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African Horse Sickness Control Strategy for Great Britain

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Llywodraeth Cymru
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The Scottish
Government

Department for Environment, Food and Rural Affairs

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Any enquiries regarding this document/publication should be sent to us at:

Exotics team

5B Nobel House

17 Smiths Square

London

SW1P 3JR

PB 13831

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1 Introduction

[The African Horse Sickness \(England\) Regulations 2012](#), [The African Horse Sickness \(Scotland\) Order 2012](#) and [The African Horse Sickness \(Wales\) Regulations 2013](#) provide the legal powers to allow the control of African horse sickness (AHS); this control strategy describes how these powers will be used.

The document is structured with the following broad sections that follow events as they might progress:

- **Heightened risk** of AHS from another country (the disease is currently absent from Great Britain (GB)).
- **Suspicion** of infection in GB.
- **Confirmation** of disease in GB.

It is intended that this will be a living document and it will be updated as new information becomes available.

This document also supports the GB Administrations' exotic disease contingency plans (i.e. Defra's *Contingency Plan for Exotic Animal Diseases*; the Welsh Government *Framework Response Plan for Exotic Animal Diseases* and Scotland's *Exotic Animal Disease Contingency Framework Plan*). Each plan describes the stages in detecting and controlling any incursion of an exotic disease of animals.

2 Disease control strategies

2.1 Strategic objectives of this work

To develop an agreed government and stakeholder strategy to limit the impact of an incursion of AHS in GB by:

- Identifying any suspect case of AHS in GB with maximum rapidity.
- Determining whether the outbreak is associated with the recent importation of live animals or other method of introduction.
- Taking action to minimise spread to endemic insect vectors.
- Minimising spread of disease through the GB equine population.
- Regaining AHS free status for GB as soon as possible.

- Complying with EU obligations and Office International des Epizooties (OIE; the World Organisation for Animal Health) disease control codes.

2.2 Assumptions

Infective period: The OIE International Animal Health Code specified infective period¹ of up to 40 days will be used for contingency planning.

Maximum period of viraemia: The maximum period of viraemia in horses is 18 days². The maximum period in donkeys and mules is 28 days³. There is some evidence that the viraemic period in zebras is 40-48 days⁴.

Vectors: Midges of the *Culicoides* group are capable of acting as AHS virus vectors.

Other potential methods of transmission: It is acknowledged that other potential methods of transmission, although not yet validated, should be considered. These include hypodermic needles, administration of infected blood containing products and biting flies. Veterinary equipment likely to be contaminated with blood, such as hypodermic needles, intravenous giving sets, dental and obstetric equipment could result in transmission of disease to susceptible equidae; however normal good practice for cleansing and disinfection procedures, plus basic infection control approaches, such as the single use of disposable needles, should prevent this from occurring. The possibility of such transmission occurring should be communicated to keepers and veterinary surgeons. In addition, there are references in the literature to transmission of the virus in germplasm, but there are no documented cases of this occurring. Neither is there substantial evidence in the literature regarding infection following ingestion of infected horse meat, nor the role of any associated viraemia in propagating onward infection.

Likelihood of introduction to GB: The likelihood of the introduction of AHS virus to GB via legal trade in horses and other equidae is considered very low⁵. The existing risk management measures are considered to be appropriate to mitigate the potential for

¹ OIE Terrestrial Animal Health Code 2009, Chapter 12.1 (http://www.oie.int/index.php?id=169&L=0&htmfile=chapitre_1.12.1.htm) African horse sickness, Article 12.1.1 (in part) "For the purposes of the [Terrestrial Code](#), the [infective period](#) for African horse sickness (AHS) shall be 40 days for domestic horses. Although critical information is lacking for some species, this chapter applies to all equidae."

² OIE Animal Disease Data, African Horse Sickness (http://www.oie.int/fileadmin/Home/eng/Animal_Health_in_the_World/docs/pdf/AFRICAN_HORSE_SICKNESS_FINAL.pdf) "Viraemia in horses may extend for as long as 18 days, but usually lasts for fewer days - about 4-8 days. In zebras and donkeys viraemia may last up to 28 days"

³ African horse sickness: Mellor PS, Hamblin C Vet Res 35 (2004) 445-466

⁴ Epidemiology of African horse sickness: Duration of viraemia in zebra (*Equus burchelli*) Barnard BJ, Bengis R, Keet D *et al* Onderstepoort J Vet Res 1994 Dec; 61(4):391-3

⁵ African horse sickness: Potential risk factors and the likelihood for the introduction of the disease to the United Kingdom http://archive.defra.gov.uk/foodfarm/farmanimal/diseases/monitoring/documents/ahs_uk081106.pdf

the introduction of the virus by all except an airborne dispersal of insect vectors from outside GB.

Under the current circumstances, with disease absent from Europe, it is not considered possible that infected vectors could travel to GB via windborne spread, as the distances involved would be too great from those locations where the disease is currently found. Further consideration would need to be given to this route of entry if the current geographical distribution of the disease changed i.e. clinical disease present in e.g. France or Spain. This is reviewed frequently by the International Disease Monitoring and Risk Assessment Group at Defra, UK. There is a theoretical possibility that infected vectors could be introduced to GB or neighbouring countries through movement in ships or aeroplanes either in cargo (on e.g. plants, recycled tyres, animals etc. in the hold), or in the passenger compartment. Also, if the disease was present in Europe, infected *Culicoides* could be transported in vehicles.

Risk management measures are discussed in a qualitative risk assessment on the likelihood of introduction of AHS to GB can be found at:

http://www.archive.defra.gov.uk/foodfarm/farmanimal/diseases/monitoring/documents/ahs_uk081106.pdf.

