

Re-entry & Restarting After a Flood

Task Management Package

Disclaimer: This resource is intended for guidance and employers are advised to customize this document or design their own to meet their business needs and legal obligations. Once customized from its original content this disclaimer may be removed to function as part of your Safety Program. This resource does not relieve persons using it from their responsibilities under applicable legislation. If you need assistance contact us at www.AgSafeBC.ca

For your convenience each document available within the Task Management Package, can be downloaded individually from the Emergency Planning Resources – [Flooding Page](#).

Packages Include:

- Energy Source Management
- Handling Deceased/Dead Animals
- Manure Storage and Handling (H2S)
- Site Access
- Slips, Trips, Falls
- Working Alone or In Isolation
- Working in Cold Weather (Cold Stress)

Risk Assessment

Energy Source Management

Company Name:			Workplace location: Workplace Risk Level: High
Prepared by:			Date:
Tasks / Activities	Hazard	Risk Level	Control Measures
Working on site	Downed Electrical lines/damaged structural electrical lines	High	• Contact utility company immediately if you see or suspect downed electrical lines • Upon entering a damaged site, assess if electricity is still functioning and in what buildings. • Determine what electrical sources are safe to use for emergency purposes and document. • Turn off main electrical sources to remaining sites (switch gear or panels – do not enter any structures that have been deemed unstable or were flooded to turn off electricity) • Document what building are damaged, what building have had the electricity disconnected, what buildings are damaged with electricity and what electrical sources are safe to use. • Make provisions for generator use for all scenarios • Stay away from all downed electrical lines • Stay away from all exposed structural wiring • If building was flooded, do not enter to turn electricity back on, contact qualified contractors to assess and make repairs prior to electricity being turned on
	Damaged/leaking Natural Gas lines	High	• Contact utility company immediately if you see or suspect that a natural gas line is damaged or if you smell rotten eggs or Sulphur • Immediately leave the area if you smell natural gas • Evacuate all workers from area of leak • Gather and make ready all firefighting equipment/supplies/inform firefighting personnel •
	Downed Communication lines	Moderate	• Contact utility company immediately if you see or suspect downed communication lines • Do not approach or move communication lines • Contact a qualified contractor to do all repairs following natural disaster

Safe Work Procedure

Energy Source Management

Safe Work Procedure			
Company Name:		Workplace Location:	
Name of Safe Work Procedure: Energy Source Management		Safe Work Procedure #:	
Release date:		Revision Date:	
Date of approval:		Management Signature:	
This safe work procedure must be reviewed annually or any time the task, equipment or materials change.			
DO NOT perform this procedure until you have been appropriately trained and authorized to do so by your supervisor			
Required Training: Do not train any worker to work on or around down/damaged electrical lines, natural gas lines or communication lines			
Required Personal Protective Equipment and Devices: Do not work around down/damaged electrical lines, natural gas lines or communication lines			
Potential Hazards: Electrocuting, fire, explosion, entanglement, struck By.			
Pre-Operational Safety Checks: Contact utility companies if any lines are down/damaged or suspected to be			

Safe Work Procedure

Energy Source Management

Safe Work Procedure

Before you Start

1. No workers are to be trained to work on or around down/damaged electrical lines, natural gas lines or communication lines

While you're Working

1. If at any point you suspect that there are down/damaged electrical lines, natural gas lines or communication lines in your work area, immediately inform any other workers in the area and vacate immediately. Inform your supervisor as soon as possible

Electrical

1. Upon entering a damaged site, assess if electricity is still functioning and in what buildings.
2. Determine what electrical sources are safe to use for emergency purposes and identify/document.
3. Turn off main electrical sources to remaining sites (switch gear or panels – do not enter any structures that have been deemed unstable or flooded to turn off electricity)
4. Document what building are damaged, what building have had the electricity disconnected, what buildings are damaged with electricity still active and what electrical sources are safe to use.
5. Make provisions for generator use for all scenarios
6. Stay away from all downed electrical lines
7. Stay away from all exposed structural wiring

Natural Gas

1. Immediately leave the area if you smell natural gas
2. Evacuate all workers from area of leak
3. Gather and make ready all firefighting equipment/supplies and inform firefighting personnel
4. Do not return to the area until a qualified person has assessed that there is no longer a risk to workers

Communication Lines

1. Do not approach or move communication lines

After you Finish

1. If building was flooded, do not enter to turn electricity back on, contact qualified contractors to assess and make repairs prior to electricity being turned on
2. Contact a qualified contractor to assess and make all repairs following natural disaster

If an emergency situation occurs while conducting this task, or there is an equipment malfunction, shut the equipment off immediately and follow the lock out procedure.

**REPORT ANY HAZARDOUS SITUATION TO YOUR SUPERVISOR/MANAGER OR EMPLOYER
IMMEDIATELY**

Employee Check-off

Company Name:			Workplace Location:		
Task, Job Title or Equipment Used: Energy Source Management					
Employee	Date	RA Reviewed	SWPs Reviewed	First Supervisor Note Following Instruction (Include Date)	Supervisor Signature

*Check off RA and SWP columns after reviewing with the worker
**Ensure worker is supervised after being deemed competent

RISK ASSESSMENT

Manure Storage and Handling

Company Name:			Workplace Location:
Prepared By:			Date:
TASK	HAZARD	LEVEL OF RISK	CONTROL METHOD
Agitating Manure Pit (Only experienced operator to perform this task)	H2S Exposure	Low	Utilize windsack to track wind direction. Do not stand in low areas where fumes can settle - Ensure worker has been trained to use agitator. Notify all workers that this work will be performed.
	PTO entanglement	Low	Ensure all shields and guards are in place on the PTO and propeller. Worker must be deemed competent to operate tractor.
	Propeller entanglement	Low	Do not start propeller until it is submersed in the manure pit. Inspect propeller prior to submersing in manure. Ensure worker is familiar with propeller manual prior to using.
	Roll into manure pit	Low	Ensure berm/fence or some impediment is in place so that tractor cannot drive/roll into manure pit. Access manure pit only were designed to do so ensuring safeguards are in place so that operator cannot drive into manure pit (lock blocks, bars etc...).
	Worker falls into manure pit	Low	Ensure berm/fence or some impediment is in place so that worker cannot fall into manure pit. Inspect propeller prior to backing up to manure pit.
Spreading with pump truck	Struck by pump truck or tractor	Low	Ensure no workers are near when moving pump truck. Ensure worker has been deemed competent prior to operating pump truck.
	Roll over	Low	Experienced operators to spread manure on sloped fields and near embankments. Ensure new operators have performed tractor training.
	Striking objects in field	Low	Perform field assessment prior to spreading manure – mark all hydrants in the field that could be damaged or present as a hazard.
	Filling tank – H2S exposure	Low	Determine wind direction and stand up-wind of filling tank. Do not enter tank for any reason.
Maintenance (pump truck)	H2S exposure	High	If tank needs to be entered, ensure a confined space entry program has been developed by a qualified professional and all training and rescue provisions have been met as deemed by WorkSafeBC.
	Rollover	Moderate	Ensure trucked has been lockout out and wheel chocks are in place. If required, ensure appropriate hydraulic lift and jack stands (matching set with rate capacity visible on stands) are utilized to secure elevated loads
Spreading through underground pipes –	H2S exposure due to leaking pipes	Low	Stop pumping and clear lines. Excavate repair site (ensuring appropriate sloping and shoring) and let fumes dissipate before attempting repair. Ensure all workers are aware when manure is pumped.

RISK ASSESSMENT

Manure Storage and Handling

Spreading via drag line	H2S exposure due to leaking pipes	Low	Utilize windsock to track wind direction. Do not stand in low areas where fumes can settle. Notify all workers that this work will be performed. Inspect and monitor all hoses and equipment while spreading
	High pressure equipment - malfunction	Low	Inspect and ensure all equipment has been maintained as per manufacture specifications. Any maintenance/repairs that are performed ensure they are done by qualified service personnel. Do not stand near pumps, hoses, drag line equipment while it is operating.
	Struck by mobile equipment	Moderate	Ensure no workers are near when tractor is spreading. Ensure worker has been deemed competent prior to operating tractor.
Servicing Pump Room – owner/employee doing work	H2S Exposure	High	Ensure confined space entry program has been developed as per WorkSafeBC regulation by a qualified person. Ensure all workers have been trained in the confined space entry procedures including: I. Lockout and isolation procedures II. Cleaning procedures, if required III. Air testing requirements for pre-entry and for work being conducted in the space IV. Ventilation procedures V. Assignment of a standby person VI. Description and use of personal protective equipment (PPE) and any other necessary equipment (e.g., equipment required for entry and exit) VII. Rescue procedures VIII. Coordination of work activities
Servicing Pump Room – work contracted	Contractors exposed to H2S	High	Ensure firm has a confined space entry program that meets the requirements of WorkSafeBC. Ensure firm has been orientated to the site and made aware of any hazards that they may be exposed to while on site. Ensure all workers are aware the firm is on site and if the firm will generate any hazards that may impact the workers.
	Contractor does not have WSBC coverage – owner then retains responsibility	Moderate	Ensure WorkSafeBC clearance letter has been obtained showing that the firm had continuous coverage while on site.
Additional Notes: - When possible, ensure at least two workers are present in case of H2S exposure. - Review H2S emergency procedures. - Always determine wind speed and direction prior to working with manure pit.			

