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To
FOD Divisional Directors
FOD Heads of Operations
FOD Inspectors/HSAOs dealing with agriculture
HID Inspectors visiting poultry undertakings

AVIAN INFLUENZA – GUIDANCE FOR OPERATIONAL INSPECTORS AND HSAOS WHO MAY VISIT POULTRY UNDERTAKINGS

This SIM provides background briefing on the current Avian Influenza threat and sets out the precautions to be observed by staff who have to visit poultry undertakings. The SIM contains both operational and personal health and safety precautions for now (see paras 15 to 19 and Annex B1) and in the event of an outbreak of avian influenza being declared in the UK (see paras 20 to 27 and Annex B2). It also sets out HSE's role under the Civil Contingencies Act 2004 (paras 9 to 14).

Influenza in birds

1 Avian influenza, or “bird flu”, is a contagious disease of animals caused by viruses that normally infect only birds and, less commonly, some mammals. Avian influenza viruses are highly species-specific, but have, on rare occasions, crossed the species barrier to infect humans. In domestic poultry, infection with avian influenza viruses causes two main forms of disease, distinguished by low and high extremes of virulence. The so-called “low pathogenic” form commonly causes only mild symptoms (ruffled feathers, a drop in egg production) and may easily go undetected. The highly pathogenic form is far more dramatic. It spreads very rapidly through poultry flocks, causes disease affecting multiple internal organs, and has a mortality that can approach 100%, often within 48 hours.

2 Influenza A viruses have 16 H subtypes and 9 N subtypes. Only viruses of the H5 and H7 subtypes are known to cause the highly pathogenic form of the disease. However, not all viruses of the H5 and H7 subtypes are highly pathogenic and not all will cause severe disease in poultry. The Avian influenza A subtype H5N1 is a highly pathogenic (HPAI) strain of the virus that is endemic in poultry populations across SE Asia. It has now emerged in other Asian countries and some eastern, southern and northern European countries. More recently in Great Britain (GB) disease caused by the H5N1 virus has been found in a bird quarantine facility and in the wild, namely a single, migratory Whooper swan.

3 International animal disease control arrangements reduce the risk of importing diseases from affected countries. For example, the EU has banned imports of live poul-

try and specified poultry products and commodities from countries affected with HPAI. Further measures to be adopted EU-wide include enhanced biosecurity at zoos, banning poultry markets and fairs and a temporary ban on imports of wild birds.

Influenza in humans

4 Influenza is a category of viruses associated with acute (short), usually self-limited infections, whose symptoms are most commonly fever, muscle pain or aches, and a cough. However, illness can be more severe based upon the characteristics of the virus, the patient's age, pre-existing medical conditions and pre-existing immunity status.

- (a) Seasonal flu – is the type of infection that many people experience and from which they completely recover. Vaccination is provided each year for those individuals who are regarded as being at particular risk from the disease. Nevertheless, seasonal flu still causes thousands of deaths each year in the UK. There is a tendency for influenza A viruses to undergo constant, permanent, small changes in their antigenic composition (a process known as antigenic drift) that requires new vaccine to be produced each year.
- (b) Pandemic flu – is an outbreak of influenza that affects global human populations and can occur when a new influenza virus emerges that is markedly different from recently circulating strains and to which humans have little or no immunity. It can spread rapidly from person to person and result in high mortality, e.g. the flu pandemic of 1918 – 1919 caused 40 to 50 million deaths worldwide.

5 This guidance does not deal with contingency planning for a human influenza pandemic: further information on the topic can be found on the Civil Contingencies Intranet Group site: <http://communities/ui/inovemti.cfm/group/civcon/grouphome>.

The Avian influenza threat to humans

6 The H5N1 strain is particularly significant because:

- (a) it can be transmitted directly from poultry to humans, although this is a relatively rare event. Direct contact with infected poultry, or surfaces and objects contaminated by their faeces, is presently considered the main route of human infection. The first documented infection of humans with HPAI occurred in Hong Kong in 1997 when the H5N1 strain caused severe respiratory disease in 18 people, six of whom died. The picture emerging from the current outbreak is of a fatality rate exceeding 50%, but overall the number of deaths worldwide remains small (currently 109 deaths for 193 human cases of infection) **because the virus is not well-adapted to humans;**
- (b) H5N1 has a documented tendency to acquire genes from other viruses, so there is a possibility that the H5N1 virus might change by genetic reassortment with another influenza strain such as seasonal human influenza, a process known as antigenic shift, to emerge as a highly infectious, highly pathogenic strain of human influenza virus, giving rise to a global pandemic.