2.3 Definitions

The relevant AHS legislation in each administration should be referred to for precise legal definitions. The definitions below are intended to help the reader in using this Control Strategy. Where 'the relevant legislation' is referred to in this document, these are [The African Horse Sickness \(England\) Regulations 2012](#), [The African Horse Sickness \(Scotland\) Order 2012](#) and [The African Horse Sickness \(Wales\) Regulations 2013](#).

- **“Carcase”**: A carcass, or part of a carcass, of a horse, but does not include a sample taken from the carcass.
- **“Contact premises”**: Means premises that have an epidemiological connection with infected premises, including those that due to their proximity to infected premises the Chief Veterinary Officer considers have an epidemiological connection with infected premises.
- **“(Contaminated) equipment”**: Means any equipment that has been in contact with blood or other bodily fluids from a horse, including needles, surgical or dental equipment, unless that equipment has been either sterilised following such contact, or is securely confined in a sharps box complying with British Standard 7320 (or equivalent standard).
- **“Equidae”**: The term '*equidae*' means any of the family of animals of the equine (including zebra) or asinine species, and the offspring or crossings of these species. All references to equine or equidae in this document will relate to horse, ponies, donkeys, zebras and any animal produced by crossing these species.

- **“Horse”**: In this control strategy, the term ‘horse’ follows the common usage and means horses and ponies if no specific reference to ponies is made, but does not mean donkeys, zebras and any animal produced by crossing these species. (Note that this differs from the definition in the relevant regulations.)
- **“Inspector”** and **“veterinary officer”**: means persons appointed as such under the Animal Health Act 1981.
- **“Infected premises”**: Means any premises declared as such under the relevant legislation.
- **“Occupier”**: an occupier is
 - a) a person who has ownership or charge of a horse on the premises
 - b) the person who has overall responsibility for the premises (the ‘main occupier’).

Any notice required or authorised under the relevant legislation to be served on the main occupier of premises may be served on any person appearing to the person serving the notice to be the main occupier;

Any notice required or authorised under the relevant legislation to be served on any other occupier of premises may be served on any person appearing to the person serving the notice to be that occupier.

- **“Premises”**: Means any place (N.B., this includes roads).
- **“Suspect premises”**: Means premises that have been designated as suspect premises under the relevant legislation.
- **“Third country”**: any country that is not an EU Member State.
- **“Vector”**: Means an insect of the genus *Culicoides*, or any other species of arthropod capable of transmitting African horse sickness virus.

2.4 Stages in controlling disease

The basic stages in controlling any disease are:

- **Alertness** – on-going awareness of the possibility and signs of disease by owners, occupiers, keepers and veterinary surgeons.
- **Suspicion** – of disease in an individual animal by an owner / occupier / keeper or veterinary surgeon.
- **Reporting / notification** – of that suspicion to the Animal Health and Veterinary Laboratories Agency (AHVLA) and discussion with the duty Veterinary Officer (VO)

at their local AHVLA Office (<http://animalhealth.defra.gov.uk/about/contact-us/postcode.asp>)

- **Restrictions on movement** - preventing movements on or off the premises where disease is suspected – these are imposed by the VO verbally over the telephone if suspicion is sufficiently high, in order to prevent inadvertent spread of disease while investigations are on-going.
- **Veterinary investigation** – a VO visits the premises and conducts a veterinary inquiry.
- **Taking, submission and testing of samples** - If the suspicion of disease cannot be ruled out on clinical grounds, then samples are taken and submitted to the relevant national reference laboratory for testing. The premises remains under restriction until the disease suspicion is ruled out.
- **Disease confirmed or negated** – if negated (ruled out), the process reverts to the alertness stage. If disease is confirmed, the process continues:
 - Establishment of disease control centres, at both national and local level.
 - Establishment of zones around infected premises within which movements of equidae are restricted.
 - Consultation with experts.

3 The advisory group

3.1 The Expert Group

In the event of a suspected outbreak, appropriate disease and laboratory experts will be notified to be on standby. If the level of suspicion or threat of disease is sufficiently high, the Expert Group may be notified before disease presence is confirmed officially.

The Expert Group may also be convened on an ad-hoc basis to provide advice at other times.

The group will consist of those with expertise in the following areas:

- Risk assessment;
- Veterinary epidemiology;
- *Culicoides* entomology;
- AHS virology and diagnosis;
- Veterinary surveillance;
- Operational delivery;
- Geographical information systems;
- Meteorology;
- Representatives from the equine industry;

In the event of a disease outbreak, the roles and responsibilities of the Expert Group for AHS are to provide advice to the relevant CVO on:

- Potential risk pathways for introduction and disease spread;
- Interpretation of data from investigations into cases of AHS and /or vector surveillance;
- Epidemiology of the disease in the outbreak;
- Measures to control AHS virus infection, the disease and the vectors using the legal framework in existence;
- Design of surveillance programmes for AHS and vectors;

- Projections of future spread, distribution and persistence of the virus;
- Providing input to the cost benefit analysis.

3.1.1 Role of the Expert Group in policy development

- This Group consists of invited technical experts and advises on specific technical issues (with a view to supporting Governments' policies), addressing the questions put to them.
- This Group does not advise on policy directly, although their advice may contribute to informing policy options.
- This Group may provide advice that will be used to develop economic cost benefit analyses, for example disease impact scenarios.

3.1.2 Role of the Expert Group in disease outbreak control

- The Expert Group will provide advice to the policy team on any scientific issues surrounding the outbreak, in order for quick and evidence-based policy making to be decided.
- In the event of an outbreak in a neighbouring EU Member State, the Expert Group will provide advice on preventing spread from that Member State into GB.

4 In the event of a heightened risk of AHS incursion to GB from another country

Currently Europe is free from AHS and AHS virus, although the disease has been recorded previously in Spain in 1966 and 1987-90, Portugal in 1989 and Cyprus in 1969.