Safe Work Procedure

Manure Storage and Handling

PPE:	Appropriate clothing for the weather, gloves, safety boots, high visibility apparel (for anyone working around the mobile equipment), safety glasses
Hazards:	H2S, manure pit, manure pit propeller, pressurized lines, rocks/holes (field), tractor, manure tank, spreader, compressors

Safe Work Practice

Agitating manure pit

1. Ensure tractor competency has been determined for operator.
2. Notify all workers that manure pit will be agitated.
3. Determine wind direction and stay up wind (check wind sock/flag)
4. Inspect manure pit prior to lowering propeller into manure.
5. Inspect both tractor and propeller prior to use.
6. Get tractor in place before starting propeller ensuring to use identified manure pit access point.
7. Ensure all guards and shields are in place prior to agitating
8. Once agitating has begun, leave area and ensure to check wind direction prior to coming back to the manure pit.

Spreading manure using underground pipes

1. Inspect all lines/hydrants prior to starting pump.
2. If damaged pipes are discovered while pumping, clear lines prior to assessing the damage.
3. Ensure lines are depressurized prior to undoing couplings or breaking lines apart.
4. Excavate damaged pipe (ensuring proper sloping and shoring requirements have been met) and let fumes dissipate prior to working on the pipe.

Spreading manure using pump truck

1. Ensure tractor/pump truck competency has been determined for operator.
2. Ensure all workers on site have been informed that manure will be spread.
3. Inspect pump truck prior to operating
4. Assess field prior to spreading manure.
5. Stand up wind when filling pump truck with manure.
6. Never enter manure tank to perform maintenance unless appropriate confined space entry procedures have been developed as outlined by WorkSafeBC

Spreading manure using drag lines

1. Ensure tractor/pump truck competency has been determined for operator.
2. Ensure all workers on site have been informed that manure will be spread.
3. Inspect tractor and drag line equipment prior to operating
4. Assess field prior to spreading manure.
5. Ensure all workers are aware where manure hoses will be to ensure no hose is run over by equipment

Safe Work Procedure

Manure Storage and Handling

6. Inspect all pumps, compressors and hoses for cracks, splitting, loose/broken connectors, leaks, appropriate pressure etc. prior to starting spreading and periodically throughout the shift

Servicing Pump Room

1. If owner/site employee is performing work in pump room ensure:
 - a. Confined space entry program has been developed as per WorkSafeBC regulation by a qualified person
 - b. Workers have been trained in the confined space entry procedures including:
 - i. Lockout and isolation procedures
 - ii. Cleaning procedures, if required
 - iii. Air testing requirements for pre-entry and for work being conducted in the space
 - iv. Ventilation procedures
 - v. Assignment of a standby person
 - vi. Description and use of personal protective equipment (PPE) and any other necessary equipment (e.g., equipment required for entry and exit)
 - vii. Rescue procedures
 - viii. Coordination of work activities
2. If work will be contracted out:
 - a. Ensure WorkSafeBC clearance letter has been obtained showing that the firm had continuous coverage while on site.
 - b. Ensure firm has a confined space entry program that meets the requirements of WorkSafeBC
 - c. Ensure firm has been orientated to the site and made aware of any hazards that they may be exposed to while on site.
 - d. Ensure all workers are aware the firm is on site and if the firm will generate any hazards that may impact the workers.

Competency Checklist

Manure Storage and Handling

Worker Name:		Evaluator:	
Date		Location:	
Activity		Pass	Fail
1	Ensure relevant mobile equipment competency checklists have been completed		
2	Review manuals of mobile equipment/propeller/agitator to be used		
3	When possible, works with a coworker		
4	Knows and understands working alone policy		
<i>Agitating manure pit</i>			
5	Performs manure pit assessment prior to agitating		
6	Determines wind direction prior to agitating		
7	Checks for guards and shields prior to starting PTO		
8	Only starts propeller once in the pit		
<i>Spreading manure using underground lines</i>			
9	Inspects pumps and hydrants prior to pumping manure		
10	Notifies all workers on site prior to pumping manure		
11	Understands the process for repairing damages lines (stop pumping, bleed off pressure, let excavated areas breath prior to working on pipes)		
<i>Spreading manure with pump truck</i>			
12	Assesses field prior to spreading		
13	Inspects all mobile equipment and pumps prior to use		
14	Notifies all workers on site prior to pumping manure		
15	Stands up-wind when filling the pump truck		
16	Worker knows to never enter pump truck vessel for any reason		
<i>Maintenance</i>			
17	Worker understands that if tank needs to be entered, a confined space entry program that has been developed by a qualified professional (as deemed by WorkSafeBC) must be utilized – this includes all training and rescue provisions		
<i>Spreading manure using drag lines</i>			
18	Ensure tractor/pump truck competency has been determined for operator.		
19	Ensure all workers on site have been informed that manure will be spread		
20	Inspect tractor and drag line equipment prior to operating		
21	Assess field prior to spreading manure		
22	Ensure all workers are aware where manure hoses will be to ensure no hose is run over by equipment		
23	Inspect all pumps, compressors and hoses for cracks, splitting, loose/broken connectors, leaks, appropriate pressure etc. prior to starting spreading and periodically throughout the shift		

Competency Checklist

Manure Storage and Handling

<i>Servicing Pump Room (performed by owner/employee)</i>			
24	Worker knows Confined space entry program that has been developed as per WorkSafeBC regulation by a qualified person		
25	Workers have been trained and can discuss the confined space entry procedures including: I. Lockout and isolation procedures II. Cleaning procedures, if required III. Air testing requirements for pre-entry and for work being conducted in the space IV. Ventilation procedures V. Assignment of a standby person VI. Description and use of personal protective equipment (PPE) and any other necessary equipment (e.g., equipment required for entry and exit) VII. Rescue procedures VIII. Coordination of work activities		
Comments/Deficiencies: **Report all deficiencies in worker deficiency checklist**			

DO NOT commence work if you notice something is wrong - Contact supervisor/manager immediately.

Manure Pit Assessment

Manure Storage and Handling

Company Name:	Prepared By:
Location:	Date:
Assessment	
Type of manure pit (e.g. outside, under barn) and size:	
Construction (e.g. dirt/clay, cement):	
Location of manure pit/pumps/channels/drop slots:	
Any low spots or building close to the manure pit that could result in H2S settling?	
Method of manure spreading (e.g., underground pipes, truck, drag lines etc...)	
Type of manure pit safeguarding (e.g., berm, fence, lock blocks)	
Wind sock/flag in place? Locations?	
Notes:	

Employee Check-off

Company Name:				Workplace Location:		
Task, Job Title or Equipment Used: Manure Storage and Handling						
Employee	Date	RA Reviewed	SWP Reviewed	Competency Determined	First Supervisor Note Following Instruction (Include Date)	Supervisor Signature

*Check off RA and SWP columns after reviewing with the worker

**Ensure worker is supervised after being deemed competent

Every year, workers are accidentally exposed to unsafe levels of hydrogen sulfide (H₂S), also called sour gas, sewer gas, stink damp, and hydrosulphuric acid. H₂S can be deadly; too much of the gas can kill a worker in a few seconds.

This document describes the dangers of H₂S in the workplace, and how to avoid them. It also explains how to recognize and prevent H₂S poisoning, and the type of first aid to give to people overcome by the gas.

What is hydrogen sulfide?

H₂S is a very toxic gas. It has no colour, but it smells like rotten eggs. In larger amounts, H₂S quickly blocks the sense of smell. That is why odour should never be used to rate H₂S levels.

The gas can irritate the eyes, nose, throat, and lungs. Too much H₂S can halt the breathing centre in the brain, which can cause death. It may be possible to revive the victim, but only if first aid is given right away.

H₂S dissolves in water and oil, and it may be released when these liquids are heated, depressurized, or agitated.

Because H₂S is heavier than air, it may settle in low spots. This can pose risks when entering areas where the gas may be present.

H₂S burns and explodes easily. When it burns, H₂S gives off sulphur dioxide, another dangerous gas that is toxic, strong smelling, and irritating.

Where is H₂S found?

H₂S is often found in oil and natural gas deposits, and in some mineral rock. It may also form when organic material such as manure or vegetable matter breaks down without oxygen. This may happen, for example, with sewage in a septic tank. H₂S is often a by-product in the making of pulp and paper, fertilizers, glues, dyes, plastic wrap, and other products.

Workers are likely to find H₂S in:

- The pulp and paper industry, where H₂S is a by-product of wood breaking down into pulp
- The petroleum industry, especially at oil and natural gas wells; in refineries, where H₂S is removed from natural gas and oil; and in pipelines used to carry unrefined petroleum
- The construction industry, where H₂S could be released during excavation work in swamps or old landfills
- Sewers, sewage treatment plants, manure tanks, and other places where organic material breaks down without oxygen
- Iron smelters, coke ovens, and other places where H₂S may be a by-product
- In some mines and tunnels where mineral rock may contain H₂S

H₂S warning signs

With high levels of H₂S, poisoning can be swift and deadly — with little warning. A worker who is not wearing protective equipment may pass out quickly. The body may tremble, and death may follow in seconds or minutes as a result of breathing failure.

