3 Hazard Control

Once you have completed Element 3, you will have:

- Implemented hazard controls and trained workers and contractors on the use of these controls.
- Developed a practical enforcement policy that is communicated to all employees.
- Created a plan for reviewing and revising hazard controls on a regular basis.

Introduction

Once you identify and assess the hazards on the farm, the next step is to apply control measures to eliminate or reduce the risk of harm to workers. Everyone on the farm should take all reasonable steps to eliminate or control identified hazards to make the workplace safer.

Hierarchy of Controls

Elimination of the hazard is always the best control.

As you start to implement control methods on your farm, consider the hierarchy of controls (categories of hazard control). Hazard control methods are often used in combination to ensure the best level of worker protection possible. Whatever control methods you choose, include regular monitoring to determine whether or not the controls are working as intended.

The following is called the "hierarchy of controls" as the categories are listed in order of effectiveness. For instance, an engineered control is deemed to be more effective at reducing risk than an administrative control. Furthermore, an administrative control tends to be more effective than personal protective equipment. Personal protective equipment should always be considered as the last line of defense for the worker should the hazard occur.

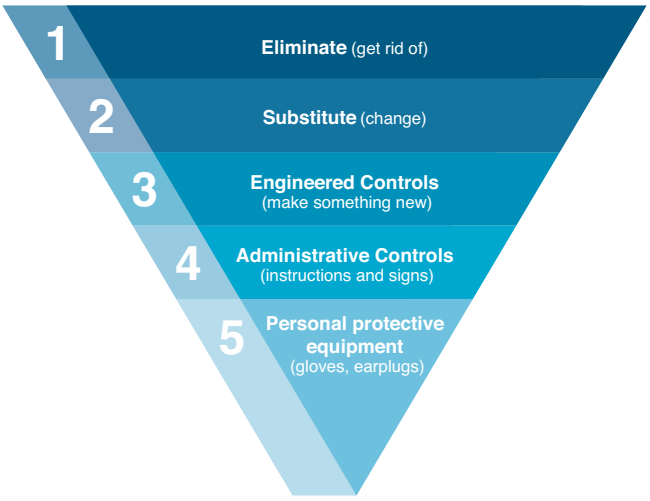
As you consider the hierarchy of controls, determine if the hazard could be completely eliminated or if any substitutions could take place.

ENGINEERED CONTROLS

If a hazard cannot be eliminated from the environment, use an engineered control to place a structure, barrier, design or modification between the worker and the hazard. These controls include guards, fences, ventilation systems, barricades and auto shutoff devices, which are all intended to reliably minimize the hazard and reduce the source of the exposure.

Engineered Controls

- *Replacing a portable ladder with a permanent access ladder for maintenance procedures on grain bins*
- *Constructing a permanent fence around the dugout*
- *Installing or upgrading a barn's ventilation system to provide adequate fresh air*
- *Installing lights with motion-detectors to ensure workers have better visibility in low-light areas*



Administrative Controls

Administrative controls involve the implementation of practices, procedures and rules to reduce the amount of exposure a worker has to the danger. signage, job scheduling, equipment maintenance, and worker orientation and training are also important forms of administrative controls.

Administrative Controls

- *Developing and enforcing practices and procedures for doing a task safely.*
- *Providing emergency response training to all workers, including regular drills.*
- *Job rotation and scheduling to decrease fatigue and complacency.*
- *Preventative maintenance scheduled and performed on all machinery.*
- *Posting signs to warn of high noise areas.*

SUGGESTIONS FOR ADMINISTRATIVE CONTROLS FOR FARMING

Refer to Appendix 3.1 Example Standard Operating Procedures to help you control worker exposure to hazardous work conditions. You will find good examples of administrative controls such as standard operating procedures, safe work practices and more. Other areas that are important in administrative controls for farming are preventative maintenance, and contractor and supplier management.

Preventative Maintenance

To proactively avoid hazards and lost productivity caused by the breakdown of equipment, tools and machinery, you should develop a preventative maintenance policy and equipment maintenance schedule. Equipment breakdowns can cause injuries, property damage and costly production delays, all of which can be reduced by the use of a preventative maintenance system. Base the standards for the maintenance program on the manufacturer's recommendations, industry standards, past incidents and data from hazard assessments.