GB will find itself at heightened risk of AHS virus incursion should a case of AHS be identified in another Member State i.e. through legal or illegal movement of equidae or movement of infected vectors. In addition, illegal movement of equidae from a third country where AHS is currently present poses a risk to the GB equine population. It is possible that infected vectors could also enter GB from a Third country following long distance transportation in i.e. an aeroplane.

A full assessment of the risk of AHS incursion to GB can be found at:

http://archive.defra.gov.uk/foodfarm/farmanimal/diseases/monitoring/documents/ahs_uk081106.pdf

4.1 Restriction zones in another EU Member State

There are no restriction zones currently anywhere in the EU for AHS at the time of writing (September 2013).

In the event of any AHS case being identified within the EU, the affected Member State must immediately notify the European Commission and the other Member States. No movement of equidae from AHS restricted areas will be allowed, except under stringent conditions (EU Directive 90/426/EEC).

This would also apply if AHS was confirmed in one of the other signatories to the Tripartite Agreement (TPA) (Ireland or France). The TPA allows registered horses and equidae for breeding and production accompanied by a valid passport to be moved between UK, France and Ireland without an Intra Trade Animal Health Certificate. Article 6 of TPA contains provisions with regard to outbreaks of AHS in any signatory country: 'In the case of an outbreak of the following diseases listed below, signatory countries will apply the prohibition measures set out in Articles 4(5) and 5 of Council Directive 90/426/EEC: African horse sickness, dourine, glanders, equine encephalomyelitis, equine infectious anaemia, vesicular stomatitis, rabies and anthrax.

Safeguard measures would be drawn up by the Commission and would be applied immediately; however, pending their adoption and in their absence, EU Member States have the right to take independent safeguard action (Article 10.1 of Directive 90/425/EC), but they must inform the Commission of this.

The priority in this situation would be to keep the disease out of GB. Risk management may include one or more of the options listed below. The options followed will be based on an assessment of the risk to GB and will thus be dependent on the individual outbreak situation. Restrictions outlined in Directive 90/426/EEC are detailed below. In the event of an outbreak, the decision as to which restrictions would be imposed, will be determined in discussion at the EU Standing Committee on the Food Chain and Animal Health (SCoFCAH), e.g.:

- A ban on imports of equidae and equine products from a Restricted Zone.
- Imports from AHS virus infected areas permitted only on a risk managed basis provided they meet certain requirements (with regard to 90/426, Article 5.3).
- Requirements include:
 - a) Equidae moved only during certain periods of the year, depending on vector insect activity.
 - b) Equidae must be kept in a quarantine station for a minimum of 40 days prior to being moved. Equidae must be protected from vectors during this quarantine period and during transportation from quarantine station to place of dispatch.
 - c) Equidae must show no clinical signs of AHS on the day of inspection (inspection must have occurred within a 48 hour period prior to being moved from the affected area).
 - d) If equidae have not been vaccinated against AHS they must have tested negatively to a suitable serological test on 2 occasions, with an interval of 21 and 30 days between the two tests and the second test being carried out within 10 days of dispatch

If equidae have been vaccinated against the circulating serotype of AHS, this must have been performed more than 60 days prior to movement and the equidae must have undergone serological tests, as described above, with no evidence of a rising antibody titre between the two tests.

Where possible equidae that have entered GB from the affected EU Member State within 40 days (the OIE recommended infective period) will be traced, examined and tested for evidence of AHS infection. Equidae in contact with traced animals may also be tested and be subjected to movement restrictions. Where animals have left GB prior to being traced, the country of destination will be informed of concerns about the health status of the equidae in question.

4.2 African horse sickness restriction zone(s) in another EU member state demarcated such that they extend into GB

During the 2006 Bluetongue outbreak in Europe, parts of south-east England were effectively within 150 km zones around infected premises on continental Europe. In the European Commission Standing Committee on Food Chain and Animal Health (SCoFCAH) the UK successfully requested exclusion from the zones because of: geographical reasons; scanning surveillance work being undertaken, including post-import testing; and the pro-active raising of awareness amongst stakeholders. In the event of AHS being confirmed in mainland Europe, the UK would probably seek to avoid demarcation including its territory. The decision as to whether to seek exemption would be dependent on an assessment of risk conducted based on the immediate situation.

All the measures discussed in 4.1 would be applicable in this situation.

4.3 AHS case in a third country

EU harmonised trade and import rules require that no equidae may be imported from a Third country, or zone of that country, in which AHS virus is present unless specific requirements are met (90/426/EEC Article 13).

A country or zone is considered free of AHS if there has been no clinical, serological (in unvaccinated animals) and/or epidemiological evidence of AHS in the past two years, and no vaccination against AHS has been carried out in the past 12 months .

The part of the territory considered to be infected with AHS must comprise as a minimum:

- a Protection Zone with a radius of at least 100 km around any centre of infection,
- a Surveillance Zone at least 50 km extending beyond the Protection Zone, in which no vaccination has been carried out in the last 12 months (90/426/EEC Article 5.2)

An outbreak of AHS in a Third country should prompt notification to the Commission and Member States that the disease has occurred (90/426/EEC Article 12). This notification may result in restrictions on trade from that country. Appropriate safeguard measures would be drawn up by SCoFCAH / European Commission and would be applied immediately. The priority in this situation (a confirmed AHS case in a third country) would be to keep the disease out of GB.

Risk management measures are described in the qualitative risk assessment (<http://www.archive.defra.gov.uk/foodfarm/farmanimal/diseases/monitoring/documents/ahs>)

[uk081106.pdf](#)). The options followed will be based on an assessment of the risk to GB and will thus be dependent on the individual outbreak situation; however, the restrictions imposed will be those under Directive 92/35/EEC⁶.