At lower levels of the gas, the following symptoms may appear a few minutes after exposure, or be delayed for several hours:

- *Eye irritation* — soreness, light sensitivity, seeing “rainbows” around bright lights, or a gritty pain with a spasm of the eyelids known as “gas eye”
- *Breathing irritation* — sore nasal passages; sore throat; a tight, burning feeling in the chest; or fluid buildup in the lungs
- *Other symptoms* — headache, confusion, nausea, disorientation, or vomiting

H₂S incident

An oil worker operating a valve collapsed when exposed to H₂S. The foreman tried to rescue him and was overcome, as was a third rescue worker. Neither of the would-be rescuers had gas monitors or wore respiratory protection. Remaining crew members wearing self-contained breathing apparatus finally removed the injured workers from the area. The third worker was revived, but the first worker and the foreman died.

The following table describes the symptoms that may occur at specific H₂S levels.

H₂S warning signs

Concentration in parts per million (ppm)*	Observations and health effects
Less than 1	Most people smell "rotten eggs."
3 to 5	Odour is strong.
20 to 150	Nose and throat feel dry and irritated. Eyes sting, itch, or water; and "gas eye" symptoms may occur. Prolonged exposure may cause coughing, hoarseness, shortness of breath, and runny nose.
150 to 200	Sense of smell is blocked (olfactory fatigue).
200 to 250	Major irritation of the nose, throat, and lungs occurs, along with headache, nausea, vomiting, and dizziness. Prolonged exposure can cause fluid buildup in the lungs (pulmonary edema), which can be fatal.
300 to 500	Symptoms are the same as above, but more severe. Death can occur within 1 to 4 hours of exposure.
Above 500	Immediate loss of consciousness. Death is rapid, sometimes immediate.

* 1 ppm = 1 part of gas per million parts of air by volume

H₂S levels of 100 ppm and higher are considered immediately dangerous to life and health (IDLH).

Besides its poor warning properties, H₂S is so dangerous because the level that can kill is much lower than that of many other toxic gases. That is why workers must be very careful when they encounter H₂S.

Workers usually recover quickly and completely from minor symptoms of H₂S poisoning. In fact, low doses of the gas (for example, less than 10 ppm) have not been shown to cause lasting harm. H₂S is not known to cause cancer.

Detecting hydrogen sulfide

As a rule, if you smell H₂S, and don't know how much of the gas is in the air, leave the area right away. Return only when the amount of the gas has been measured and found to be at a safe level.

Never use odour to assess H₂S levels. Tools for measuring H₂S levels include the following:

- *Gas detector tubes* — These clear tubes are about the size and shape of a ballpoint pen, and can be read much like a thermometer. The tube contains a material that may change colour when it reacts with air drawn through it by a small hand pump. The amount of colour change depends on the H₂S level.
- *Passive dosimeters and badges* — These monitors range in size from a watch to slightly larger than a credit card. They can be worn like a badge or placed in a specific location. They contain a material that reacts with the gas in the air to produce a colour change. The colour changes over time to show the total H₂S exposure of workers over a specified time period.
- *Electronic detectors* — These range from small personal samplers to large, stationary monitors. A display screen shows the gas level. When H₂S levels exceed a set limit, these detectors sound an alarm, flash a light, or vibrate.

Exposure limit

Employers must ensure workers are not exposed to H₂S levels above the occupational exposure limit (OEL). The OEL is the level of an airborne substance that workers may be exposed to without wearing protective equipment, and without normally suffering adverse health effects.

In British Columbia, the OEL for H₂S is a *Ceiling Limit (not to be exceeded)* of 10 ppm. At levels above this ceiling, only workers who are trained in the hazards of H₂S and are wearing required protective equipment may enter the work area. If an H₂S leak occurs, the area must be evacuated; only workers wearing appropriate protective equipment may enter to correct the problem.

H₂S incident

Workers complained of a rotten-egg smell, dizziness, and nausea while working in an excavation along the waterfront. H₂S had been released when workers drilled anchor holes in the excavation. The gas concentration was as high as 100 ppm (IDLH) near the holes.

Employer responsibilities

Employers must develop and implement an effective exposure control plan (ECP), which includes training workers and supervisors in relevant sections of the plan.

An effective ECP for any workplace where workers are exposed to H₂S must include:

- A written policy that:
 - States the employer's commitment to health and safety
 - States the plan's objectives
 - Defines the responsibilities and roles of the employer, supervisors, and workers
- An assessment of the workplace hazards (for example, where workers are likely to be exposed to H₂S)
- Controls used to reduce the hazards (for example, ventilation, barriers, or personal protective equipment)
- Written safe work procedures and emergency response procedures (for example, rescue procedures)
- Monitoring for H₂S (for example, when, where, and how monitoring devices such as dosimeters or personal monitors will be used in the workplace)
- Training for supervisors and workers
- Records and statistics (for example, first aid records for workers "knocked down" by H₂S)

Worker responsibilities

Workers also have responsibilities to help reduce the risk of exposure to H₂S. Workers (including subcontractors) must:

- Attend education and training sessions provided by the employer
- Use controls and follow safe work practices outlined in the ECP
- Use available personal protective equipment (for example, self-contained breathing apparatus) and personal monitors, as required
- Know how to report exposure incidents

Breathing protection

In areas with high H₂S levels or where an H₂S leak has occurred, workers must wear one of the following two types of breathing protection:

- *Positive-pressure, self-contained breathing apparatus (SCBA)* — This consists of an air cylinder, which is normally worn on the back, and a full-face mask to protect the eyes and face. A hose connects the face mask to the regulator and the air cylinder. "Positive pressure" means that the air pressure in the mask is higher than the air pressure outside the mask. This reduces the chance of toxic gases entering the face piece.
- *Positive-pressure, supplied-air (airline) respirator* — This consists of an airline attached to a regulator and a full-face mask. The worker must also wear an "escape" air bottle to allow escape if the air supply is cut off.

Workers who use respirators must be clean shaven where the respirator seals with the face. This helps provide a good seal that keeps harmful gases out.

Air-purifying respirators (APRs) should not be used where H₂S levels are above the 10 ppm Ceiling Limit. These respirators — when fitted with the appropriate acid-gas cartridges — may be used for escape only.

The protection factor of APRs, with the proper filter cartridges, can approach or exceed the IDLH for H₂S (100 ppm). Concentrations above the IDLH can quickly block a worker's sense of smell, so the worker would not be able to smell the gas if it seeped in around the respirator seal or penetrated through the filters. If APRs are used, the employer must guarantee that the H₂S levels will not approach the IDLH. Other workplace requirements (e.g., specific employer- or industry-related restrictions) may prohibit the use of APRs with H₂S.

At sites with a high risk of exposure, workers must have easy access to escape respirators, or must carry them while working. An SCBA must be used for escape where workers might have to flee from high H₂S levels or over long distances where escape air-purifying respirators would not provide enough protection.

First aid and rescue

If H₂S causes the eyes to sting, itch, or water, see the first aid attendant. Flush the eyes with lukewarm water immediately, for at least 30 minutes. If the eyes keep itching, see a doctor as soon as possible.

If a worker is overcome by H₂S:

- To attempt a rescue in an area with high H₂S levels, wear only a positive-pressure, self-contained breathing apparatus (SCBA), or a full-face, supplied air (airline) respirator with an “escape” air bottle.
- Move the worker to fresh air and give oxygen, if available.
- If the worker is having trouble breathing or is not breathing, start assisted ventilation using a pocket mask, and add oxygen to the mask if available. If the worker has no pulse, begin cardiopulmonary resuscitation (CPR). Because the body rids itself of H₂S if removed from the exposure, it is critical to continue to give the worker assisted ventilation with oxygen until medical aid arrives.

Transport the worker to the nearest hospital as soon as possible.

H₂S risk factors

The following factors may increase the risk of workers being exposed to unsafe levels of H₂S:

- *Confined spaces* — Workers who enter a confined space such as a sewer or tank could be overcome by H₂S.
- *Smoking and other ignition sources* — H₂S explodes easily near lit matches, cigarettes, pipes, and other sources of spark or intense heat. The gas can explode when its concentration in the air ranges from about 4% (40,000 ppm) to 46% (460,000 ppm).
- *Worker attitude* — Workers are more likely to be harmed if they don't know the hazards of H₂S, or if they're so used to working with H₂S they become lax about safety.
- *Still air* — The gas can build up to unsafe levels if there is no breeze or air movement.
- *Contact lenses* — Workers who are exposed to H₂S should be aware that wearing soft contact lenses may pose a risk. Soft contact lenses may absorb irritants and hold irritants such as H₂S against the eye.

Reducing the H₂S risk

The risk of unsafe levels of H₂S can be reduced with the following controls:

- *Engineering* — Where practical, install effective exhaust ventilation.
- *Isolation controls* — Isolate workers from dangerous work areas.