A good preventative maintenance program will also include a requirement for workers to inspect their tools and equipment regularly. If a tool or piece of equipment is found to be defective, it should be taken out of service. It should be tagged as defective and sent for repair, or discarded. Your policy should also include a requirement to purchase tools and equipment in accordance with CSA, provincial and industrial standards.

CONTRACTOR MANAGEMENT

It is your responsibility as the farm owner to protect the health and safety of all employers, self-employed persons, contractors, visitors and workers while they are working on the farm, whether or not a service agreement exists. Remember, the veterinarian, the bulk milk truck driver, the mechanic from the local equipment dealership or grain hauler are all working for you! As the farm owner, you must:

- Provide workers and service providers with general safety guidance on your FarmSafe Alberta plan and accepted safety practices and work procedures related to the work to be performed.

It is the responsibility of the contractor to:

- Comply with all applicable legislation and standards and accepted best work practices and procedures, specific to the work performed.
- Provide competent and sufficient supervision for the work performed under the contractor's control.
- Co-operate with the employer to identify and control the hazards associated with the work being performed.
- Co-operate with the employer to develop and implement a safety orientation for workers of both parties geared toward the hazards specific to the workplace and the work being undertaken.
- Give notice of intent to perform work where municipal or provincial law requires, such as work in close proximity to overhead power lines.

SUPPLIER MANAGEMENT

It is the responsibility of suppliers to:

- Comply with all applicable farm policies and provincial legislation.
- Supply products that are without risk of injury or illness to end users when used according to instructions provide by the supplier.

See Appendix 3.2 "Example Contractor Agreement."

For more information on Occupational Health and Safety legislation, go to:
http://work.alberta.ca

Personal Protective Equipment (PPE)

Personal protective equipment (PPE) should be your last resort, and should always be used in combination with other control methods. Personal protective equipment is often the easiest control to apply, but it is usually the least effective. In some cases, you might supply workers with the required PPE, or you may require workers to provide it themselves. In all cases, you should provide formal training in the selection, care, use and maintenance of all PPE.

Personal Protective Equipment

- *Safety glasses to protect eyes from flying debris*
- *Chemical resistant clothing for handling and applying pesticides*
- *Respiratory protective equipment to protect lungs from harmful dusts and chemical vapours*
- *High-visibility clothing, especially during dawn/dusk work or dusty areas*

Steps for Identifying and Implementing Hazard Controls

STEP 1: IDENTIFY HAZARD CONTROLS

Using the results of the hazard assessment, start by selecting those tasks that present the greatest risk to employees (Worksheet 2.1 "Hazard Assessment") and determine possible controls for the identified hazards. As farm owner/manager, you should lead this process but should get input from the workers doing these jobs. Their knowledge of the job tasks can be of great value. If you seek involvement early, it should help gain worker buy-in later. Other sources of information about possible controls could include:

- Owners' manuals for equipment
- Codes and standards
- Health and safety legislation
- Existing company policies

Using Worksheet 2.1, "Hazard Assessment," fill in "Controls."

STEP 2: APPLY CONTROLS

The next step is to implement the control methods you have selected. This will involve:

- Installation of engineered controls
- Development of policies, procedures, codes of practice, rules and preventative maintenance schedules
- Introduction of PPE

As part of implementation, you also need to train workers and contractors in the use of controls, and introduce policies to enforce their use.

A standard operating procedure (SOP) is a written, specific description of how to complete a job safely and efficiently from start to finish. The objective of a SOP is to ensure that everyone involved in a specific job is fully aware of the potential hazards, understands the necessary safety checks and knows the sequence of the tasks required to complete the job safely.

HINTS ON DEVELOPING YOUR SOPS

- Use operating manuals and visit manufacturers' websites to check for suggested SOPs.
- Search online for existing SOPs. You can modify an existing SOP to suit your farm or ranch.
- If nothing exists, write your own. A blank SOP template can help!

STEP 3: REVIEW AND MONITOR CONTROLS

Review hazard assessments and controls for effectiveness soon after you have implemented controls. Ensure subsequent and regular reviews take place at least annually to verify that original expectations were correct, and that established controls continue to be adequate. Re-evaluate hazard assessments and controls whenever there are changes to your operation or to the work being done.

Use Worksheet 3.1 or 3.2, "Standard Operating Procedure" to develop a standard operating procedure.