All equidae that have entered GB from the Third country within 40 days, will be traced, examined and tested for evidence of AHS infection. Equidae in contact with traced animals may also be tested. Where animals have left GB prior to being traced, the country of destination will be informed of concerns about the health status of the equidae in question.

4.4 Raising stakeholder awareness

In the event of a heightened AHS risk information needs to be effectively disseminated to the owners of equidae, stakeholders and veterinary practitioners to increase awareness of AHS, encourage vigilance and ensure suspicious clinical signs are quickly recognised. Essential information that must be communicated will be:

- The clinical signs of AHS.
- The action to take if disease is suspected (veterinarians must be aware of the need to report suspected cases of AHS to their local AHVLA Office (<http://animalhealth.defra.gov.uk/about/contact-us/postcode.asp>))
- The ways to mitigate the risk i.e. measures to limit exposure to infected vectors, vector control methods, safe use of insecticides and veterinary equipment.

The general public should also be kept aware of the situation. Most importantly, the public should be aware of any biosecurity arrangements with which they should be complying i.e. relating to the movement of animals, bedding and feedstuffs from EU Member States or Third Countries etc., in order to reduce the risk of movement of diseased animals and the vector species.

Information will be sent to stakeholders for further dissemination to their members.

Communication to the veterinary profession will be through the British Equine Veterinary Association, British Veterinary Association and Royal College of Veterinary Surgeons. It will be essential to ensure veterinary surgeons are aware of their responsibility to notify, to whom to notify, and to be familiar with the clinical signs of AHS.

⁶ 92/35/EEC - Council Directive of 29 April 1992 laying down control rules and measures to combat African horse sickness. (<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:31992L0035:EN:HTML>)

4.5 Active surveillance

In the event of an increased AHS risk to GB, enhanced surveillance may be initiated. Where deemed appropriate such a regime would be defined following risk assessment, and cost benefit analysis. Surveillance could include:

- Enhanced vector surveillance to assess *Culicoides* vector populations in GB.
- Enhanced equine surveillance:
 - a) **Scanning** - veterinarians and pathologists would be reminded of their obligation to report suspect cases to their local AHVLA Office and would be encouraged to report suspicious cases for investigation by their local AHVLA Office.
 - b) **Targeted** - serosurveillance could be introduced in susceptible species; however, given the high morbidity and mortality in horses and ponies, it is unlikely that serosurveillance would be beneficial, as sub-clinical cases are unlikely. Serosurveillance targeted at species which are less likely to show clinical disease may be introduced in order to detect silent cases (i.e. donkeys, zebras).

4.6 Vector control

Within those areas identified as being at heightened risk, the vector protection measures outlined below will be widely publicised and strongly recommended. Efforts will be made to ensure all veterinary practices, horse owners, occupiers and keepers in the high risk areas are aware of the heightened risk and from where further information can be obtained. .

Owners will be advised to protect equidae against vectors to reduce the likelihood of a susceptible animal becoming infected. To help owners understand this advice the measures can be described as being the same in principle as those that would be considered for the control of sweet-itch. These recommendations will include:

- **Insecticides:** Use of an appropriate insecticide on all equidae. (N.B. No veterinary medicines are currently authorised to act specifically against *Culicoides* vectors in any species. Veterinary medicines containing deltamethrin are currently considered the most effective against *Culicoides* species; however such products are not completely effective and at best only reduce the risk of horses being bitten by midges. There are currently no veterinary medicines containing deltamethrin authorised in GB for use on horses. In the event of an increased risk of AHS in GB, owners will be advised to discuss with their private veterinarian whether treatment to protect their horse against midges is appropriate and which veterinary medicine is the most suitable. In exceptional circumstances, veterinarians may find it necessary to prescribe a veterinary medicine authorised for another species or for another condition, or an unauthorised veterinary medicine (i.e. one containing

deltamethrin) under the “cascade”. Care must be taken to monitor closely for adverse reactions; if any are noted they should be reported to the prescribing veterinarian. Owners must be made aware by their veterinarian of any relevant withdrawal period for the product used. Use of the product must be appropriately recorded in the horse’s passport.

- **Physical protection:** Additional vector protection methods that can be used include appropriate ‘fly-sheets/hoods’ etc.
- **Insect repellents:** Insect repellents containing the active ingredient DEET may be useful to enhance physical protection from vectors.
- **Movement of susceptible equidae:** Moving equidae to environments likely to have lower *Culicoides* populations i.e. high, windy ground. Prior to such a movement it is essential that owners ensure that no movement restrictions are in place that would prevent such a movement occurring. Owners must also ensure that they take full account of their horse’s welfare.
- **Housing in vector-protected accommodation:** While this is unlikely to be an option for the large majority of equidae, due to the cost of construction and the complexity of effective management, there may be some high value animals which have this accommodation available to them.
- **Management of vector breeding areas such as stagnant water:** Removal of stagnant water from the environment where possible, and destruction of any other identified breeding grounds.
- **Management of manure:** Careful management of manure to decrease the midge population.
- **Management with other stock:** Midges are attracted to goats, sheep and cattle as well as horses. Keeping horses with these animals may increase the risk of midge attack.
- **Time of day:** *Culicoides* are most active in the hours around sunset and sunrise, thus vector protection should be targeted especially at this time.

The general environment should NOT be treated with insecticides. This will probably have little effect on midge populations and can cause serious environmental damage, particularly in water courses.

Further guidance is available at:

<http://www.archive.defra.gov.uk/foodfarm/farmanimal/diseases/atoz/africanhorse/index.htm>

4.7 Meteorological surveillance

The Meteorological Office monitors meteorological data on a daily basis and can assist in assessing the possibility for windborne spread of potentially AHS virus infected vectors to GB, and within GB. Information on potentially infective plumes of wind is based on metrological models and is supplied to Government and to the Pirbright Institute.