7 Currently, experts believe there would be very low risks to human health in the event of an HPAI outbreak in poultry in GB. Unlike people in SE Asia we tend not to live closely with poultry and, in particular, we do not commonly buy live poultry for slaughter at home. Close habitation with live, diseased poultry is a key risk factor for infection with avian influenza viruses. But, even so, there have been no reports of sustained human to human transmission.

8 Poultry workers, contractors and disease control staff dealing with any outbreaks here would be at an increased risk of infection, but this can be averted by a combination of good biosecurity, safe systems of work that reduce the need for exposure, using the correct PPE and following good occupational hygiene practice. These workers would also be offered human influenza vaccination and anti-virals. While the human influenza vaccination would not protect against infection with H5N1 it would, as a public health measure, reduce the re-assortment risk. To date, no one involved in dealing with an HPAI outbreak has become infected with AI apart from a single case involving a vet in 2003 in atypical circumstances.

Contingency planning arrangements

9 In terms of the Civil Contingencies Act 2004 (CCA), Defra is the lead Category 1 Responder with respect to planning for, and managing, an outbreak of HPAI in England, supported by the Department of Health (DoH) and Health Protection Agency (HPA). In Wales the same roles are undertaken by, respectively, the Welsh Assembly, NHS Wales and the Infection and Communicable Diseases Service (ICDS). In Scotland it is the Scottish Executive, NHS Scotland and Health Protection Scotland (HPS). However, in practice, contingency planning and much of the outbreak management is the responsibility of Defra's State Veterinary Service (SVS), which is not a devolved body. Further information on the contingency arrangements is attached at **Annex A**.

HSE role in contingency planning

10 Under the CCA HSE is a Category 2 Responder so has a duty to cooperate with Category 1 Responders and to provide information and advice when so required by them. **The key point here is that, in terms of this legislation, HSE is not required to be proactive.**

11 The parts of HSE most active currently with respect to the HPAI and influenza pandemic risks are HIDS14 Biological Agents Unit – CTG; PG SI5 Biological Agents and Genetically Modified Organisms Policy; PG SI3 Civil Contingencies; Health Services Unit and IR6 Agriculture and Food Sector.

12 In the event of an outbreak of AI, liaison arrangements have been put in place at national level, namely between Defra's Occupational Support and Advisory Team (OSAT) and the Agriculture and Food Sector, in order to enable HSE as a Category 2 responder to support Defra. These liaison arrangements are an important contribution in terms of the centralised, joined-up working that the Government requires for the management of major animal disease outbreaks.

13 A draft protocol for operational directorates has been published on the Civil Contingencies Intranet Group site. Its objective is to enable FOD, HID, NSD and RI to respond, as necessary, in their role as a Category 2 Responder to requests for HSE

to, among other things, attend Local Resilience Forum meetings, provide information and participate in exercises. The Director of Contingency Planning at the SVS and the relevant Cabinet Office Briefing Room (COBR) committee have indicated that they are not expecting such contributions from HSE with respect to AI contingency planning, so it is not anticipated that there will be any such requests.

14 HSE has provided support centrally to the SVS in terms of advising on the AI contingency planning arrangements, has lead on worker protection issues and contributed to COBR meetings. Government has formed a '*Government & Industry Working Group on Worker Protection against Avian influenza*' (membership includes the SVS, DoH, HPA, Defra, HSE, the British Poultry Council and the British Egg Industry Council). The Working Group has developed guidance for:

(a) the current situation, i.e. no HPAI in the country, see **Annex B1** attached, it emphasises that if people are observing the precautions necessary now to protect against other zoonoses, this will guard against HPAI;

(b) when there is an outbreak, see **Annex B2** attached.

