

Risk Identification and Treatment - Adverse respiratory effects of gaseous CO₂ associated with mass destruction of poultry - OHS

Area / property (where relevant):			
Prepared by	Kevin Cooper, Leader APFHEPR	Date completed	12 January 2007
Authorised by	Leader APFHEPR	Date authorised	8 October 2008

<p>1 Specific Risk</p> <p>Personnel suffering respiratory distress from high levels of CO₂ gas.</p>	<p>2 Source(s) of Risk</p> <p>CO₂ gas associated with the destruction of birds.</p>	<p>4 Current Risk Treatment</p> <ul style="list-style-type: none"> • Elimination – remove any need for personnel to enter shed during injection and immediately post injection. Typically there should be no need for personnel to be in the shed at this time. • Location of personnel – all personnel except those directly involved in the unloading/injection operation marshal at the designated Command Point/assembly Area, and be accounted for at that location (T card roll call) • Buddy – all personnel should operate in designated pairs – buddies. • Perimeter – with the exception of the trained and qualified personnel who routinely and regularly perform the unloading/injection operation (eg BOC staff); no personnel enter a designated perimeter. The perimeter to be clearly identified using cones/barrier tape or similar, and be shown on a site map. • Designated Command Point/Assembly Area - establish up slope and up wind of predicted wind. It should be sufficient distance that it will be beyond any flow of gas. • Entry point management – all entry/exit points be clearly marked with warning signs and security to restrict access through the entry points. • Weather forecast – a local weather forecast should be sought to ascertain wind direction strength and temperature. Each will affect the spread of CO₂ that may “leak” from a shed. • Weather monitoring – the weather should be monitored (temp/wind direction & speed) throughout the operation. Changes to the predicted conditions notably wind strength & direction may necessitate changes in the operation. • Induction – a condition of entry to the site is all personnel complete site induction that includes explanation of this hazard, the measures in place they must follow, and specific responsibilities of personnel. • Training – those personnel (typically industry professionals such as those from BOC) must be fully trained in the use of the equipment used to deliver the CO₂ and also have emergency procedures for a system failure during delivery. • Comms – each pair should have radio comms or similar to the Command Point/assembly Area. • Minimum no. of personnel – the min. no. of personnel should be involved in the injection process to safely complete the procedure.
	<p>3 Area(s) of Impact</p> <p>Human health</p>	

		<ul style="list-style-type: none"> • Signage – standard signs to manage/restrict access and normally used for fumigation or similar operations must be displayed at access control points. • Remote monitoring – any monitoring of the in shed CO₂ delivery be undertaken using remotely operated equipment such as video camera. • Personal alarms – each person must have a personal alarm that is activated when a dangerous level of CO₂ is reached. The alarm should be audible and visible and require cancellation by the wearer once activated. • Reporting – the activation of a personal alarm should be reported and recorded. • 1st Aid & response – BA qualified personnel with full PPE and appropriate 1st aid equipment to be on site and available for immediate response. They should have direct contact with any personnel who operate inside the designated perimeter during the unloading operation. • Ambulance availability – where the risk presented indicates an ambulance should be on stand by on site, and then an alternative/modified approach should be found for destruction. • Evacuation Trigger – a pre-determined trigger should be developed for the evacuation instruction for the site to be implemented. The evacuation should follow std emergency procedures, be known by those on site and be authorized by the relevant role e.g. Site Supervisor • A hooter or megaphone would assist with implementing the evacuation. • Inside perimeter activities - Any activities such as ventilation and activation of electricity supply are to be performed by the BA crew. Alternatively for ventilation – the sheds can be left for a nominated period eg 24hrs for the gas to clear. • All clear given – BA qualified 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 BA crew is remote sensing back to a central point. • Volume of CO₂ – the volume of gas necessary for the destruction is calculated based on the shed dimensions and adjusted for assessed leakage. The calculated volume should be used to reduce any wastage and hence potential leakage. • Shed Preparation - The shed “closure” should be sufficient that allows for air to escape so the CO₂ gas can move throughout the shed. In so doing this reduces the likelihood of the CO₂ gas escaping from the shed because it cannot “fill” the shed.
--	--	--

5 Current Risk Profile			6 Proposed Risk Treatment	7 Risk Profile After Treatment			8 Comment**
5a L Likelihood	5b C Consequence	5c Risk Rating	<ul style="list-style-type: none"> Remote alarms – place around the designated perimeter alarms that are either stand alone and/or connected back to a single point. These alarms would be triggered by a pre-determined dangerous level of CO₂. The alarm could be both audible and visible at its location and in so doing alert any person nearby. Where the units are connected they would provide an alert to a central point. <p>This approach could be applied for a high risk location e.g. sheds in a low lying area between high ground and in still conditions.</p>	7aL	7bC	7cRisk Rating	<ul style="list-style-type: none"> The in shed mass destruction procedure is the preferred method of destruction where the disease causing agent may be zoonotic. It is the procedure of choice during this situation because it reduces the total number of people that will need to be on site during destruction. Furthermore, the procedure can be completed with few if any people needing to enter the shed at all – and least of all at the time when the CO₂ is being injected.
D	2	L		E	2	L	

**Mandatory requirement if assessed level of risk rating is X (extreme) or H (high)