The heightened risk areas may be published on the Government website with the caveat that the model is only an estimation of potential incursions from infected vectors using relevant information available and is not a definitive picture.

5 Suspicion of AHS infection within GB

Any person e.g. veterinary surgeon, owner or keeper, who inspects or examines any equidae or equine or carcasses, and suspects the equidae or carcass to be infected with AHS virus, must immediately notify their local AHVLA Office (<http://www.defra.gov.uk/animalhealth/about/contact-us/officemap.html>).

Additionally, any person who examines a sample taken from equidae or carcasses and who suspects the equidae/carcass are infected with AHS virus or who detects antibodies to, or antigens of that virus must immediately notify their local AHVLA Office. In response to this report an official veterinary inquiry, to confirm or rule out the presence of AHS, will be conducted by a veterinary officer.

5.1 General principles

From the moment when the suspected infection is notified, the veterinary officer shall have the suspect holding(s) placed under official controls as per those described in the relevant regulations.

Any person in possession or charge of a notified horse or carcass must ensure that it is not moved from the premises where it is located, nor any equipment or genetic material. No other horse or carcass shall be moved from or to the premises, except that any horse normally kept at the premises may return there.

If required by the veterinary officer, and to the extent that it is practicable to do so, the main occupier must ensure that all horses are moved away from any part of the premises where most vectors are likely to be present. Areas which may be breeding grounds for vectors shall be identified and any vector control measures that the veterinary officer requires shall be implemented.

Failure to observe such controls is an offence. The controls will apply until a veterinary officer confirms (orally or otherwise) to any occupier of the premises that the presence of African horse sickness virus on the premises is not suspected, or the premises becomes a suspect premises, in which case the controls applying to suspect premises will take effect.

Where the equid is at a premises where it is normally resident, the veterinary officer will verbally or in writing inform the person notifying the suspicion that further investigation is needed and the control above will apply immediately. Where the equid is at another premises, the main occupier and any other occupiers will be informed of the need for further investigations and the applicable controls.

5.2 Presence of virus is not suspected

If a veterinary officer determines, through investigation, that the presence of AHS virus on the premises is not suspected, these controls will be removed.

If the veterinary officer **cannot rule out the suspicion of AHS** virus being present on the premises a notice will be served on the occupier designating the premises as a suspect premises.

5.3 Premises is designated a suspect premises

If any premises is designated a suspect premises, the veterinary officer will then:

- As far as is practically possible, identify places on the premises likely to facilitate the survival of the vectors, or to accommodate them, and assess the practicality of using appropriate vector control measures in such places.
- Take samples from any horse or carcase that is, or has been, on that premises.
- Begin an epidemiological inquiry to try to establish at least:
 - a) The length of time during which AHS virus may have existed in equidae on the premises.
 - b) The origin of the virus.
 - c) The identification of other premises on which there are equidae which may have become infected from the same source.
 - d) The presence and distribution of vectors.
 - e) The movements of any equidae on and off the premises and any carcasses removed from the premises. The time period covered for this tracing is likely to be 14 days (the incubation period is accepted as being in the range 3-14 days). If zebras or donkeys are present on the premises this time period may be extended. Premises where equidae have moved to during this period will be identified. This will be difficult given the nature of equine movements, but should be attempted in order to identify potential infection in in-contact animals.
 - f) The possibility that non-captive horses may be involved in the spread of the virus.

The veterinary officer will continue this inquiry until these facts have been established, so far as is possible, or the possibility of disease has been discounted.

5.3.1 Requirements on the occupier

The notice served will require the occupier of the premises to:

a) Ensure the notified horse or carcass is not moved from the premises where it is.

b) Ensure no equipment is removed from the premises.

c) Ensure no other horse or carcass is moved from, or to, the premises, however, any horse normally resident on that premises may return to it. But it is important to note that once returned, such a horse will not be allowed to leave the premises until the restrictions have been lifted.

d) Perform an official census to record all equidae on the premises. This will include recording

i) the number of each equine species on the premises;

ii) the number of each species that are already dead;

iii) the number that are showing clinical signs of AHS;

iv) the number born and that die after restrictions are placed;

v) the number that enter and leave the premises.

The occupier should update this record regularly to take account of equidae being born or dying. It would be expected that in most situations this record will be able to be kept accurately; however, on premises where equidae are kept extensively, i.e. semi-feral pony herds, this may not be possible. All reasonable steps should be taken to keep the record up-to-date. These records must be kept for at least six months after the lifting of the zone or the restrictions on the premises, whichever is later.

It should be noted that the routine, informal recording of all movements for all horses on a premises is regarded as good practice, not just during disease outbreaks.

e) Ensure all equidae on the premises are kept so far as is practicable on the part(s) of the premises where they are likely to be less exposed to midges. This will include areas of high, windy ground and areas away from stagnant water. If the veterinary officer directs equidae to be kept in a certain part of the premises, the occupier must ensure this is followed. The most appropriate way to protect against vectors will vary on different premises. The veterinary officer will advise what the most appropriate measures are based on each individual situation.

f) Implement such practicable midge control measures as directed by the veterinary officer.

5.3.2 Requirements related to movements

In addition, the notice will require that:

- a) All movement of equidae to or from the holding(s) is prohibited, except under the authority of a licence issued by a veterinary officer.
- b) No equine carcase or any other thing which is likely to cause transmission of mides can be moved off the premises, except under the authority of a licence issued by a veterinary officer. This prohibition of movement off the premises will include horse transport vehicles, bedding, manure and feed.
- c) Enforcement of these movement controls is the responsibility of Local Authorities.