- *Regular maintenance* — To lessen the risk of leaks, regularly check pipes, valves, tanks, and containers of dangerous gases and liquids.
- *Education* — Workers must be taught how to prevent and recognize H₂S poisoning, and how to give first aid to those overcome by the gas. Workers must be taught — and practice — how to use protective breathing equipment.
- *Monitoring* — H₂S levels must be monitored where there is a risk of H₂S exposure.
- *Labelling and posting* — Where H₂S is used, collected, or produced, all piping and valves that carry the gas must be clearly identified. Workers must also have easy access to the material safety data sheet (MSDS) for H₂S. Wherever an H₂S leak or buildup is possible, warning signs bearing “Hydrogen Sulfide” plus precautions must be posted just outside or at the entrances to the area.
- *Emergency plans* — Where H₂S is used, employers must train workers in H₂S hazards, emergency procedures, escape routes, and the location of emergency equipment and safe areas.
- *Confined space precautions* — Confined spaces must be tested, ventilated, and confirmed safe before workers enter them.
- *Proper storage* — Keep cylinders containing H₂S clean, isolated, shaded, and in a ventilated area. In case of fire, remove the cylinders (if it is safe to do so) and cool with water.

H₂S incident

Two workers were asked to investigate an H₂S leak of unknown origin or strength in a “suspect” building. Without respiratory protection, the workers entered the building to conduct air quality tests. One worker's personal H₂S alarm went off at the entrance to the building, and both workers left the area. One worker returned with a monitor on a broom handle and measured 250 ppm H₂S (more than twice the IDLH) in the problem area. Both workers sought medical attention.

Risk Assessment

Working with Dead Animals

Company Name:		Workplace location:	
		Workplace Risk Level:	
Prepared by:		Date:	
Tasks / Activities	Hazard	Risk Level	Control Measures
Approaching downed animal	Animal not dead, struck by injured animal	High	- Do not approach alone - Ensure all workers know animal is injured and not deceased - Notify Veterinarian (if available) - Do not assume every downed animal will be deceased (approach from the back side and confirm animal is dead prior to handling)
Handling dead animals	Exposure to Zoonotic disease	Moderate	- Don all appropriate PPE prior to handling any dead animal (ensure worker has been instructed on how to use PPE properly) - Avoid close contact with others that have been handling dead animals - Changes gloves frequently - If clothes have become soiled, change frequently - Identify where and how to use eye wash stations - Treat standing water the same as a dead animal as it may contain pathogens from many dead animals - Wash hands frequently - Changes clothes/PPE when moving from one area to another - Ensure contaminated clothing is disposed of/laundered properly to avoid cross contamination - Do not interact with live animals after handling dead animals - Do not stand downwind of dead animal storage area (keep this in mind when identifying where dead animals will be stored prior to removal from site)
	Punctures from broken bones	Moderate	- Assess animal prior to moving - Look for exposed wounds – do not grab animal by exposed wound - Use mobile equipment to move animals whenever possible and available - Assess animal prior to slinging to identify any exposed wounds or broken bones sticking out
	MSI from handling large animals	Moderate	- Utilize multiple workers for large animals - Utilize mobile equipment whenever possible - Utilize proper lifting technique - Assess site prior to moving animal and while working with the animal as site changes and hazards present can change quickly - Warm up/stretch prior to moving animals
Post handling of dead animals	Exposure to Zoonotic disease	Moderate	- Ensure worker is aware of all signs and symptoms of zoonotic disease - Document where, when and types of animals the worker has been handling (including all types of pathogens – sewer, manure pits etc.) - Seek medical help without delay (inform site owner, supervisor that you are seeking medical help)

Safe Work Procedure

Working with Dead Animals

Safe Work Procedure			
Company Name		Workplace Location:	
Safe Work Procedure: Working with Dead Animals		Safe Work Procedure #:	
Release Date:		Revision Date:	
Date of Approval:		Management Signature:	
This safe work practice must be reviewed annually or any time the task, equipment, or materials change.			
DO NOT perform this procedure until you have been appropriately trained and authorized to do so by your supervisor.			
Required Training: Zoonotic disease awareness			
Required Personal Protective Equipment			
	Eye Protection Required		Dedicated Pair of Coveralls Required
	Face-Shield Recommended		
	CSA Approved Safety Footwear Required		
	Latex or Nitrile Gloves Required		
	Approved Mask is Required		
Potential Hazards: Infectious disease associated with carcass; sharp bone fragments protruding from carcass; cuts from any cutting implements used; overwhelming noxious odor due to decomposing carcass; carcass located in dangerous, hard to access terrain.			
Pre-Operational Safety Checks: Ensure all PPE and equipment is accounted for before heading into the field; if attending carcass alone - ensure working alone SWP is in place; make sure proper footwear and attire is chosen (this will depend on the weather, location of the carcass and the means of accessing the carcass – by foot or vehicle).			

Safe Work Procedure

Working with Dead Animals

Safe Work Procedure

Before you Start

1. Inspect required personal protective equipment and replace if required.
2. Put on all required personal protective equipment.
3. If attending carcass alone, ensure working alone SWP is in place.

While you're Working

1. Perform rigorous survey of the area surrounding the carcass to determine if hazards are in the area.
2. Make sure all cuts and scrapes on your hands and arms are properly covered before touching dead animal.
3. A number of zoonotic diseases can be present in BC cattle (Anthrax, Brucellosis, Cryptosporidiosis, *Campylobacter* enteritis, *E. coli*, *Giardia lamblia*, Leptospirosis, Listeriosis, Pseudocowpox, Q Fever, Rabies, Ringworm, Salmonellosis, Tuberculosis, Vesicular Stomatitis, Mycobacteriosis) thus specific measures must be implemented to safeguard against disease transmission from cattle to humans.
 - a. Always use properly fitting, disposable, single use latex or nitrile surgical gloves (good practice would see gloves in all sizes stocked so that in the event of having a helper, proper fitting gloves can be provided).
 - b. Change gloves frequently, if working around broken bone fragments consider wearing multiple pairs of gloves.
 - c. Having a designated pair of necropsy coveralls is an excellent way to reduce the transfer of potentially infectious biological material.
 - d. Bloated cows can rupture without notice or upon onset of necropsy; facemasks and protective eyewear, including face shields, should be used in these circumstances.
 - e. Vigorous hand washing (or use of hand sanitizer) is one of the most effective tools against the transmission of disease and should be performed often.
4. Remain vigilant to changing hazards and other livestock in the area.

After you Finish

1. Try to keep dead animals away from health animals to avoid potential disease transfer.
2. Place all disposable surgical gloves and face masks in biohazard bag for appropriate disposal, remove footwear and coveralls and wash appropriately, wash all instruments (knives, saws, axes etc...).
3. Make sure all cleanups are performed before moving to a new location to reduce the transfer of disease from one area to another.

If an emergency situation occurs while conducting this task, contact your supervisor or appropriate emergency personnel

REPORT ANY HAZARDOUS SITUATION TO YOUR SUPERVISOR, MANAGER OR EMPLOYER IMMEDIATELY

Safe Work Procedure

Animal Handling – Zoonosis

Protection from Disease

Diseases that affect humans, and that are transmitted by animals are called “zoonotic diseases” or simply “zoonosis.” You can be exposed to zoonotic diseases in a variety of ways:

- Direct contact with animal blood, urine, or feces, if splashed in your eyes, nose, or mouth
- Introduction into your bloodstream through cracked skin or open cuts
- Inhalation of dust or micro-organisms in the air
- Transmission from an infected animal to a human by the bite of a fly, mosquito, tick, or flea.

In Canada, some of the zoonotic diseases that can affect workers handling animals are:

- ***Salmonella*** (a gastro-intestinal illness, caused by oral contact with bacteria)
- Cryptosporidiosis (a gastro-intestinal illness, caused by oral contact with micro-organisms in feces)
- ***Leptospirosis*** (a potentially severe illness, caused by direct contact of bacteria-infected urine with broken skin, mucous membranes, or the mouth)
- ***Q Fever*** (a flu-like illness, caused by inhaled contact with coxiella, a type of bacteria)
- Hantavirus Pulmonary Syndrome (a potentially severe lung disease, caused by airborne contact with a virus in the dust of infected mouse droppings and urine)
- ***Tetanus*** (a potentially severe illness, caused by bloodstream contact with bacteria in soil contaminated by animal feces)
- ***Anthrax*** (three types) (Cutaneous anthrax: black, coal-like skin lesions, Pulmonary anthrax: severe breathing problems and shock and fever, and Gastrointestinal tract anthrax: vomiting, diarrhea, weakness, and other gastrointestinal problems).
- ***Brucellosis*** (undulating fever, weakness, headache, joint pain, and night sweats).
- ***Dermatophilosis*** (sores that form ulcers, often resulting in scarring)
- ***Escherichia coli (E. coli)*** (O157:H7 - abdominal cramping, bloody diarrhea, and occasionally, especially in young children and the elderly, life threatening kidney disease and a hemolytic uremic). syndrome)
- ***Giardia lamblia*** (diarrhea and abdominal cramping).
- ***Listeriosis*** (individuals who are immunosuppressed, pregnant, or taking antacids are at increased risk of acquiring infection. Abortions and septicemia (blood poisoning).
- ***Pseudocowpox*** (develop painful scabby sores on the hands and arms).
- ***Rabies*** (general weakness or discomfort, fever, or headache. Rabies is almost always fatal once clinical signs are evident).
- ***Ringworm*** (itchy areas on the skin that are round and irritated).
- ***Tuberculosis*** (develop symptoms involving the lungs, kidneys, spine, or brain. Persistent cough and often cough up blood)
- ***Vesicular stomatitis*** (develop flu-like symptoms and occasionally develop blisters in their mouth and on their hands).