15 Although the advice is targeted at people working with poultry in commercial undertakings, it is also relevant to Government officials and others who might face similar risks in the course of their work.

HSE operational policy, action by visiting staff – current threat level

16 In the current situation where GB is officially free of HPAI it is HSE's policy to continue to visit poultry undertakings (e.g. hatcheries, broiler units and egg producers), in accordance with normal operational priorities.

17 Staff should avoid entry to buildings that contain poultry or their faecal material unless it is absolutely necessary for the purposes of their visit.

18 In terms of occupational hygiene and use of PPE/RPE, staff should follow the guidance referred to in **Annex B1**. HSE will rely as far as possible on the use of disposable PPE, namely coveralls, surgical type gloves (both already in stock in Divisional offices). RPE is not necessary in all circumstances, e.g. when there is no entry to buildings with poultry or their faecal matter in them. Although the annex indicates that the standard of RPE used may vary depending on circumstances, for the sake of simplicity, only FFP3 respirators will be provided. The only type of footwear used should be the full size wellington boots.

19 Staff should use the undertaking's disposal, cleaning and disinfection facilities (see paragraph 23 below). It is anticipated that the only PPE to be cleaned and disinfected would be wellington boots and, possibly, goggles and hard hats if the latter have been used.

20 Occupiers of poultry undertakings should be observing the following biosecurity measures that are also relevant to visiting HSE staff:

(a) clean overalls and footwear must be worn when entering poultry farms. Protective clothing and footwear should be removed and either cleansed and dis-

infected, laundered or disposed of after use. As indicated above, staff should use the facilities provided on site for disposal, cleaning and disinfecting as appropriate;

- (b) visitors and their vehicles should be limited and as far as possible kept away from poultry buildings and pastures. Ascertain before visiting where the site management want you to park and whether this will require vehicle cleaning and disinfection. If so, the site should have the facilities to enable this to be done. They should have pressure washers, brushes, hoses, water and an approved disinfectant available and should ensure they are used by visitors to clean vehicles, equipment and boots both before entry and on leaving.

Action by visiting staff – after an HPAI outbreak in the UK

21 As an outbreak is likely to be limited to no more than a handful of premises, then there is a very low probability of HSE becoming involved. Nevertheless, we have to plan for that contingency. A group of nominated FOD inspectors together with a small number of specialists have been trained and equipped to make any visits that may be necessary to infected premises or any other premises in the Protection Zone and Surveillance Zone (see **Annex A** for an explanation of these terms). Defra will notify the sector of all outbreaks and they will relay that information to those in HSE who need to know. All visits must be discussed and agreed at Band 2 or Band 1 level. No Inspector who is seriously immunocompromised (e.g. taking oral steroids, suffering from cancer or HIV) should be allowed to visit any premises under infection control. It is expected that only fatal/major accidents will be investigated together with serious complaints directly related to worker safety issues. Every effort should be made to organise the visit in a way that avoids entry to buildings that contain or have contained infected birds and where cleaning and disinfection procedures have not yet been completed.

22 The SVS DVM must be contacted before visiting to:

- (a) ensure there are no particular sensitivities that would make it sensible to delay the visit;
- (b) check whether any special biosecurity measures (in addition to the standard ones) need to be observed.

A hyperlink for contact details for the DVMs can be found at **Annex A**

23 In terms of occupational hygiene and use of PPE/RPE, staff should follow the guidance referred to in **Annex B2**. The instructions in paragraph 20 with respect to biosecurity are also relevant.

24 Visits to poultry premises outside the combined Protection/Surveillance Zone will proceed on a 'business as usual' basis, subject to any directives from Defra. The Sector will advise as and when any such directives arise.

Vaccination and use of anti-virals

25 There is currently no vaccine that will protect humans from HPAI. As a public health measure the Government have decided that all poultry workers will be offered seasonal influenza vaccine. Seasonal influenza vaccination will not protect against the risk of infection with HPAI, but is offered to guard against the possibility of simultaneous infection with seasonal flu, and will reduce the risk of mixing and re-assortment of the avian influenza virus. HSE's occupational health service provider ATOS, after consulting the HPA, has advised that there is no need for nominated inspectors to be offered seasonal flu vaccine prior to visiting premises under infection control.

