Department of Industry

Form

Emergency Management Unit
Biosecurity and Food Safety
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Safe work method statement

To improve the effectiveness of SWMS employees should follow the TAKE 2 process to assess and manage risk.

Job Task Summary:

Destruction of poultry using carbon dioxide

In sheds and in containers in biosecurity emergencies

Applicable to the following worker type: employee, contractor, volunteer, visitor, other

SWMS completed by: Emergency Management Unit

Site: Preparedness activities, emergency operation centres (EOC's), temporary work sites

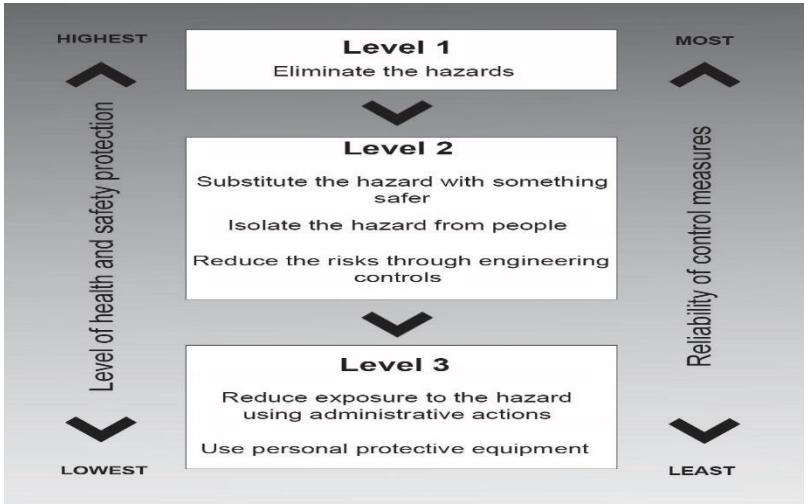
Date: 3 October 2018

PPE required: (mandatory) – Gloves, sunscreen, hearing protection, overalls, hard hat/helmet, safety footwear, hi-visibility vest and Other - appropriate to the task and conditions e.g. insect repellent, carbon dioxide monitor, personal location device, self-contained breathing apparatus (SCBA)

WHS RISK MATRIX

Consequence	Likelihood: E. Rare	D. Unlikely	C. Possible	B. Likely	A. Almost Certain
5. Extreme	Medium	High	High	Very High	Very High
4. Major	Low	Medium	High	High	Very High
3. Moderate	Low	Medium	Medium	High	High
2. Minor	Low	Low	Medium	Medium	Medium
1. Insignificant	Low	Low	Low	Low	Medium

HIERARCHY OF CONTROLS



PROCEDURAL STEPS	POSSIBLE HAZARD(S)	R1	SAFETY CONTROL(S)	PERSON RESPONSIBLE	R2

Site preparation requires planning including:
• Medical plan
• Evacuation plan
• Alarms
• Weather forecasts
• AVPMA permit for carbon dioxide
• Carbon dioxide (liquid and gas) safety data sheets
	• Manual handling
	  ○ Strains & sprains
	  ○ Slips, trips, falls
	• Exposure – sunburn, hyperthermia
	• Isolation, remoteness
	• Dehydration
	• Fatigue
		L	1. Pre-operations site inspection undertaken to identify any hazards (e.g. electrical/LPG in sheds, moving machinery, shed egress) and include the completion of a site medical plan.
			2. Personnel must be selected and managed in accordance with risk assessment Animal destruction and disposal activities in emergencies
			3. PPE – to address biosecurity requirements required by all personnel on site, plus hi-vis vests, sun hats (if required)
			4. AVPMA (Australian Pesticides and Veterinary Medicines Authority) permit 7472 and CO2 safety data sheet conditions must be complied with.
			5. Weather forecasts reviewed to ascertain wind direction, strength and temperature. Each will affect the spread of CO2 that may “leak” from a shed.
			6. Site map – details command point, emergency assembly point(s) and exclusion zones.
			7. Designated Command Point/Assembly Area - established up slope and up wind of predicted wind, and of sufficient distance to be beyond any flow of gas.
			8. Evacuation – mass alert alarm system e.g. hooter and/or megaphone for emergencies. All personnel should know the alarm and the action to take when it is activated. Pre-determined triggers should be in place for the use of the alarm. All personnel to be briefed on emergency procedures.
			9. Perimeter – establish a perimeter around sheds using cones/barrier tape or similar (for shed gassing) to exclude non-essential personnel. Perimeter is based on topography as CO2 is dense so will flow downhill if it escapes from shed/container. Only trained and qualified personnel to enter the area.
			10. Remote CO2 alarms (audible & visible) for high risk locations (e.g. sheds in low lying areas in still conditions) around the perimeter, either stand alone and/or connected back to a single point. Alarms triggered by a pre-determined dangerous level of CO2.
				Supervisor	L