Administration of Controls

You are responsible for ensuring workers are informed of job-related hazards, trained in the methods used to control these hazards and made accountable to use the controls in place. To enforce control methods, develop a constructive enforcement policy, and communicate the consequences to employees. A good way to monitor whether your controls are working is through workplace inspections (see Element 4). Positive reinforcement goes a long way in encouraging safe and healthy behaviours on the farm.

Conclusion

Element 3, Hazard Control, is one of the most demanding sections of your health and safety management plan. By the end of this element, you will have identified and implemented the necessary controls for the hazards on your farm.

Use the checklist on the next page to determine what you have done and what still needs to be done before you move on to Element 4. Give yourself and your workers a well-deserved pat on the back and then continue on!

Element 3
Self Evaluation Checklist

	Yes	No
I have included workers in establishing the control of health and safety hazards.	☐	☐
I have identified and implemented the following controls:		
• Engineered	☐	☐
• Administrative	☐	☐
• Personal protective equipment	☐	☐
I have a preventative maintenance program for equipment and machinery that includes a process for maintaining equipment and preventing the use of defective equipment.	☐	☐
I ensure health and safety policies and hazard control methods are followed.	☐	☐
Where personal protective equipment (PPE) is used as a method of control, employees are trained in the use, care and maintenance of the personal protective equipment.	☐	☐
I have developed a plan in consultation with my contractor to ensure the safety of myself and my workers.	☐	☐
The plan includes:		
Identification of site-specific hazards and controls	☐	☐
• Ongoing hazard assessment	☐	☐
• Communication of changes to work site conditions	☐	☐
• Review of emergency response plans (see Element 6)	☐	☐
• Process for dealing with non-compliance	☐	☐
• On-site supervision of contract workers	☐	☐
• Communication of the plan to all employees	☐	☐
• Use of engineered controls	☐	☐
• Use of standard operating procedures, rules and work practices	☐	☐
• Required PPE available	☐	☐
• Use of PPE enforced	☐	☐

Appendix 3.1
Example Standard Operating Procedures

Basic Tractor Operation (EXAMPLE)

General Information	
SOP number	Written by:
Date effective: **21 03 14**	Last modified:
Job task: **Basic Tractor Operation**	
Location: **Entire Farm**	No of employees performing job: **1**

Responsibilities (Who is responsible for each aspect of the job)	
Position	**Duties**
Farm Manager/Employer	Ensure that the employee receives the proper training necessary to perform the job task. Supply employees with the proper knowledge to prevent injury or death. Supervision is to be provided until a firm knowledge of operating the machine is acquired. Ensure proper supplies and safety equipment are provided and accessible.
Employee	Take all the training necessary to perform the job correctly. Inform the employer if you feel it is unsafe or too risky to operate the machine. Failure to follow proper training and/or taking "short cuts" may result in injury or death. Proper clothing must be worn at all times, as well as ensuring that all required safety equipment is used.

Job Task Assessment (List all the tasks & associated hazards for the job being evaluated)	
Job Task	**Hazards**
Ensure that the seatbelt, roll over structure, falling objects, and the power take-off guard are in good condition and properly applied or stored.	
In the case that faulty equipment is noticed, the machine should not be used. Report the faulty issue to the farm manager/employer immediately.	
Check that the 3-point hitch system and the hydraulic system are in functioning order and properly connected if attached.	
Ensure that you are only using proper implements meeting the specifications of the tractor that is being operated.	
Do not start or operate any levers/controls from anywhere other than the seat inside.	• Run over
Before starting the tractor, ensure that all levers are in their neutral positions, the parking brake is applied, and the clutch and PTO are disengaged.	
Do not operate or let the tractor idle while in non-ventilated area.	
If pulling an implement, do not pull from anywhere other than the drawbar or hitch.	• Equipment damage • Roll over
Be sure to drive at a speed slow enough to keep control of the tractor, especially over expected hazards like railroad crossings, intersections, etc.	• Equipment damage • Roll over • Loss of control

* *NOTE: This integrated safety Standard Operating Procedure is a sample of procedures that were developed for a specific workplace with specific equipment, conditions and practices. To maximize effectiveness of this isSOP, users must modify it to be reflective of their particular operation, equipment, facilities, practices, regulatory requirements, and hazards. CASA expressly disclaims any warranty or liability for errors and omissions in the content of this isSOP.*