26 When an outbreak of HPAI is confirmed, poultry workers on the infected farm together with vets, contractors and other people engaged in disease control activities will be offered anti-viral therapy e.g. Oseltamivir (Tamiflu) within 24 - 48 hours of disease confirmation.

27 The same prophylactic treatment together with seasonal flu vaccine will be offered to the nominated inspectors who may be required to visit poultry undertakings.

28 HSE has agreed with OSAT that they will coordinate the method of delivery of seasonal influenza vaccine and Tamiflu to HSE's nominated inspectors. HSE and Defra share the same Occupational Health Service Provider, namely ATOS.

Likely Issues

29 Some of the problems HSE inspectors faced during the last Foot and Mouth Disease (FMD) outbreak should not recur, e.g.

- (a) culling large numbers of poultry will be by on-site gassing with an argon/carbon dioxide mixture. Defra have fabricated 50 gassing units that can be taken to incident premises. Small numbers will be killed by lethal injection and 'in between-size' populations by 'necking'. Thus, the safety problems previously encountered during the FMD outbreak with rifles and captive bolt guns will be avoided:
- (b) carcase disposal will be for the most part by incineration at fixed plant sites, i.e. there will not be large pyres built in the countryside. These led to many problems, particularly with complaints about pyre fumes, during the FMD outbreak. If the volume exceeds capacity, then rendering will also be used, and in remote locations where there are serious difficulties with transport, e.g. the Isles of Scilly, there may be resort to small pyres;
- (c) selection of contractors has been more rigorous and they will be subject to supervision at Incident Premises, usually by Senior Animal Health Officers (SAHO)s or AHOs who have received health and safety training. The full time Defra/agency safety professionals will provide a separate monitoring/audit function. There is now a clear acceptance by Defra that they are responsible for their contractors' conduct.

30 However, there are likely to be other issues that could lead to incidents and complaints:

- (a) occupational health - including exposure to highly toxic chemicals, such as disinfectants and asphyxiant gases during culling;
- (b) microbiological - the remote but possible risk of infection with the H5N1 virus and other zoonoses, focusing on systems of work that limit exposure, proper use of PPE and good occupational hygiene practice;
- (c) transport - loading/unloading of vehicles used to transport carcasses to incineration plants, managing traffic movements on site;
- (d) access issues - particularly working at height during cleaning and disinfection procedures
- (e) manual handling – e.g. during the removal and transfer of dead birds

Requests for Advice

31 HSE Infoline has been briefed on how to handle requests for advice on avian influenza and where to refer those callers they cannot help. These callers should not be referred to operational inspectors.

32 The HSE web site has an Avian Flu page that gives advice to workers who might be exposed to the disease and contains links to HSE, Defra and HPA guidance, <http://www.hse.gov.uk/biosafety/diseases/avianflu.htm>

33 An avian influenza section has been set up on the Microbiology and Biotechnology Group intranet site, <http://communities/ui/inovemti.cfm/group/biotech/grouphome>

34 If inspectors receive requests for advice on the precautions that should be taken by poultry producers/farmers and they cannot provide answers by using the information in this SIM and its attachments, or by referring to either the web and intranet sites, they should refer callers to the Agriculture and Food Sector, (Health, Education and Chemicals Team). Technical queries can also be handled by HIDS14, Biological Agents Topic Group, and by SI5, Biological Agents and Genetically Modified Organisms policy section (contact details below).

Media Interviews

35 Staff are reminded that HSE are only Category 2 responders and, in the event of an Avian Influenza outbreak, COBR arrangements will be activated. Most press briefing will be coordinated through them and will usually originate with the Category 1 responders. Therefore, any media requests about contingency planning and/or management and progress of the outbreak should be referred to HSE Press Office who will be able to redirect enquirers accordingly, contact 522 6905 (0207 717 6905).

36 However, circumstances can be envisaged where HSE properly have a role, e.g. fatal or major accidents involving poultry workers or complaints about their health and safety being put at risk. In these circumstances, staff should limit their comment

SUMMARY OF THE AVIAN INFLUENZA CONTINGENCY PLAN

Defra has developed a Generic Exotic Animal Disease Contingency Plan (current version published July 2005) with a chapter specifically on avian influenza setting out the response measures for an outbreak. Similar and complementary plans are available in Scotland, Wales and Northern Ireland.