Safe Work Procedure

Animal Handling – Zoonosis

Safe Work Practice

- Assume that any type of body fluid from dairy animals may be carrying a zoonotic disease.
- As much as possible, use personal protective equipment (PPE).
- Use a particle-filtering (HEPA) dust mask or respirator when sweeping or stirring up loose dirt and dust.
- Always use disposable latex rubber or nitrile (synthetic rubber) gloves if your skin is cut or chapped.
- Change saturated or badly soiled work clothes as soon as you can.
- Supplies of all items of personal protective equipment (goggles, masks or respirators, gloves, and so on) should be readily available and in good condition. Half-face respirators must be properly fitted to be effective.
- Anyone working on a dairy farm should be hand-washing frequently: before and after using the toilet; before eating or taking a break; and after any contact with the animals. Paper towels, non-irritating soap, and nailbrushes should be in good supply at all sinks.
- If an eyewash station is available in the barn or dairy, take a few minutes to learn how to use it. One type of eyewash station is a small wall-mounted kit, with a specially- designed bottle of sterile liquid and a chart that demonstrates its use. Another type is a simple switch on some types of sink faucets, that directs two streams of water upward to allow a good continuous flushing of the eyes.
- A simple route of infection is on contaminated work clothing. Use a storage area outside of the house for work clothes, dirty boots, gloves, and other gear. These should be taken off and dried for future use, or set aside for separate laundering with plenty of hot water and bleach.
- Take seriously any symptoms of disease infection. If you notice any unusual symptoms, get a medical check-up without delay. (Make sure that the doctor is aware of your work on a dairy farm as a possible exposure to zoonotic disease.) Here are some symptoms to be aware of:
 - Chronic coughing, difficult or painful breathing.
 - Prolonged fever, night sweats.
 - Unexplained skin rashes or sores.
 - Prolonged intestinal problems, diarrhea, or abdominal cramping.

Additional Safe Work Procedure Notes:

Disclaimer: This resource is intended for guidance and employers are advised to customize this document or design their own to meet their business needs and legal obligations. Once customized from its original content this disclaimer may be removed to function as part of your Safety Program. This resource does not relieve persons using it from their responsibilities under applicable legislation. If you need assistance contact us at www.AgSafeBC.ca

Competency Checklist

Handling Dead Animals

Worker Name:		Evaluator:		
Date:		Company Name:		Location:
Step	Activity	Pass	Fail	
1	Worker is aware of zoonotic diseases and how they can transmit between animals and humans			
2	Worker can identify and knows how to use eye wash facilities in the event of animal fluids being splashed onto their face/eyes			
3	Performs rigorous survey of the area surrounding the carcass to determine if hazards are in the area.			
4	Ensures all cuts and scrapes on hands and arms are properly covered before worker touches dead animal.			
5	Uses properly fitting, disposable, single use latex or nitrile surgical gloves and changes clothes frequently			
6	Facemasks and protective eyewear, including face shields are utilized when risk of bloated animals rupturing exists			
7	Workers demonstrates proper hand washing technique and hand sanitizing technique			
8	Worker is aware that they need to keep dead animals separate from live animals to avoid disease transmission			
9	Workers know where to place all disposable surgical gloves and face masks (biohazard bag for appropriate disposal)			
10	Ensures all cleanups are performed before moving to a new location to reduce the transfer of disease from one area to another.			
11	Worker is aware of any potential symptoms of disease infection and what to do if symptoms are present			
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Employee Check-off

[illegible]

***Check off RA and SWP columns after reviewing with the worker**

****Ensure worker is supervised after being deemed competent**

Risk Assessment

Access To and Around Site

Company Name:			Workplace location: Workplace Risk Level: High
Prepared by:			Date:
Tasks / Activities	Hazard	Risk Level	Control Measures
Entering site (First time)	Debris, sink holes, flowing water, downed electrical lines	High	• Never enter a natural disaster impacted site alone, ensure multiple workers are with you • Ensure proper PPE is worn (water proof boots and waders) • Ensure at least one worker remains at the entrance to the facility • Remain in contact with all workers at all times when initial assessment is being performed • Worker check ins are to be performed continually when workers are on site • Muster point location must be determined prior to workers entering site • Develop strategy prior to entering impacted lands (looking for downed power lines, turning off power, gas etc., looking for livestock, feed) • Do not enter any structures until an assessment can be performed • Ensure all workers are given tasks to complete, do not let workers go in with no plan • Develop system for identifying/tagging/documenting dangerous areas of the farm that can be relayed to all workers after assessment is complete
Working in site (on foot)	Loose livestock	High	• Experienced livestock handlers only as animals will be unpredictable and traumatized • Assess every animal prior to approaching • Utilize multiple workers per animal if possible • Clear animals closest to staging area first and work back to the furthest animals
	Moving water/debris	High	• Ensure proper PPE is worn (water proof boots and waders) • Continually watch for changing water levels • Continually watch local EOCs for changes to evacuation alerts/orders or water levels • Stay in contact with all workers on site • Workers are assigned their tasks/areas and do not deviate from these (to ensure supervisors can keep track of where and what workers are doing at all time) • Ensure all workers are aware of muster point locations and emergency evacuation procedures
	Unstable structures	High	• Do not enter any unstable structure, identify/document and relay information on to supervisors, first responders or emergency personnel to deal with

Risk Assessment

Access To and Around Site

Working in site (mobile equipment)	Moving water/debris/ unstable structures	High	• Experienced operators of mobile equipment only • See above "Working in site (on foot)"
	Unstable ground	High	• Ensure all equipment is fully serviced and has been maintained as per manufacturers protocols so that the equipment does not become a hazard to the operator or other workers • Heavy equipment may destabilize ground more than people moving, take extra care/time when accessing areas for the first time. • Utilize spotters to watch for evolving hazards in the work area • Watch fuel levels to ensure equipment does not run out of fuel while working

Safe Work Procedure

Access To and Around Site

Safe Work Procedure			
Company Name:		Workplace Location:	
Name of Safe Work Procedure: Access to and around site		Safe Work Procedure #:	
Release date:		Revision Date:	
Date of approval:		Management Signature:	
This safe work procedure must be reviewed annually or any time the task, equipment or materials change.			
DO NOT perform this procedure until you have been appropriately trained and authorized to do so by your supervisor			
Required Training: Information and education package must be reviewed with worker prior to entering natural disaster impacted site			
Required Personal Protective Equipment and Devices:			
	Eye Protection Required		Approved Dust Mask Required
	Face-Shield Required		Long or loose hair must be tied back or contained
	CSA Approved Safety Footwear Required		No jewelry, watches, rings, necklaces etc.
	Hearing Protection Required		
	Define type Gloves Required		No loose fitting clothing
	Protective Clothing Required		
	NIOSH Approved Respirator Required		
Potential Hazards: Fast moving water, debris in water, sink holes, rapidly changing ground conditions, unstable buildings, injured/sick/dead/scared animals, fire, downed electrical lines			
Pre-Operational Safety Checks: Ensure communication devices are fully charged and operational, establish muster point location, check with local EOCs for any changes to alerts/orders or pertinent weather/natural disaster related information.			