5.3.3 If the premises is not known to have an epidemiological link with other premises

If the suspect premises is not known to have an epidemiological link with an infected premises, the following steps will be taken:

- A veterinary officer will take all reasonable steps to establish whether or not the suspicion is correct. This will include:
 - a) Taking samples from equidae or carcasses on the premises (if there are any), or the environment, and having them tested. If a carcase needs to be removed to allow post-mortem examination this movement will be carried out under the control of AHVLA. It is expected that all suspect equidae and carcasses on the premises will be tested. In addition, donkeys and zebras present on the premises are likely to be tested. The veterinary officer can test any equidae/carcasses deemed necessary.
 - b) Monitoring equidae on the premises. This may include clinical examination of equidae.
- The relevant Minister will revoke the notice designating the premises a suspect premises if testing does not demonstrate the presence of AHS virus, or antibodies to AHS virus, in the samples.

5.3.4 If the premises has an epidemiological link with other premises

If the suspect premise has an epidemiological link to a known infected premise, the following steps will be taken:

- The veterinary officer will take steps to determine if the suspicion is correct.

- If any equidae on the premises show clinical signs of AHS virus infection initially, or during the monitoring period, the veterinary officer:
 - a) Must take samples from it and have them tested
 - b) May take samples from any other equidae or carcasses on the premises and have them tested. Samples are likely to be taken from donkeys and zebras present on the premises and any equine with a known or possible contact with an infected premises.
- If no equidae on the premises shows clinical signs of AHS virus, the veterinary officer:
 - c) Must monitor any equidae on the premises for a period of at least 40 days, and
 - d) May take samples from any equidae or carcass on the premises and have them tested.
- The relevant Minister, on the advice of the relevant CVO, will revoke the notice designating the premises a suspect premises if:
 - e) All equidae on the premises have died or been euthanased.
 - f) Testing does not demonstrate the presence of AHS virus, or antibodies to AHS virus, in the samples
 - g) No equidae show clinical signs of AHS virus during the 40 day monitoring period from the commencement of veterinary investigations.

5.3.5 Identification of equidae

The veterinary officer may permanently identify using a microchip (or require an owner to do so) any equidae on a suspect premises which does not currently have a microchip inserted.

5.3.6 Visits to premises

The veterinary officer may make repeat visits to the suspect premises, to inspect and take samples as necessary for the completion of the veterinary investigation.

Depending on the scale of the outbreak, and the resources available, it may not be possible to visit all suspect cases immediately. In this situation the suspect cases will be prioritised on epidemiological assessment at that time. This will be based on factors such as movement records, meteorological conditions and disease modelling.

5.3.7 Monitoring of equidae

The veterinary officer may recommend owners of equidae resident on suspected premises to check the temperature of each of the equidae at least twice daily. Any owner recording a temperature greater than 39.2 °C should inform their private veterinary surgeon, who may in turn contact AHVLA if there is suspicion of disease.

5.3.8 Temporary movement restriction zones (Temporary Control Zone in Scotland)

If required, the relevant Minister can declare an appropriately sized Temporary Movement Restriction Zone (TMRZ) or Temporary Control Zone (TCZ) around the suspected infected premises prior to the presence of disease being confirmed. The TMRZ/TCZ can be of any size, and this will depend on the assessed risk of transmission of AHS virus at the time.

Any measures considered necessary to prevent the spread of disease may be implemented within the TMRZ/TCZ.

5.3.9 Movement restrictions

If considered necessary, the Movement of Animals (Restrictions) (England) Order 2002 (as amended) or the Movement of Animals (Restrictions) Wales Order 2003 (as amended) or the Movement of Animals (Restrictions) (Scotland) Order 2003 could be used to institute a 48 hour movement ban in a certain region of England/Wales/Scotland in the situation where suspicion of disease was high and a movement ban was considered necessary to allow the disease control response to be implemented.

5.3.10 Welfare issues under exceptional circumstances

In the event of exceptional circumstances arising due to movement restrictions, movement of individual animals may be allowed by licence under veterinary supervision to ensure the health and welfare of individual animals (regulation 39/article 38). Permission must be obtained from the veterinary officer prior to any movement occurring.

5.3.11 Nature reserves

Specific provisions may be laid down for nature reserves in which equidae live in freedom. The veterinary officer will be responsible for determining what the most appropriate measures will be on each nature reserve. The most appropriate measures are likely to be different on each reserve due to differing environmental conditions.

5.3.12 Slaughter on Suspicion (Scotland only)

It is envisaged that this power would be rarely used. If the horse was a one off case with very general clinical signs, this would not result in slaughter, whereas if AHS was present elsewhere in GB and the horse presented strong clinical signs, then slaughter would be an option. Slaughter on suspicion is a proven method in preventing disease spread.

6 Outcome of investigation

6.1 Testing

As described above, the veterinary officer will submit samples for testing for AHS virus or antibodies on samples from equidae and carcasses from suspect premises.

6.1.1 Presence of virus is confirmed

If initial testing demonstrates that any equidae or carcass on the suspect premises is infected with AHS virus (i.e. presence of virus demonstrated), the relevant Minister will declare the premises to be infected. The measures outlined in [5.3.1](#) and [5.3.2](#) will continue to have effect. Tests that could be used to identify the presence of virus include real time Polymerase Chain Reaction (PCR), antigen-detection ELISA and virus isolation.

If AHS infection is confirmed, the Pirbright Institute will undertake serotype identification.

6.1.2 Antibodies to infection are identified

If virus is not identified in any equidae or carcasses on the premises, but antibodies against AHS are identified, the veterinary officer shall continue to monitor equidae on the premises and take further samples and test those samples. The restrictions in [5.3.1](#) and [5.3.2](#) will remain in effect. If tests for virus have already been performed and found to be negative, serology will be repeated 10-14 days later. In addition, the veterinary officer may test other equidae on the premises. All donkeys and zebras on the premises should be tested. The veterinary officer will investigate vaccination and travel history to help determine the source of AHS antibodies.

