral part of all our business and research activities at Agri-Food Discovery Place, and we are continually working towards making measureable improvements in the health and safety aspects of our workplace on an ongoing basis.

Hazards, by themselves, or by interacting with other variable work site factors, can result in losses, property damage, illness, injury or death. The primary purpose of hazard assessment is to protect workers from work related injury and illness. The impetus for doing hazard assessments is worker protection, industry best practices and Section 7 of Alberta's Occupational Health and Safety Code

### Purpose

To develop a standardized process for the development and implementation of a Hazard Management Program at Agri-Food Discovery Place.

## STANDARD

### Responsibilities

#### Executive Director

Provide the necessary resources and support to ensure implementation of the Hazard Management Process at AFDP.

#### Manager Responsibilities

- Confirm hazard assessments are completed using the following hazard assessment elimination and control process to document, identify, assess, eliminate and or control existing or potential workplace hazards.
- Assign the employee(s) involved in completing hazard assessments to take the Government of Alberta Hazard Assessment, Elimination and Control training.
- Confirm the employees performing the work being assessed are involved in the hazard assessment through either of the following activities:
  - writing the Hazard Assessment and Control Report
  - reviewing a Hazard Assessment and Control Report completed by others
- Review, sign and date completed Hazard Assessment and Control Reports and confirm the identified control measures are implemented.
- Verify hazards are reviewed:
  - when a new work process or new equipment is introduced
  - when a work process or operation changes
  - before the construction of significant additions or alterations to the workplace
  - at least every three years

#### Supervisor Responsibilities

- Inform employees affected by the hazards identified in the Hazard Assessment and Control Reports of the hazards and the methods used to control or eliminate them



- Verify that employees are competent in the tasks they are required to complete
- Provide job specific training identified in the personal performance agreement
- Implement and evaluate any identified control measures.

### **Employee Responsibilities**

- Review existing Hazard Assessment and Control Report to verify that all tasks, hazards, risk classification and controls are documented and appropriate to the employees' job
- Sign and date Hazard Assessment and Control Reports
- Attend the Government of Alberta Hazard Assessment, Elimination and Control training if assigned to complete hazard assessments
- Employees performing work being assessed must either complete the hazard assessment or review the hazard assessment completed by someone else
- Employees performing the tasks must evaluate and assign a risk classification specific to their position.

### **STANDARD PROCESS**

#### **1) Prepare an Occupation Inventory**

- a) The formal hazard assessment process begins with the development of an inventory or listing of all positions and jobs at the workplace. Fill out the Occupation Inventory

#### **2) Prepare a Task Inventory**

- a) Once the occupation inventory is completed, identify all work-related tasks performed within each position. Fill out the Task Inventory

#### **3) Identify Health and Safety Hazards**

- a) Transfer the identified work-related tasks from the Task Inventory to column 1 in the Hazard Assessment and Control Report
- b) Identify environmental factors (weather conditions), people, equipment, tools, chemicals and materials associated with each task and document them in column 2
- c) Identify the type of physical, chemical, biological or psychological hazard related to each environmental factor and document them in column 3.

#### **4) Complex and High Risk Task**

- a) A task hazard assessment is a detailed hazard analysis for a complex task or the operation of a piece of equipment, usually high risk. In a task hazard assessment, each task is broken into sequential actions to identify all the hazards of the task. Approaching the hazard assessment in this manner will determine the degree of risk for the hazard in each step associated with the task.
- b) Complete a task hazard assessment using the Hazard Assessment and Control Report:
  - i) Write the name of the task in the space provided
  - ii) List each sequential action to complete the task in the first column (work-related tasks or sequential actions for the task hazard analysis)
  - iii) Identify environmental factors (weather conditions), people, equipment, tools, chemicals and materials associated with each step within the task or action and document them in column 2
  - iv) Identify the type of physical, chemical, biological or psychological hazard related to each environmental factor and document them in column 3.

#### **5) Analyze the Risk of Each Hazard**

Risk analysis is an evaluation of risk factors associated with each identified hazard to determine the degree of risk the hazard poses to exposed employees. Risk analysis helps the organization determine the type or number of controls needed to eliminate, reduce or minimize the risk.

The model uses three factors to analyze risk: frequency of exposure, incident probability and potential consequences of loss. Use the ratings in the following three tables to complete columns 4, 5 and 6 in the Hazard Assessment and Control Report.