Safe Work Procedure

Access To and Around Site

Safe Work Procedure

Before you Start

1. Inspect required personal protective equipment and replace if required.
2. Put on all required personal protective equipment.
3. Remain in contact with all workers on site at all times, check ins are mandatory
4. Ensure workers know the emergency site evacuation commands and procedures

While you're Working

First Time Entering Site

1. Never enter a natural disaster impacted site alone, ensure multiple workers are with you
2. Ensure at least one worker remains at the entrance to the facility
3. Remain in contact with all workers at all times when initial assessment is being performed
4. Worker check ins are to be performed continually when workers are on site
5. Determine muster point location prior to workers entering site
6. Develop strategy prior to entering impacted lands (looking for downed power lines, turning off power, gas etc., looking for livestock, feed)
7. Do not enter any structures until an assessment can be performed
8. Ensure all workers are given tasks to complete, do not let workers go in without a plan
9. Develop system for identifying/tagging/documenting dangerous areas of the farm that can be relayed to all workers after assessment is complete

Working on site (on foot)

1. When working with animals ensure they are experienced livestock handlers only as animals will be unpredictable and traumatized
2. Assess every animal prior to approaching
3. Utilize multiple workers per animal if possible
4. Clear animals closest to staging area first and work back to the furthest animals
5. Keep appropriate separation between livestock that is alive and dead (possible disease transmission)
6. Ensure proper PPE is worn (water proof boots and waders)
7. Continually watch for changing water levels
8. Continually watch local EOCs for changes to evacuation alerts/orders or water levels
9. Stay in contact with all workers on site
10. Workers are assigned their tasks/areas and do not deviate from these (to ensure supervisors can keep track of where and what workers are doing at all time)
11. Ensure all workers are aware of muster point locations and emergency evacuation procedures
12. Do not enter any unstable structure, identify/document and relay information on to supervisors, first responders or emergency personnel to deal with

Working on site (mobile equipment)

1. Experienced operators of mobile equipment only
2. Ensure all equipment is fully serviced and has been maintained as per manufacturers protocols so that the equipment does not become a hazard to the operator or other workers

Safe Work Procedure

Access To and Around Site

3. Heavy equipment may destabilize ground more than people moving, take extra care/time when accessing areas for the first time.
4. Utilize spotters to watch for evolving hazards in the work area
5. Watch fuel levels to ensure equipment does not run out of fuel while working

After you Finish

1. Dispose of/clean all PPE appropriately and launder all clothes that been soiled while working in flood waters
2. Discuss any issues with PPE, hazards on site and/or training requirements with your supervisor

If an emergency situation occurs while conducting this task, or there is an equipment malfunction, shut the equipment off immediately and follow the lock out procedure.

REPORT ANY HAZARDOUS SITUATION TO YOUR SUPERVISOR/MANAGER OR EMPLOYER IMMEDIATELY

Employee Check-off

Company Name:			Workplace Location:		
Task, Job Title or Equipment Used: Access To and Around Site					
Employee	Date	RA Reviewed	SWPs Reviewed	First Supervisor Note Following Instruction (Include Date)	Supervisor Signature

*Check off RA and SWP columns after reviewing with the worker
**Ensure worker is supervised after being deemed competent

Risk Assessment

Slips, Trips and Falls

Company Name:			Workplace location: Varied: farm yards, barns, fields
Prepared by:			Date:
Tasks / Activities	Hazard	Risk Level	Control Measures
First Access to flood impacted site	Uneven surfaces, debris, sink holes	High	• Never enter a natural disaster impacted site alone, ensure multiple workers are with you • Ensure proper PPE is worn (water proof boots with good ankle support and waders) • Ensure at least one worker remains at the entrance to the facility • Remain in contact with all workers at all times when initial assessment is being performed • Develop system for identifying/tagging/documenting dangerous areas of the farm that can be relayed to all workers after assessment is complete
Working on flood impacted site	Uneven surfaces, debris, sink holes	Moderate	• Ensure proper PPE is worn (water proof boots with good ankle support and waders) • Remove/remedy tripping hazards as they are identified • Watch for changes in the weather (increased rain) that could impact the grounds being worked on
Working on mobile equipment and vehicles	Slip on surface stepping down to. Slip or trip on uneven terrain, varied surface materials, ice, loose sand, rocks, ruts	Moderate	• Pay attention to the surface you are stepping onto, do not "leap" off the unit or out of the vehicle, be alert to ground conditions upon which you will step, ice, snow, water, loose gravel, ruts ridges, step over or around objects when able
Work on ladder, low elevation not requiring fall protection / prevention	Fall from low elevation, trip or slip on ground at base of ladder, slip when stepping off ladder, debris on ladder rung, fall due to items in hands, uneven balance of object in hand	Moderate	• Ensure ladder is in good condition prior to use, ladders must be inspected, step onto the ladder using all steps, 3 points of contact at all times, do not over reach, get down and move the ladder as necessary, ensure solid footing and placement of ladder prior to ascending, have a holder/helper when and where possible, do not carry things on the ladder that negate the ability to maintain 3 points of contact, if working alone ensure work alone plan is activated, use appropriate footwear for the task, • When placing ladder on flood impacted ground, double check for stability • Do not place ladders on areas that may have been undercut by flood waters (around buildings, ditches, creek/river banks etc.

Risk Assessment

Slips, Trips and Falls

Working in office or interior of administrative buildings/settings	Tripping on materials, cords, discarded items on floors, Slipping on wet or dirty surfaces	Moderate	• When entering flood damaged buildings expect an abundance of tripping hazards • Pick up/move tripping hazards as they are identified, do not walk over them as this may present a hazard to other workers • Work systematically from the entrance clearing debris from main walkways (to electrical panels, gas shutoffs etc.) before branching off into rooms • Ensure that cords are not in travelled pathways, if they must be, ensure that they are taped down or a cord covering device is used. • Keep floors clean and free of tracked in dirt, gravel, fluids, or spilled substances (Refer to SDS prior to cleaning up) clean up immediately • Keep chairs out of travelled walking paths. • Pick up paper or other items that fall to floor • Do not use inappropriate items to stand on to reach shelves or things.
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Safe Work Procedure

Slips, Trips, and Falls

Safe Work Procedure			
Company Name:		Workplace Location:	
Name of Safe Work Procedure: Slips trips and falls		Safe Work Procedure #:	
Release Date:		Revision Date:	
Date of Approval:		Management Signature:	
This safe work procedure must be reviewed annually or any time the task, equipment or materials change.			
DO NOT perform this procedure until you have been appropriately trained and authorized to do so by your supervisor			
Required Training:			
Required Personal Protective Equipment and Devices: Warm/waterproof clothing/boots required, other PPE will be dictated by the task being performed			
	Eye Protection Required		Approved Dust Mask Required
	Face-Shield Required		Long or loose hair must be tied back or contained
	CSA Approved Safety Footwear Required		No jewelry, watches, rings, necklaces etc.
	Hearing Protection Required		Gloves must not be worn when operating this equipment
	Define type Gloves Required		No loose fitting clothing
	Protective Clothing Required		
	NIOSH Approved Respirator Required		
Potential Hazards: Debris, holes, moving water,			
Pre-Operational Safety Checks:			

Safe Work Procedure

Before you Start

1. Inspect required personal protective equipment and replace if required.
2. Put on all required personal protective equipment.

While you're Working

Flooding Conditions:

1. Before entering any flooded area, complete a risk assessment for depth of water. Be aware of and familiar with the ground conditions before flooding (if it is dirt, concrete, any areas of standing water such as manure pits).
2. All personnel to be wearing life jackets, drowning can happen at any time in minimal water levels
3. Water proof clothing to be worn. Ensure clothing is not tucked into boots or worn in a way that could cause weighing down if filled with water.
4. Do not place yourself in areas with fast running water due to high risk of being knocked off your feet
5. Continually watch for symptoms in yourself and others for cold stress/hypothermia

Ground & Weather Conditions:

1. Work is often required on uneven ground, ground with changing weather or environmental considerations.
2. Be alert to and adjust for the terrain, ice, snow, loose pebbles, gravel, rocks, ruts, ridges, uneven surfaces
3. Wear appropriate and required/regulated footwear
4. Avoid distractions like, phones, food, conversations, "day dreaming" when working on these types of surfaces. Pay attention and watch where you are going.
5. Be alert to ground and floor changes on the walking route or in the workspace
6. Clean up debris
7. Avoid puddles, clean up spills (Refer to SDS prior to cleaning up)
8. Do not clutter the workspace or create a tripping or slipping hazard by where you place any item, tool, or work-related object within the workspace
9. Keep pathways clear and clean, free of clutter and debris, tools work items.
10. Report unsafe ground, workspace, or floor conditions.
11. Inspect work surface areas and buildings where workers traverse or engage in a work activity
12. Identify areas that have items placed where they usually might not be expected to be found. Mark or restrict access to the area until the floor or workspace surface returns to normal.

Tractors, Mobile Equipment & Vehicles:

1. When and where possible use 3 points of contact when mounting or dismounting
2. Be aware of the surface you are stepping down or onto, adjust for weather and ground conditions.
3. Do not "leap" off mobile equipment or from vehicles.

Ladders: (This does not apply to ladders or working at elevations of more than 10 feet)

1. SEE YOUR SUPERVISOR PRIOR TO WORKING AT HEIGHTS
2. Use only approved and inspected ladders
3. Ensure solid and correct positioning of ladders
4. Do not exceed ladder specifications for weight or height
5. Never use the top of the ladder as a step
6. Do not overburden yourself with items or objects when going up or down on the ladder
7. Never overreach, get down and move the ladder
8. Be aware of the surface conditions upon which you have set the ladder
9. Activate the site working alone plan if you are working alone or in isolation

Stairs:

1. Inspect all stairways as part of regular inspections
2. Replace damaged or worn boards
3. Repair immediately protruding nails or screws
4. Balance loads when traversing stairs
5. Never overload yourself when traversing stairs
6. Stay focused and attentive when going up and down stairs, avoid distractions like phones and food

After you Finish

1. If you are unable to fix tripping hazard on your own, report issue to supervisor

If an emergency situation occurs while conducting this task, or there is an equipment malfunction, shut the equipment off immediately and follow the lock out procedure.