6.1.3 Investigation does not confirm infection with AHS

If the investigation does not confirm infection with AHS virus all restrictions can be lifted by the relevant Minister once sufficient information is available to be sure of disease freedom.

7 Confirmation of disease

The relevant CVO will confirm the first case of AHS based on laboratory results; in the event of an epidemic, on the basis of clinical signs, laboratory results and/or epidemiological investigation.

7.1 Notification of obligations

AHS is notifiable to the OIE and to the European Commission. On confirmation that AHS is present in GB, the UK CVO will notify the European Commission and the OIE within 24 hours.

7.2 Declaration of Zones

On confirmation of the disease, the relevant Minister will declare:

- The **Control Zone (CZ)** - a zone of at least 20 km radius around the infected premises (IP) placed under restriction.
- A **Protection Zone (PZ)** of at least 100 km radius around the infected premises.
- A **Surveillance Zone (SZ)** of at least another 50 km beyond the Protection Zone, in which no systematic vaccination has been carried out in the last 12 months.

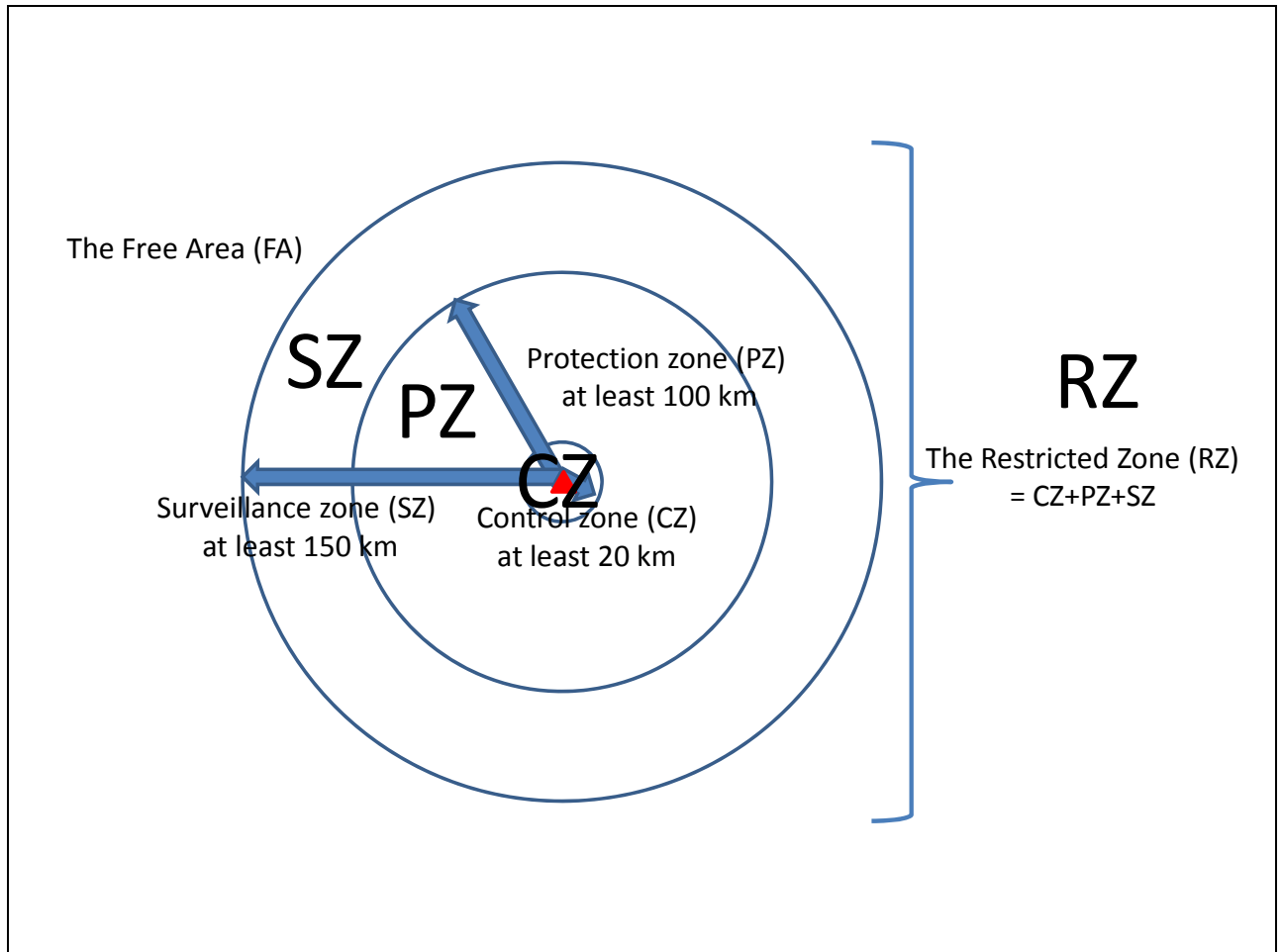
All these zones are centred on the part of the premises that the relevant Minister considers most appropriate for disease control.

- **Restricted Zone** - these zones combined (CZ, PZ and SZ) shall be referred to as the Restricted Zone (RZ)

Outside the Restricted Zones i.e. the area free from disease restrictions, will be referred to as the Free Areas (FA)

- **Infection zone** – Of such a size the relevant Minister considers necessary to reduce the risk of spread of AHS. This zone may be declared where AHS is likely to be present in non-captive horses (All normal disease control measures as described above can be declared in such a zone.

