

## Risk Identification and Treatment

### Personnel being infected and their health and safety being adversely affected when disposing of birds infected with zoonotic Avian Influenza

This RA assumes that zoonotic AI has occurred and response actions are necessary for control of the disease. This RA does not address activities that are in place to reduce the likelihood of the virus occurring in NSW i.e. the likelihood of zoonotic AI occurring is being minimised outside the controls described for this RA.

<b>Area / property (where relevant):</b>			
<b>Prepared by</b>	Kevin Cooper, Leader APFHEPR	<b>Date completed</b>	4 January 2007
<b>Authorised by</b>	Leader APFHEPR	<b>Date authorised</b>	8 October 2008

<p><b>1 Specific Risk</b></p> <p>Personnel (and others on farm and in community) becoming infected with zoonotic AI virus during destruction of AI infected birds for disease control purposes</p> <p>There is a wide range of other OHS risks associated with the disposal of carcasses. These include those usually associated with significant engineering activities such as deep excavation and lining operations, bulk loading and transport, disinfection, waste disposal activities and personal trauma that is associated with the disposal of carcasses.</p>	<p><b>2 Source(s) of Risk</b></p> <ul style="list-style-type: none"> <li>▪ Animal disease - Zoonotic AI</li> <li>▪ Wide range of specific areas such as             <ul style="list-style-type: none"> <li>▪ Plant &amp; machinery</li> <li>▪ Deep excavation</li> <li>▪ Working at heights</li> <li>▪ Operating environment</li> <li>▪ Operation on roadways</li> <li>▪ Manual handling</li> <li>▪ Disinfection of personnel, plant and equipment</li> <li>▪ Largely untrained workforce</li> <li>▪ Completion of procedure for first time under difficult operating conditions</li> </ul> </li> </ul> <p>From the following categories</p> <ul style="list-style-type: none"> <li>• Animal disease</li> <li>• Organisation and management</li> <li>• Environment and natural events</li> <li>• Community and human behavior</li> <li>• Commercial and legal</li> <li>• Sabotage</li> <li>• Technology</li> <li>• Regulation and standards</li> </ul>	<p><b>4 Current Risk Treatment</b></p> <p>The current approach for disposal of infected commercial poultry typically uses either</p> <ul style="list-style-type: none"> <li>▪ Deep burial or</li> <li>▪ Incineration by various means including pyres and commercial applications.</li> </ul> <p>These options usually require the loading of the dead birds for transport to the disposal site.</p> <p>The deep burial and or incineration requires a significant numbers of people (hundreds) and resources such as engineering plant and specialized expertise. Cost per bird is typically high and it usually is of extended duration. The impacts on affected communities can be significant.</p> <ul style="list-style-type: none"> <li>• <b>Engineering</b></li> </ul> <p>Alternative methods of disposal using industrial applications have been and continued to be explored. The capacity tends to be localized and as a result the option is usually opportunistic i.e. it is available only if the engineering solution is nearby, and then only if the option is supported by the workplace where the engineering solution is located e.g. rendering, incineration in power station.</p> <p>The transport of carcasses has been improved through engineering solutions such as membranes. This has primarily been done to enhance biosecurity.</p> <ul style="list-style-type: none"> <li>• <b>Administrative</b></li> </ul> <p>A range of actions are in place to reduce the likelihood of personnel being infected and otherwise adversely affected during disposal operations. These include:</p> <ul style="list-style-type: none"> <li>• Induction at different levels including to the operation and when entering an infected site;</li> <li>• Training in the use of equipment associated with the destruction methodologies</li> <li>• Policies that support adoption of reduced risk approach e.g. policy that outlines requirements for those working in an AI control operation and procedures that describe the methodologies for the destruction of infected birds</li> <li>• Trained personnel – 1<sup>st</sup> Response Team are trained in the appropriate procedures.</li> <li>• Operational briefing and debriefing</li> <li>• Health monitoring</li> <li>• Engagement and other pre-incident activities with a wide range of stakeholders across government and the private sector who are likely to have to be part of the operation to dispose of carcasses.</li> <li>• Selection of sites for disposal across NSW.</li> </ul>
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	<p><b>3 Area(s) of Impact</b></p> <ul style="list-style-type: none"> <li>• Livestock health</li> <li>• Human health</li> <li>• Economic</li> <li>• Commercial</li> <li>• Environmental</li> <li>• Organisational capability</li> <li>• Political</li> <li>• Reputation and image</li> </ul>	<ul style="list-style-type: none"> <li>• Procedures for disposal and supporting procedures e.g. loading and transport</li> <li>• Standard OHS systems such as             <ul style="list-style-type: none"> <li>○ ICS systems including Safety Advisor role</li> <li>○ SOPs and supporting procedures</li> <li>○ QA approach including audits</li> </ul> </li> <li>• Standard industry practices for everyday activities such as deep burial.</li> <li>• <b>PPE</b> <ul style="list-style-type: none"> <li>• Specialized PPE is stockpiled and available for use during destruction of AI infected birds</li> <li>• Personnel are trained in the use of specialized PPE</li> <li>• Anti-viral stockpile is in place for support of personnel working in high risk areas.</li> </ul> </li> </ul>
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5 Current Risk Profile			6 Proposed Risk Treatment	7 Risk Profile After Treatment			8 Comment**
5a L Likelihood  C	5b C Consequence  4	5c Risk Rating  H		7aL  E	7bC  3	7cRisk Rating  L	
			<p>The approach is to adopt an alternative procedure that collectively uses controls at different levels to reduce the likelihood of personnel being infected.</p> <p>The approach is to use in shed composting of birds that have been killed in situ using CO2 gas.</p> <ul style="list-style-type: none"> <li>• <b>Elimination</b></li> </ul> <p>Options to partially or completely achieve this level of control may include:</p> <ul style="list-style-type: none"> <li>▪ Lock up the farm and walk away. This is not acceptable as the disease is likely to spread and in so doing expose more people and birds to the disease. There are also potential animal welfare implications. It does the opportunity to the virus to increase in quantity and in so doing may develop into a more lethal strain.</li> <li>▪ Minimize personnel number that are involved in the operation on site i.e. eliminate all personnel from the site who do not need to be on site. The in shed disposal approach only requires a small number (&lt;10) people to be on site.</li> </ul> <p>Those who undertake the destruction can also complete the composting.</p>				<p>Other risks reduced by application of the above controls</p> <ul style="list-style-type: none"> <li>▪ Elimination of all risks associated with the loading and transport of infected carcasses including disinfection.</li> <li>▪ Elimination all risks associated with the construction/preparatory works for disposal by deep burial/incineration.</li> <li>▪ Elimination of all risks associated with the handling of carcasses at point of disposal by deep burial/incineration including disinfection.</li> <li>▪ Reduced likelihood of disease spreading – early and quick control on site, fewer personnel on site means reduced likelihood of spread from the site.</li> <li>▪ Reduced perceived and real impact on those in communities e.g. traffic reduction.</li> <li>▪ Reduced likelihood of those in community affected by the disease being infected with the virus.</li> <li>▪ Reduced impact on community infrastructure through reduced scale of operation</li> <li>▪ Reduced operational costs through on site</li> </ul>