REPORT ANY HAZARDOUS SITUATION TO YOUR SUPERVISOR/MANAGER OR EMPLOYER IMMEDIATELY

Competency Checklist

Slips, Trips and Falls

Company Name:		Workplace Location:	
Worker Name:		Evaluator:	
Date:		Location:	
Step	Activity	Pass	Fail
1	Puts on all required personal protective equipment (including warm/waterproof clothing and boots)		
2	Ensures working alone protocol is implemented and check ins are occurring as defined in the working alone program		
3	When entering a flood impacted area for the first time, worker understands that extra caution is utilized		
4	Cells phones are utilized for worker check ins and reporting issues to supervisors, worker does not use cell phone for personal reasons while in the field		
5	Tripping hazards that can be remedied are, hazards that require more help are documented and reported to supervisor		
6	When worker is using mobile equipment, they use 3 points of contact on to and off of equipment (face on, face off)		
7	Prior to entering and exiting mobile equipment, worker assesses ground by entry/exit point for tripping hazards		
8	When worker is using ladders, only approved and inspected ladders are utilized		
9	Prior to setting up ladder, the ground that will be supporting the ladder is thoroughly inspected for stability		
10	When entering buildings, works systematically from the entrance clearing debris from main walkways (to electrical panels, gas shutoffs etc.) before branching off into rooms		
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Employee Check-off

Company Name:				Workplace Location:		
Task, Job Title or Equipment Used: Slips, Trips and Falls						
Employee	Date	RA Reviewed	SWP Reviewed	Competency Determined	First Supervisor Note Following Instruction (Include Date)	Supervisor Signature

*Check off RA and SWP columns after reviewing with the worker

**Ensure worker is supervised after being deemed competent

Risk Assessment

Working Alone or in Isolation

The following tables summarize risk assessments associated with various tasks that are conducted at:

Company Name:	Workplace Location:
Prepared By:	Date:

Low Risk	End of day check-in required if working alone.
Moderate Risk	Check-ins required at lunch break and at end of shift if working alone.
High Risk	At least two persons must be present whenever conducting this task.

Livestock Operations				
Task		Low	Moderate	High
1	Processing		X	
2	Processing calves in pasture		X	
3	Pulling calves			X
4	Pasture doctoring yearlings, cows and bulls			X
5	Pasture doctoring calves		X	
6	Doctoring in corrals		X	
7	Milking Cows		X	
8	AI Cows			X
9	Feeding (feed truck)		X	
10	Bale feeding		X	
11	Hauling square bales			X
12	Hauling round bales		X	
13	Loading and unloading round bales			X
14	Feeding round bales		X	
15	Loading cattle			X

Yard Work				
Task		Low	Moderate	High
1	Carpentry work		X	
2	Carpentry work over 9 feet			X
3	Chainsaw		X	
4	Loader		X	
5	Water troughs probes repairs			X
6	Water troughs mechanical repairs	X		
7	Electrical repairs			X
8	Corral repairs	X		
9	Machinery operator		X	
10	Fencing	X		
11	Operating the post pounder			X
12	Snow plowing		X	

Risk Assessment

Working Alone or in Isolation

Shop Work				
Task		Low	Moderate	High
1	Metal work		X	
2	Wood work		X	
3	Mechanical. If operator evaluates job as high risk it should be treated as high risk category.		X	

Farming				
Task		Low	Moderate	High
1	Fertilizing	X		
2	Seeding	X		
3	Cultivation. Includes harrow, roller and loading.	X		
4	Manure spreader. PTO must be shut off before getting out of cab.		X	
5	Mixing seed		X	
6	Machinery repairs		X	
7	Roto-tilling. PTO must be shut off.	X		
8	Spraying		X	
9	Harvests:		X	
	a) baling			
	b) silage chopper		X	
	c) swather		X	
	d) pit		X	
	e) truck drivers		X	
	f) raking		X	
10	Agitating manure		X	
11	Spreading manure		X	

Disaster Response				
Task		Low	Moderate	High
1	Primary facility assessment			X
2	Moving livestock (alive)			X
3	Moving livestock (deceased)			X
4	Initial barn/building entry			X
5	Feeding/watering animals		X	
6	Clearing flood contaminated material			X
7	Clearing flood contaminated feed (bales/silage)			X
8	Operating mobile equipment		X	

Crew Check-In Procedures

Working Alone or in Isolation

Check-in procedures for the crews are to be established, and modified as necessary, by the supervisor. Such changes must be made known to the involved workers and documented. The higher the risk of the activity the shorter the determined interval of the time between checks.

Work Crew:

- When in the field or engaged in an activity away from the main farm, or when engaged in an activity which isolates the worker in any way no matter where, the **crew** will at pre-determined and agreed upon times via cell phone, SPOT locator/transmitter, radio establish contact with a pre-determined reliable party, such as a supervisor, family member or the switchboard at the office or a worker at the shop.
- All workers who will be in isolation must let the supervisor or his designate or replacement when absent or a reliable party as noted above, know where they will be, what they will be doing and when they will return.
- The supervisor is responsible for ensuring each worker knows the check-in procedures, including who to check-in with and what time.
- Frequent or continuous contact throughout the time apart or away or working in isolation or alone will constitute continuous monitoring and will be deemed to be a check in of the worker if there is an ongoing awareness of the workers location and status.
- When working in the vicinity of the main ranch/farm, each worker will check-in at designated break times (i.e., morning coffee, lunch and afternoon coffee), either in-person, by cell phone or by radio contact, with their supervisor (or designate).

Shop & Office Personnel:

- Workers in the shop and office are often working alone they will check in or be checked upon at each designated break (i.e., morning coffee, lunch and afternoon coffee), either in-person, by cell phone or by radio contact, with their supervisor (or designate).

Overdue and/or Lost Person Response

In the event of an overdue and/or lost person(s) emergency follow the steps below

Step 1: Recognize the Problem

An overdue or lost person response will be considered:

- when a person has not returned
- when identified as missing or lost by another employee or person
- when they failed to check in at pre-appointed or designated times
- when communication is received that the employee is lost

Step 2: Evaluate the Hazards

- Season and or weather
- Lack of daylight
- Aggressive wildlife
- How equipped is the missing worker, how prepared –food, water, survival skills, health, fitness
- Natural disaster (Flood, fire etc.)

(Steps 1 & 2 are done very quickly by assessing the situation and asking a few question)

Step 3: Take Control

- The owner/employer/manager and management team will take control and perform the following tasks
 - Contact family and ensure the person is not at home
 - Policy requires that the worker identify areas of work for that shift-determine the area they were to be working in and the task being performed:
 - Assess with regard to the task, ie: checking cattle verses working around severely flood impacted areas of the farm
 - Determine if other workers are in adjacent areas and can be mobilized to the last known area of the missing/overdue person
 - Form a response team to look for the lost person;
 - Consider, weather, terrain, ETV, first aid supplies, transportation methods to access area and assist with removal if injured, personal protective equipment, firearms, rescue gear, ropes, shovels, jacks, cribbing, chains
 -work as a team do not respond alone.
- If deemed necessary, the control person or team will advise the RCMP of the situation and maintain communication throughout initial search

Step 4: Call out/send help

- Response team will attend to the last known location of the worker(s)
 - Response Team
 - Must have at least two people, and
 - Must be trained in first aid, the higher level the better.
 - Must have adequate equipment to assist or stay overnight

Step 5: Take Action

- If travelling in or associated to a vehicle, locate the vehicle and advise management team
- If the vehicle is located without sign of the employee or worker the RCMP is to be notified of the situation and that a search is being conducted
- If the lost or missing person is not located in a reasonable amount of time the RCMP and local Search And Rescue or other response units will take over the search
- If the lost or missing person is located determine the need to initiate any further response for personal injury

Step 6: Follow up

- If you have located the missing or lost person notify the management team
- Notify all appropriate groups-family, RCMP, other worker search groups
- If injured, effect first aid as able/required
- Document the incident or injury
- Review origin of incident, response to incident and adjust check in system, communication policies or response plan as required.