Before entering the site workers/contractors are to be prepared for tasks and may include the provision of personal alarms (task dependent)	• Manual handling
	  ○ Strains & sprains
	  ○ Slips, trips, falls
	• Exposure – sunburn, hyperthermia
	• Isolation, remoteness
	• Dehydration
		L	1. Minimise numbers of personnel on site and involved in gas delivery and within exclusion zones.
			2. Induction – all personnel must have completed a site induction, covering the hazards associated with the CO2 delivery, site and personal alarms (if issued), location of exclusion zones (on site map) and emergency procedures.
			3. Personal alarms – personnel operating gas delivery
				Supervisor
				Worker
				Contractor
					L

PROCEDURAL STEPS	POSSIBLE HAZARD(S)	R1	SAFETY CONTROL(S)	PERSON RESPONSIBLE	R2
	• Fatigue		equipment should have a personal alarm that is activated when a dangerous level of CO2 is reached or a self-activating alarm. Other personnel working in or near the exclusion zones should be provided with monitors dependent on risk.		

Whole shed gassing - Shed preparation
• Entry/exit management
• Shed sealing or closure
	• Manual handling
	  ○ Strains & sprains
	  ○ Cuts & abrasions
	  ○ Slips, trips, falls
	• Exposure – sunburn, hyperthermia
	• Isolation, remoteness
	• Dehydration
	• Fatigue
		M	1. Entry point management – all shed entry/exit points must be clearly marked with signs, illuminated on the inside, and have security to restrict access through the nominated entry/exit points. At each point there should a system to track personnel entering/exiting the shed. Doors not in use could also be fitted with “tamper tags” to show if they have been accessed.
			2. Shed closure - should be sufficient to allow air to escape and CO2 gas to move throughout the shed, reducing the likelihood of the CO2 gas escaping from the shed (rather than air).
			3. PPE – all personnel associated with shed preparation must have high visibility clothing e.g. hi-vis vest, head lights, torch, lamp or glow sticks.
				Supervisor
				Worker
					L

Whole shed gassing - gas injection operation	• Manual handling
	  ○ Strains & sprains
	  ○ Cuts & abrasions
	  ○ Slips, trips, falls
	• Exposure – sunburn, hyperthermia
	• Isolation, remoteness
	• Dehydration
	• Fatigue
	• CO2 toxicity/O_2 deficiency
	• Cold burns
		H	1. Elimination - remove the need for any personnel to enter shed during injection and post injection (for a minimum of 24 hours) unless for essential operational tasks.
			2. Location of personnel – all personnel marshal at the designated Command Point/Assembly Area, and be accounted for at that location, prior to starting gas injection.
			3. Trained personnel – only trained and qualified personnel to be involved in the operation e.g. contractors who normally undertake the CO2 delivery are to operate the equipment using their company’s procedures, SCBA personnel.
			4. PPE – all personnel associated with the gas delivery must have hearing protection and high visibility clothing e.g. hi-vis vest.
			5. Signage – standard signs normally used for gas unloading operations must be displayed at the unloading point (by the contractor).
			6. Buddy system – all personnel to operate in pairs.
			7. Communications – each pair should have phone/radio contact with the site Command Point and/or the designated entry/exit point.
			8. Volume of CO2 – the volume of gas necessary for destruction is calculated on the shed dimensions and adjusted for potential leakage. The calculated volume should be used to reduce any wastage and hence potential leakage.
				Supervisor
				Worker
				Contractor
					M