Integrated Safety Standard Operating Procedures

Job Task Assessment (List all the tasks & associated hazards for the job being evaluated)	
Job Task	**Hazards**
Do not operate the tractor near any ditches or embankments that may collapse under the tractor's weight and cause it to roll.	• Roll over • Crushing • Equipment damage
If you come across a steep slope, if possible, always back up the slope, if you cannot make it up, you can drive down forward. Avoid slopes that are too steep for safe operation, and call farm manager/employer if uncertain.	• Equipment damage • Roll over • Crushing
Never dismount the tractor while the engine is running unless the tractor has come to a complete stop, the transmission is in the park position, PTO is disengaged, and the parking brake is applied.	• Crushing • Equipment damage
Ensure that nobody or animal is in danger when operating the equipment, and ensure that the surroundings are clear before moving the tractor.	• Crushing • Collisions
If there is a bucket on the tractor, ensure that the bucket does not obscure the operator's line of site, and high enough that it will not come into impact with the ground.	• Collisions • Electric wires • Equipment damage
When coming to a stop with the tractor, ensure that you are parked on even ground, disengage the PTO if connected, and that lower implements are attached. Be sure to place all controller levers in the neutral position, apply the parking brake, and turn off the engine as well as remove the key. Ensure the tractor is at a complete stop before dismounting is done.	• Crushing

* *NOTE: This integrated safety Standard Operating Procedure is a sample of procedures that were developed for a specific workplace with specific equipment, conditions and practices. To maximize effectiveness of this isSOP, users must modify it to be reflective of their particular operation, equipment, facilities, practices, regulatory requirements, and hazards. CASA expressly disclaims any warranty or liability for errors and omissions in the content of this isSOP.*

Integrated Safety Standard Operating Procedures

Hazard Controls (Describe the controls that will be implemented to remove the hazard — elimination, substitution, engineered, administrative, PPE)
Be sure to clear away any foreign material and debris from the engine and implement parts to ensure that fire hazards or machinery defaults do not occur.
Be sure to keep the tractor in a clean and tidy condition before and after operation in order to prevent any slipping or tripping hazards.
Ensure that the shields are in proper shape and attached correctly to prevent entanglement as well as cuts or burns.
PPE – Proper foot protection must be worn at all times, steel toe boots are required. Hearing protecting must be worn at all times. If the tractor is an open station tractor sunscreen should be worn.
Appropriate clothing must be worn at all times, coveralls, non-baggy shirts, and reflective vests.
A first aid kit must be onboard the tractor at all times, as well as a fire extinguisher in the case of engine or implement fires.

Skill Level / Training Required to Perform the Job (List training requirements)
The employee must hold a valid driver's license in order to operate the tractor.
Reviewing the SOP is mandatory if operating the tractor has not been done in the previous 6 months.
The operator must be able to prove that he/she is able to perform the task at hand by demonstrating and repeating verbal instructions to ensure one does completely understand how to operate the machine.

Communications Processes (Consider working alone, further instructions, concerns, how will assistance be delivered)
The farm manager/employer and employee must both have some form of communication on them at all times. Whether it is a walkie talkie, cell phone, or CB radio. The employee or farm manager/employer must contact each other every 1 – 2 hours to ensure everything is ok and describe the location they are at if in a field.
Before operating the tractor, the farm manager/employer must describe to the employee verbally in significant detail where he/she is going, what they are doing, and what to do in case of an emergency.
The employee must have the telephone numbers and work location descriptions.

Emergency Procedures (Consider how the worker will initiate an emergency response)
Immediately call Ashton if an unexpected incident should occur.
If someone is seriously injured or hurt they must call 911 immediately.
In the case of an incident of emergency, the operator must not put oneself into unnecessary risk.

Expected Result (Consider the benefits of the Standard Operating Procedure for farm operations)
The tractor should be operated at its expected use, and not exceeded.
Safe operation of the tractor will result if steps are followed correctly.
An injury-free operation and workplace will occur at the end of the day.