### Frequency of Exposure

How often is the employee exposed to the hazard at the workplace? In most cases, the frequency of exposure is the same as the frequency with which an employee performs a task. For seasonal activities or seasonal hazards, analyze the risk based on the frequency of exposure within the appropriate season or time frame:

- 4 Daily Task is performed one or more times a day
- 3 Weekly Task is performed once a week
- 2 Monthly Task is performed once a month
- 1 Occasionally Task is performed less than once a month

### Incident Probability

How likely is it that exposure will result in loss, such as injury, illness, property damage, poor work quality and lost production?

Consider hazards without existing control measures at the workplace.

- 4 Probable May happen at least once a year
- 3 Occasional May happen once every 1–5 years
- 2 Remote Not likely to happen, but possible once every 5–10 years
- 1 Improbable Not likely to happen

### Potential Consequences

How severe will be the loss at the workplace if the exposure is not controlled?

- 4 Severe Death, serious injury or illness (2 days or more in hospital), permanent disability, extensive property damage
- 3 Substantial Lost time injury or illness, temporary disability, substantial property damage
- 2 Minor Medical aid injury, minor illness, minor property damage
- 1 Minimal First aid injury.

### 6. Degree of Risk

The degree of risk is determined by multiplying the values of the three factors together according to the following formula:

Degree of Risk = Frequency of Exposure x Incident Probability x Potential Consequence

Use the result to complete column 7 in the Hazard Assessment and Control Report.

### 7. Classify Hazards

After completing the risk analysis, classify the hazards as high, medium or low risk according to the degree of risk. Hazard classification establishes the priority for the implementation of control measures.

- **Score 32 to 64: High Risk**  
Take immediate action to eliminate the risk or implement appropriate controls to lower the degree of risk to a level as low as reasonably achievable.
- **Score 12 to 27: Medium Risk**  
Take timely action to implement appropriate controls to lower or minimize the degree of risk.
- **Score 1 to 9: Low Risk**  
Continued operation is permissible with minimal controls. Monitor the hazard and take action if the degree of risk increases.

Use the hazard classification to complete column 8 in the Hazard Assessment and Control Report.

### 8. Identify Hazard Controls

Identify hazard controls to reduce the risk to as low as possible. Three types of hazard controls can be used when taking measures to reduce levels of risk. They must be considered in the following order:

- **Engineering Controls**
- **Administrative Controls**
- **Personal Protective Equipment**

The control of some hazards may require the combined use of all three control methods to reduce the hazard to the lowest level possible. Managers and supervisors are not restricted to a single approach if using a combination results in a greater level of worker safety. Whatever control method is used, it must



address the source of the hazard, not its outward signs. During this process, the team needs to consider all hazard control alternatives. Use the Hazard Assessment and Control Report to record this information.

Questions to consider when evaluating existing controls:

- Are control measures appropriate for the hazard and risk classification?
- Are there any engineering controls or safe work procedures for work classified as high risk?

### **Engineering Controls**

Engineering controls are considered first because they are the only control method which can eliminate the hazard. The ultimate goal is to design work environments, work processes and equipment that eliminate the hazards. Whenever possible, hazards should be eliminated or controlled at their source— as close as possible to where the problem is created. When eliminating hazards or identifying and developing controls, involve the employees who are knowledgeable about the work through participation in the development of a hazard assessment review and feedback on an already prepared hazard assessment

#### **• Engineering control examples:**

- Elimination: Remove and prohibit the use of bleach for cleaning.
- Substitution: Use ultra violet light instead of chlorine for disinfecting water.
- Isolation: Enclose a noisy power generator to protect employees from noise exposure.
- Ventilation: Install a local exhaust ventilation system in a welding operation to eliminate welding fumes.
- Safeguards: Put a guard on a piece of machinery to prevent contact by employees.

Enter engineering controls in column 9 in the Hazard Assessment and Control Report.

### **Administrative Controls**

Administrative controls focus on process, procedure and best practices.