PROCEDURAL STEPS	POSSIBLE HAZARD(S)	R1	SAFETY CONTROL(S)	PERSON RESPONSIBLE	R2

Container gassing – gas injection operation	• Manual handling
	  ○ Strains & sprains
	  ○ Cuts & abrasions
	  ○ Slips, trips, falls
	  ○ Crush injuries
	• Animal handling – scratches, cuts, manual handling
	• Exposure – sunburn, hyperthermia
	• Isolation, remoteness
	• Burns, scalding
	• Dehydration
	• Fatigue
	• CO2 toxicity/O_2 deficiency
	• Cold burns
		H	1. Elimination - remove any need for additional personnel to be near the containers during injection operation.
			2. Use lifting devices (e.g. trolley, fork lift) to move gas cylinders.
			3. Machinery e.g. forklift – only to be operated by licensed and/or qualified personnel. Refer to risk assessment for working around plant and equipment.
			4. Personnel stationed near the skip should wear a CO2 monitor and may need to be rotated to avoid prolonged exposure to any escaped gas.
			5. Personnel experienced in handling birds to catch, carry and place birds in containers to take regular breaks (to avoid fatigue and dehydration) and wear suitable PPE e.g. gloves, eye protection
			6. Operation of gas injection equipment may require additional PPE to avoid burns – cold burns from regulators, scalds from hot water. Use of in-line heaters avoids use of hot water.
				Supervisor
				Worker
				Contractor
					M

Monitoring during gas injection operation may include:
• Self-contained breathing apparatus (SCBA) personnel for first aid
• remote monitoring
	• Manual handling
	  ○ Strains & sprains
	  ○ Cuts & abrasions
	  ○ Slips, trips, falls
	• Exposure – sunburn, hyperthermia
	• Isolation, remoteness
	• Dehydration
	• Fatigue
	• CO2 toxicity/O_2 deficiency
		H	1. The weather should be monitored (temp/wind direction and speed) throughout the operation. Changes to the predicted conditions notably wind strength and direction may necessitate changes in the operation.
			2. First aid response – for shed gassing operations, SCBA qualified personnel (following their normal operating procedures) with full PPE and appropriate first aid equipment to be on site and available for immediate response in high risk situations. They should have direct contact with any personnel who operate inside the designated perimeter during the unloading operation.
			3. Remote monitoring – any monitoring inside the shed/container of the CO2 delivery to be undertaken using remotely operated equipment e.g. video camera with wi-fi connection to tablet.
				Supervisor
				Worker
				Contractor
					M

Whole shed gassing - Post gas injection	• Manual handling
	  ○ Strains & sprains
	  ○ Cuts & abrasions
	  ○ Slips, trips, falls
	• Exposure – sunburn, hyperthermia
	• Isolation, remoteness
	• Dehydration
	• Fatigue
	• CO2 toxicity/O_2 deficiency
		H	1. Inside perimeter activities - any activities such as ventilation and activation of electricity supply are to be performed by the SCBA crew. Alternatively for ventilation – the sheds can be left for a nominated period of at least 24 hours for the gas to clear.
			2. All clear given – SCBA crew are to test inside the perimeter for CO2 gas and give the all clear prior to any personnel entering the perimeter. An alternative to the SCBA crew is remote sensing back to a central point.
				Supervisor
				Worker
					M

OTHER JOB REQUIREMENTS

List staff skills/competencies and licences required for safe job performance:

- Contractors - experience with gas injection and use of CO2 sensors
- SCBA crew – experience and qualified with self-contained breathing apparatus e.g. NSW RFS crews

List items of plant/equipment/tools required:

- PPE appropriate to the task – must include enclosed, non-slip footwear, illumination (when inside sheds), hi-vis clothing/vest
- First aid kit
- CO2 sensors and alarms
- Remote video cameras

Relevant codes of practice, legislation standards or critical risk controls that may be applicable:

- Work Health and Safety Act 2011

Maintenance checks, site/workplace inspections required:

Perform risk assessment of site including preparing a medical plan and site evacuation plan

Additional approvals, certificates, WorkCover approvals/permits required e.g. confined spaces, working at heights, hot works etc:

Self-contained breathing apparatus qualifications

Has a risk assessment been completed for any work involving confined spaces, electrical work or diving work **Yes**☐ **No**☐ **N/A**☒

APPROVAL (Officer, Manager, Supervisor i.e. person responsible for ensuring compliance with SWMS)

Name: State Emergency Coordinator **Signature:** *SOliver* **Date:** 5 October 2018

Record of subsequent reviews (review should occur at a minimum of every 3 years or after an incident or a change in task, process, environment or plant)

I have read and understood this safe work method statement (attach a separate sheet if required)

NAME	SIGNATURE	DATE