Alberta Construction Safety Association

SAFE WORK PRACTICE (EXAMPLE)	
TITLE	Confined Space Entry.
GENERAL	Protecting workers from injuries associated with working in confined spaces.
APPLICATION	Primary function is something other than human occupancy: and has restricted entry and exit; and may contain potential or known hazards.
PROTECTIVE MECHANISMS	Safe job procedure Permit system PPE Site specific entry program ERP (Emergency Response Plan)
SELECTION AND USE	As per job requirement and site specific entry
SUPERVISOR RESPONSIBILITY	To facilitate and/or provide proper instruction to their workers on protection requirements including Confined Space Entry and Emergency Egress procedures
WORKER RESPONSIBILITY	**1.** Must be competent in confined space entry to identify the work procedures required to enter the confined space. **2.** Ensure there are reasonable means to exit from all parts of the confined space. **3.** Ensure that ventilation and purging is established and allows acceptable air levels to be achieved and maintained. **4.** Establish method of communication to allow immediate contact with necessary personnel if rescue or assistance is required, confirm alarm system. **5.** Must be trained in H2S Alive or equivalent (if required). **6.** Before entry, the vessel or confined space must be tested by a competent worker wearing breathing apparatus, for oxygen content, combustible gas (L.E.L.) and hydrogen sulfide. **7.** Continuous monitoring may be required of the vessel or confined space atmosphere. **8.** Must be conversant with Rescue Procedures.

Appendix 3.2
Example Contractor Agreement

_____ [Farm Name] _____'s Policy Overview:

All workers, while working at _____ [Farm Name] _____, must accept safety as a personal responsibility. Everyone is expected to develop and maintain a safe working environment by recognizing unsafe acts and unsafe conditions, and taking the necessary corrective action.

It is the responsibility of each worker to be aware of and follow all provincial laws dealing with occupational health and safety, at all times, and comply with the general intent of the laws as a minimum.

WORKERS' PRIMARY RESPONSIBILITIES:

1) ABILITY
Before proceeding with any task, employees shall satisfy themselves that they can perform the work without injury. If they are assigned work they feel unable to perform, they will alert the supervisor of the work to be done.

2) UNDERSTANDING
Before starting a job, employees shall thoroughly understand their role and the safety rules that apply to the task to be performed.

3) TAKING CHANCES
Under no circumstances shall safety be sacrificed for speed. Employees should not be pressured by lack of time, authority or any other reason. "Cut corners" are too often short-cuts to possible incidents, accidents and injuries.

Workers shall be aware of changing conditions and always be careful to place themselves in a safe and secure position. Each worker is responsible for his/her own safety.

CONTRACTOR CHECKLIST

Use this checklist to ensure you have discussed key safety topics with your contractor.

I have discussed and understand the following health and safety issues and will fulfill my responsibilities as a service provider to_____ [Farm Name] _____.

- ☐ WCB coverage
- ☐ Safety Responsibilities
- ☐ Site Specific Hazards
- ☐ First Aid Facilities
- ☐ Communication Method
- ☐ Emergency Response Plan
- ☐ Incident Notification
- ☐ Lockout/Tagout
- ☐ Housekeeping Expectations
- ☐ Personal Protective Equipment Expectations
- ☐ General Safety Rules
- ☐ Refusal of Unsafe Work

Signed by: _____

on behalf of:_____ (service provider)

Date:_____

Worksheet 3.1
Standard Operating Procedure

General Information	
SOP number	Written by:
Date effective:	Last modified:
Job task:	
Location:	No of employees performing job:

Responsibilities (Who is responsible for each aspect of the job)	
Position	**Duties**

Job Task Assessment (List all the tasks & associated hazards for the job being evaluated)	
Job Task	**Hazards**

Hazard Controls

(Describe the controls that will be implemented to remove hazards — elimination, substitution, engineered, administrative, PPE)

Skill Level and Training Required to Perform the Job

(List training requirements)

Communications Processes

(Consider working alone, further instructions, concerns, how will assistance be delivered)

Emergency Procedures

(Consider how the worker will initiate an emergency response)

Expected Result

(Consider the benefits of the Standard Operating Procedure for farm operations)

Worksheet 3.2
Standard Operating Procedure

Use this worksheet to identify a job or task performed on your farm or ranch, then break it down into logical, successive steps. For each of the steps, think about potential hazards. As you think of hazards, also think of controls that could make the job safer. Is there any required training? What needs to be done in an emergency?

Available online at: ***www.agriculture.alberta.ca/farmsafety***

Job: _____

Steps	Task	Hazards & Controls
1		
2		
3		
4		
5		
6		