			<ul style="list-style-type: none"> <li>▪ The alternative approach means those personnel (and others on property and affected communities) who were previously potentially exposed during loading, transport; and handling of carcasses etc at the disposal site are no longer involved at all in the operation. The risk has been completely eliminated for these people.</li> <li>• <b>Isolation</b> <ul style="list-style-type: none"> <li>▪ For personnel who must be on site, increase time and space between those personnel and their exposure to zoonotic AI virus i.e. remove the need for personnel to have direct contact with infected birds (high source of virus) and also other sources of infected materials such as litter.</li> </ul> <p>Personnel are to have no direct contact with infected birds and minimal contact with other infected materials.</p> <p>Personnel are only on site for the time necessary to complete the procedure. The in shed disposal reduces the amount of time personnel need to be on site and in so doing reduces their length of exposure to the infected material/birds.</p> </li> <li>• <b>Substitution</b> <ul style="list-style-type: none"> <li>▪ Replace the existing method where birds are loaded into trucks/skips and transported to a site for disposal by deep burial/burning with the approach where the birds are composted in situ inside the shed where they have been killed.</li> </ul> <p>The output from the composting is safe and presents no biosecurity risks.</p> </li> <li>• <b>Administrative</b> <ul style="list-style-type: none"> <li>▪ Only those people who are involved are trained for their role and also completion of the tasks need to be involved in the task.</li> <li>▪ All current controls still apply</li> </ul> </li> <li>• <b>PPE</b> <ul style="list-style-type: none"> <li>• The change in methodology will necessitate the continued use of the current PPE including the antivirals, and in additional new items such as personal gas alarms for the new approach.</li> <li>• For operators of plant inside shed – higher level respiratory and eye protection (positive pressure suits) must be used.</li> <li>• All current controls still apply</li> </ul> </li> </ul>			<p>efficiencies and reduced size of overall area infected.</p> <ul style="list-style-type: none"> <li>▪ Reduced impact on the environment – no deep burial and no incineration. Outcome is a positive result for environment e.g. sustainable use of resource, land that would be lost to deep burial is in tact.</li> <li>▪ Reduced overall costs because size of operation is minimised and less effort required in operation.</li> <li>▪ Reduced number of personnel working on site means there is a reduced number of personnel who may need support for other consequences of the activity e.g. management of traumatic effects of being involved with destruction.</li> <li>▪ Reduced opportunity for litigation against NSW government because of reduced impacts on environment and communities.</li> </ul>
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**\*\*Mandatory requirement** if assessed level of risk rating is **X** (extreme) or **H** (high)