Monitoring and surveillance are key elements of disease control. UK Agriculture Departments and the State Veterinary Service (SVS) have systems in place to monitor outbreaks overseas and raise awareness of any increased disease risk to the UK.

As HPAI is a notifiable disease, farmers or vets are legally obliged to notify their local animal health office of suspect cases in the UK. Any such cases would be investigated by the SVS. The Veterinary Laboratories Agency (VLA) also routinely monitors wild bird die-offs for signs of disease.

In addition to this routine surveillance activity, Defra undertakes an annual survey as part of a EU-wide initiative to determine the prevalence of avian influenza infection in commercial poultry, game birds and wild birds.

If an outbreak of HPAI was suspected, the contingency plan would be invoked and Defra would activate their National Disease Control Centre in London and the Local Disease Control Centre at the Animal Health Divisional Office closest to the suspected outbreak. Initially, these Centres would prepare to implement control measures. They would put them into effect either on confirmation of the virus by positive laboratory tests or as a result of a decision by the Chief Veterinary Officer based on her assessment of the risks. In addition, Defra would put all other Divisional Offices in non-affected areas on to a state of high alert for other possible outbreaks. And they would issue advice to local vets and to industry stakeholders to prompt a higher level of disease surveillance.

COBR (Cabinet Office Briefing Room) arrangements would be activated on confirmation of an outbreak of the disease. Early considerations for COBR are likely to include:

- assessing the adequacy of resources – for the current outbreak and based on advice from Defra on possible escalation scenarios, agree triggers for seeking additional staff from OGDs and from the armed services;
- ensuring that appropriate health care and protection arrangements are in place for poultry workers and others involved with culling and disease control;
- endorsing Defra's decisions on additional measures (e.g., national movement ban, vaccination);
- endorsing Defra's decisions on disease control measures for wild birds
- agreeing headline bullets for top line brief.

Defra would adopt their established disease control arrangements for avian influenza outbreaks in commercial poultry. Disease control measures would focus on the infected premises and on the surrounding area to try to contain an outbreak. They would involve:

PREMISES CONTROLS	AREA CONTROLS
Culling all poultry on the infected premises.	Designation of a Protection Zone around the infected premises with a minimum radius of 3km from the infected premises. Movement of poultry and products from the premises could only be undertaken under licence issued by a veterinary inspector.
Identification of dangerous contacts (birds that have been exposed through contact with the infected premise) and their subsequent culling if their risk of exposure to the virus is assessed by DEFRA or the SVS to be high. Dangerous contacts with a lower risk of exposure would be subject to movement restrictions on the premises for 21 days and to regular veterinary visits to re-assess risk.	Designation of a Surveillance Zone to a minimum radius of 10 km from the infected premises. Licences would be needed to move poultry out of the Zone for slaughter, and for moving hatching eggs to designated hatcheries.
Movement restrictions would apply to the infected premises or to the high risk dangerous contacts until all birds had been culled; all necessary cleansing and disinfection had been completed; and a veterinary inspector was satisfied that disease no longer existed.	A pre-emptive firebreak cull if needed.
Disposal of carcasses and other poultry products by incineration or rendering	

State Veterinary Service Contact Details

Please go to: http://www.svs.gov.uk/ahdo_locations.htm

Annex B1

AVOIDING THE RISK OF ZOO NOTIC INFECTIONS WHEN WORKING WITH POULTRY THAT IS NOT SUSPECTED OF HAVING AVIAN INFLUENZA

Please refer to: <http://www.hse.gov.uk/biosafety/diseases/aiavoid.pdf>

Annex B2

AVOIDING THE RISK OF INFECTION WHEN WORKING WITH POULTRY THAT IS SUSPECTED OF HAVING HIGHLY PATHOGENIC AVIAN INFLUENZA (HPAI)

Please refer to: <http://www.hse.gov.uk/biosafety/diseases/aisuspected.pdf>