Recognize the problem A worker is well overdue in returning or is reported in any way as lost or missing																
Evaluate the hazards - Season forecast - Time of day daylight remaining - Aggressive animals a concern - Missing person level of preparedness, equipment, skill set, experience PPE - Presence of a natural disaster (flood, fire etc.)																
Take Control - Contact family to ensure not at home - Notify fellow workers and supervisors - Activate procedures for lost/missing/overdue worker - Determine expected or last know location - Identify immediate or outside resources needed to begin response and to search																
Call out for help - Have all locations and direction to the location ready - Know what resources you have ready to assist and to respond - RCMP & Search and Rescue call 9-1-1 or _____ (if 9-1-1 not in area)																
Call out for assistance <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 40%;">Name or resource</th> <th style="width: 40%;">Number</th> </tr> </thead> <tbody> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> </tbody> </table>		Name or resource	Number													
Name or resource	Number															
Take Action - Initiate search efforts in team(s) until outside resources deemed necessary or arrive - Ensure teams have communication - Consider needs of the possible victim/lost/missing person once located																
Follow up - Examine causes of incident - Review response procedure																
Notes or other information:																

Employee Check-off

Company Name:				Workplace Location:		
Task, Job Title or Equipment Used: Working Alone						
Employee	Date	Check in Procedure Reviewed	Risk Level List Reviewed	Overdue and Missing Worker Response	First Supervisor Note Following Instruction (Include Date)	Supervisor Signature

*Check off RA and SWP columns after reviewing with the worker

**Ensure worker is supervised after being deemed competent

Risk Assessment

Working in Cold Weather

Company Name:			Workplace location: Varied: farm yards, barns, fields
Prepared by:			Date:
Tasks / Activities	Hazard	Risk Level	Control Measures
Field Work, Barn Work – checking cows, feeding, hoof trimming, processing	Cold stress, working in inclement weather	Moderate	• Always wear gear and clothing appropriate for conditions • Do not overexpose yourself to elements, be aware of exposed body parts • Ensure working alone protocol is implemented and check ins are occurring as defined in your working alone program • Do not overexert yourself, work within your abilities and limits • When and where possible work in sheltered areas • Ensure hydration • Avoid wind, if possible, in cold temperatures • Monitor weather – when extreme weather is approaching try to get those tasks in which you will be exposed to the elements done before or after the extreme weather comes • Utilize micro breaks to warm up • Keep your head covered and warm
Milking (parlour, rotary)	Cold stress, working in inclement weather	Moderate	• In cold weather, ensure you are wearing aprons/smocks to keep your clothing from getting wet which can lead to hypothermia • Ensure working alone protocol is implemented and check ins are occurring as defined in your working alone program • Always wear gear and clothing appropriate for conditions • Do not overexpose yourself to elements, be aware of exposed body parts • Do not overexert yourself, work within your abilities and limits • When and where possible work in sheltered areas • Ensure hydration • Avoid wind, if possible, in cold temperatures • Monitor weather – when extreme weather is approaching try to get those tasks in which you will be exposed to the elements done before or after the extreme weather comes • Utilize micro breaks to warm up • Keep your head covered and warm
Working on flood impacted farms	Cold stress, working in inclement weather	High	• Ensure supervisors check that all appropriate PPE is being utilized prior to entering farm (Warm clothing, waterproof jackets, pants, bibs, waders, boots etc., life jackets) • Supervisors will frequently check on workers to ensure signs of hypothermia are not evident • Workers will be informed and educated as to the signs of hypothermia and report to their supervisor if any signs become evident • Utilize microbreaks to warm up and change wet clothes

Safe Work Procedure

Working in Cold Weather

Safe Work Procedure			
Company Name:		Workplace Location:	
Name of Safe Work Procedure: Working in Cold Weather		Safe Work Procedure #:	
Release Date:		Revision Date:	
Date of Approval:		Management Signature:	
This safe work procedure must be reviewed annually or any time the task, equipment or materials change.			
DO NOT perform this procedure until you have been appropriately trained and authorized to do so by your supervisor			
Required Training: Any task that will be performed in cold weather that requires competency determination			
Required Personal Protective Equipment and Devices: PPE will depend on task being performed in cold weather			
	Eye Protection Required		Approved Dust Mask Required
	Face-Shield Required		Long or loose hair must be tied back or contained
	CSA Approved Safety Footwear Required		No jewelry, watches, rings, necklaces etc.
	Hearing Protection Required		Gloves must not be worn when operating this equipment
	Define type Gloves Required		No loose fitting clothing
	Protective Clothing Required		
	NIOSH Approved Respirator Required		
	Fall Protection Required		
Potential Hazards: Hypothermia			
Pre-Operational Safety Checks:			

Safe Work Procedure

Before you Start

1. Inspect required personal protective equipment and replace if required.
2. Put on all required personal protective equipment (including warm/waterproof clothing and boots)

While you're Working

Field Work, Barn Work – checking cows, feeding, hoof trimming, processing, milking (parlour, rotary)

1. Always wear gear and clothing appropriate for conditions
2. Do not overexpose yourself to elements, be aware of exposed body parts
3. Ensure working alone protocol is implemented and check ins are occurring as defined in your working alone program
4. Do not overexert yourself, work within your abilities and limits
5. When and where possible work in sheltered areas
6. Ensure hydration
7. Avoid wind, if possible, in cold temperatures
8. Monitor weather – when extreme weather is approaching try to get those tasks in which you will be exposed to the elements done before or after the extreme weather comes
9. Utilize micro breaks to warm up
10. Keep your head covered and warm

Working on flood impacted farms

1. Ensure supervisors check that all appropriate PPE is being utilized prior to entering farm (Warm clothing, waterproof jackets, pants, bibs, waders, boots etc., life jackets)
2. Supervisors will frequently check on workers to ensure signs of hypothermia are not evident
3. Workers will be informed and educated as to the signs of hypothermia and report to their supervisor if any signs become evident
4. Utilize microbreaks to warm up and change wet clothes

After you Finish

1. Ensure clothes are laundered, hung up to dry for the next shift.

If an emergency situation occurs while conducting this task, or there is an equipment malfunction, shut the equipment off immediately and follow the lock out procedure.

**REPORT ANY HAZARDOUS SITUATION TO YOUR SUPERVISOR/MANAGER OR EMPLOYER
IMMEDIATELY**



Home / Health Topics / Search Health Topics / Hypothermia and Cold Temperature Exposure

Hypothermia and Cold Temperature Exposure

Topic Overview

What is hypothermia?

Hypothermia occurs when the body gets cold and loses heat faster than the body can make it.

A rectal temperature is considered the most accurate body temperature. A normal rectal body temperature ranges from 36.4°C (97.5°F) to 37.6°C (99.6°F), and for most people it is 37°C (98.6°F). For information on how to take an accurate temperature, see the topic [Body Temperature](#).

Sometimes a normal, healthy adult has a low body temperature, such as 36°C (96°F). If the person with the low body temperature is not ill, does not have any other problems, and is not an infant or an older adult, then evaluation usually is not needed.

What can cause hypothermia?

Hypothermia can occur when you are exposed to cold air, water, wind, or rain.

Your body temperature can drop to a low level at temperatures of 10°C (50°F) or higher in wet and windy weather, or if you are in 16°C (60°F) to 21°C (70°F) water. If you have mild hypothermia, home treatment may be enough to bring your body temperature back up to normal.

What are the symptoms?

Early symptoms include:

- Shivering.
- Cold, pale, or blue-grey skin.
- Lack of interest or concern (apathy).
- Poor judgment.
- Mild unsteadiness in balance or walking.
- Slurred speech.
- Numb hands and fingers and problems performing tasks.

Late symptoms include:

- The trunk of the body is cold to the touch.
- Muscles becoming stiff.
- Slow pulse.

- Breathing that is shallow and slower.
- Weakness or sleepiness.
- Confusion.
- Loss of consciousness.
- Shivering, which may stop if body temperature drops below 32°C (90°F).

What can happen from hypothermia?

Hypothermia is an emergency condition and can quickly lead to unconsciousness and death if heat loss continues. It is very important to know the symptoms of hypothermia and get treatment quickly. Often a hiker or skier's body temperature will drop really low before others notice that something is wrong. If someone begins to shiver violently, stumble, or can't respond to questions, it may be hypothermia and you need to warm him or her quickly. For information about when to seek medical care, see the topic [Cold Temperature Exposure](#).

Who is at risk for hypothermia?

Anyone can get hypothermia.

Most healthy people with mild to moderate hypothermia recover completely without permanent injury. Recovery is harder for babies and older, ill, or inactive adults. Hypothermia can occur indoors, especially in babies and older or ill adults that are not dressed warmly enough.

How is it treated?

Medical treatment for hypothermia depends on the severity of the hypothermia. Treatment of mild hypothermia includes getting out of the cold or wet environment, using warm blankets, heaters, and hot water bottles.

Moderate to severe hypothermia generally is treated in the hospital, where doctors can use special techniques to warm the core body temperature.

Current as of: February 26, 2020

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Is it an emergency?

If you or someone in your care has chest pains, difficulty breathing, or severe bleeding, it could be a **life-threatening emergency**. Call **9-1-1** or the local emergency number immediately.

If you are concerned about a possible poisoning or exposure to a toxic substance, call **Poison Control** now at **1-800-567-8911**.

Competency Checklist

Working in Cold Weather

Worker Name:		Evaluator:	
Date:		Location:	
Step	Activity	Pass	Fail
1	Puts on all required personal protective equipment (including warm/waterproof clothing and boots)		
2	Ensures working alone protocol is implemented and check ins are occurring as defined in the working alone program		
3	Worker knows to not overexert themselves while working in cold weather		
4	Worker understands the importance of remaining hydrated		
5	Worker has checked the weather for the day to ensure clothing is appropriate		
6	Takes microbreaks accordingly to warm up		
7	Worker knows the signs of hypothermia		
8	Worker knows to report to medical aid if they are experiencing any signs of hypothermia		
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Employee Check-off

Company Name:				Workplace Location:		
Task, Job Title or Equipment Used: Cold Stress						
Employee	Date	RA/SWP Reviewed	Hypothermia Info Sheet Reviewed	Competency Determined	First Supervisor Note Following Instruction (Include Date)	Supervisor Signature

*Check off RA and SWP columns after reviewing with the worker

**Ensure worker is supervised after being deemed competent