#### **Administrative control examples:**

- Safe Work Procedures: Implement procedures for working alone.
- Safe Operating Procedures: Chainsaw Safe Operating Procedure.
- Staff Rotation: Vary tasks in a shift to allow employees to use different muscle groups or to lessen exposure to the hazard.
- Hazard Warning Signs: Post hearing protection signs in locations with excessive noise.
- Training: Occupational Health and Safety Leadership, Hazard Assessment, Fall Protection, Confined Space Entry.
- Codes of Practice: Confined Space Entry, Respiratory Protective Equipment.
- Maintenance Programs: Follow vehicle, forklift or pallet jack maintenance programs.
- Safe work and operating procedures must be considered for work-related activities that are classified as high risk. The Safe Work Procedures template can be used to prepare safe work and operating procedures.

Enter administrative controls in column 10 in the Hazard Assessment and Control Report.

### **Personal Protective Equipment**

The third hazard control considered is the provision of proper personal protective equipment (PPE) for employees. PPE is frequently used in combination with engineering and/or administrative controls. The PPE must meet accepted standards in the Occupational Health and Safety Code (CSA, NIOSH, etc.), the Government of Alberta Occupational Health and Safety Program, and specific ministry requirements. Refer to Personal Protective Equipment for requirements and direction on selection, care and use of PPE.

#### **Personal protective equipment examples:**

- chemical resistant, puncture resistant gloves
- respirators that meet NIOSH standard
- hardhats that meet CSA standard
- hearing protection that meet CSA standard
- foot protection that meet CSA standard
- clothing appropriate to the identified hazard
- eye protection that meet CSA standard

Enter PPE controls in column 11 in the Hazard Assessment and Control Report.



### 8. Implement Hazard Controls

Once identified, existing or new controls must all be implemented in a timely fashion. All controls must be implemented. If several jobs or processes are hazardous, they should be prioritized. The controls to mitigate high hazards must be considered a high priority. The controls for medium hazards are implemented second, and the controls for low hazards implemented last.

#### Factors to consider when implementing controls:

- **Allocating Resources:** Management must allocate sufficient money, staff and materials to implement the controls.
- **Training:** Management must communicate changes and provide training to employees on any controls introduced (e.g., orientation to new or modified equipment, training on a revised work procedure, training on a piece of personal protective equipment, etc.).
- **Coaching and Monitoring:** Supervisors must reinforce the proper use, care and maintenance of controls through observation and feedback, discussion during staff meetings, etc.
- **Evaluating Effectiveness:** Once controls have been implemented, supervisors need to continue to determine their effectiveness to prevent future incidents.

When control measures have been implemented check off the box in column 12 of the Hazard Assessment and Control Report.

### 9. Evaluating and Following Up

After hazards have been identified and controls have been implemented for them and evaluate for effectiveness, the process repeats itself. Hazard assessments are most useful when they are current—supervisors and employees must evaluate the effectiveness of all new or additional controls.

Hazard Assessment and Control Reports must be reviewed and updated at least every three years.

They are also reviewed and updated:

- Whenever new work processes or new equipment are introduced
- Whenever work processes or operations change
- Before the construction of significant additions or alterations at the workplace.

Other elements of the Government of Alberta Occupational Health and Safety Program may lead to a review of the Hazard Assessment and Control Report.

- **Scheduled Workplace Inspections:** Workplace-specific checklists can assess the effectiveness of existing controls and verify the controls are being used as intended.
- **Incident Investigations:** Incident investigations determine if the hazard controls identified in the Hazard Assessment and Control Report are in place and working as intended, or whether control revisions are required.

When the above elements identify deficiencies, the hazard assessments should be revised.

- **Revision:** Control measures may require revision to eliminate or reduce the hazard to the lowest degree of risk.
- **Refresher Training:** Provide refresher training if it is a seasonal hazard or if the controls have changed to make sure employees are aware and competent in the tasks.
- **Ongoing Communication:** Supervisors must communicate newly identified hazards and controls to employees.



DEFINITIONS

<b>Hazard</b>	A condition or behaviour that has the potential to cause an injury or loss
<b>Hazard Assessment</b>	A standard documented process to identify health and safety hazards and evaluate the risk associated with job tasks.
<b>Hazard controls</b>	Measures that are implemented to eliminate or reduce the risk of hazards. If an existing or potential hazard to employees is identified during a hazard assessment, the manager must take measures to eliminate or control the hazard.

Approval:

Executive Director

2010/11/25

Date

Chair WHSC

25/11/2010

Date