Figure 1: Illustration of the relationship of disease control zones



The establishment of the zones can take account of the natural boundaries to the dispersal of vectors, and geographical, administrative, ecological and epizootiological factors. Ministers may extend the measures provided for in the Control Zone if beyond that zone there are grounds for suspecting an extension of AHS virus.

Due to the size of the zones substantial areas of GB may be within the Restricted Zone and subject to movement restrictions irrespective of where AHS is confirmed. With the agreement of the SCoFCAH, changes to zone sizes may be made as the disease progresses to allow the most proportionate and effective disease control.

7.2.1 Cross border zones

7.2.1.1 Outbreaks within 150km of a border with a devolved territory

If an outbreak occurs which required that the 150km RZ extends into an adjacent administration then both administrations will need to make a declaration in respect of their proportion of the RZ.

These zones may be of any size that the relevant Minister considers necessary to reduce the spread of AHS virus.

Where zones involve more than one Member State, the competent authorities of the Member States involved will collaborate to define the boundaries of the zones.

7.2.1.2 Infected premises declared in adjacent GB administrations

If an infected premises is declared in one GB administration, the relevant Minister from an adjacent administration may declare:

- a) A Control Zone to cover at least any area of their administration that is within 20 km of the centre of any Control Zone from the IP.
- b) A Protection Zone to cover at least any area of their administration that is within 100 km from the IP, and
- c) A Surveillance Zone to cover at least an area of their administration that is within 150 km from the IP.

These zones may be of any size that the relevant Minister considers necessary to reduce the spread of AHS virus.

7.3 Action on premises where AHS is confirmed

When AHS is diagnosed in any equidae, or identified in any equine carcass, the premises at which those equidae resided will be declared an infected premises (IP).

7.3.1 Veterinary investigation

The veterinary officer will initiate a veterinary inquiry as described in [5.3](#). The measures described in [5.3.1](#) and [5.3.2](#) will apply to IP.

7.3.2 Diagnostic Testing

Depending on the stage of the outbreak, as part of the epidemiological investigation, the veterinary officer may take serological samples from all equidae on the premises, whether or not they are showing signs of clinical disease.

7.3.3 Repeat visits

The veterinary officer can make repeat visits to the IP in order to progress the veterinary investigation outlined above as necessary. The occupier of the IP must notify the veterinary officer if any equidae shows clinical signs of illness. The veterinary officer shall revisit the IP at a frequency determined by the situation.

7.3.4 Monitoring of equidae

The veterinary officer may recommend owners of equidae resident on suspected premises to check the temperature of each at least twice daily. Any owner recording a temperature greater than 39.2 °C should inform their private veterinary surgeon, who may in turn contact AHVLA if there is suspicion of disease.

7.3.5 Identification of equidae

The veterinary officer may permanently identify using a microchip (or require an owner to do so) any equidae on a suspect premises which does not currently have a microchip inserted.

7.3.6 Culling of infected animals

In the early stages of an outbreak of AHS, Government will act rapidly to kill infected horses, and those showing clinical signs of the disease on infected and contact premises. This action is necessary to prevent the disease spreading to and circulating within the midge population. Any such decision on euthanasia will be taken at a senior level within Government, and it is expected that only very small number of equidae will be killed for disease control purposes. It is important to note that this is likely to be restricted to the beginning of the outbreak and only where such action may have an impact on the limiting spread of the disease.

Should the disease continue to spread, and there is proof the disease is circulating in the midge population, continuing to kill infected animals may not be an appropriate response. In such circumstances, Government will, with the approval of the European Commission, stop killing animals, and instead focus efforts on available midge control, movement restrictions and possible vaccination.

Specific categories of animals may be spared, but only if such action will not jeopardise the control of the disease (see <http://www.defra.gov.uk/animal-diseases/controls/culling->

[exemptions/](#)). Examples include animals of a recognised rare breed of genetic importance, research, zoo species and other similar animals if vector protection measures can be applied, and they can be moved immediately to a maximally vector protected building that is fully operational at the time of diagnosis.

Responsibility lies with the owners of these animals to ensure that appropriate facilities and other risk mitigations measures are fully funded, available and ready for use at the required time. A veterinary risk assessment must be undertaken before any such decision can be taken.

If any equidae require euthanasia on welfare grounds due to injury or disease (where Government has moved away from a culling policy), this can be carried out at the owner's request and expense by their private vet, but must be reported immediately to their local AHVLA Office.

7.3.7 Disposal of carcasses

On premises where equidae have been culled for disease control purposes, the carcass of any equidae that die or are killed on that premises will be removed under the authority of the relevant Minister, and disposed of in such a way as to prevent onward spread of AHS.

On premises where no equidae have been culled for disease control purposes, disposal of carcasses shall remain the responsibility of the owner of the equidae. Carcasses must be disposed of in accordance with the Animal By-Products (Enforcement) (England) Regulations 2011, the Animal By-Products (Enforcement) (Scotland) Regulations 2011 or the Animal By-Products (Enforcement) (Wales) Regulations 2011

The meat of horses infected with AHS virus is infectious to dogs. Dogs which consume the meat of an infected animal can contract AHS, which is frequently fatal. Meat from infected horses must not be fed to dogs or other carnivores.

7.4 Action to be taken in the Restricted Zones

Within the Restricted Zones declared by the relevant Minister, the following must occur:

- Premises containing equidae must be identified as soon as is practicable.
- A veterinary officer should visit, in a systematic way, premises with equidae that are within the Restricted Zones. The veterinary officer will inspect and examine equidae as necessary, and collect and test any samples considered necessary.

7.4.1 Identification of equine premises

Equine premises in the Control Zone will be identified by AHVLA and Local Authority staff undertaking local patrols on the ground, visits to individual premises and liaison with local veterinary practices and Local Authorities. To expedite this process, and to allow identification of premises in the remainder of the Restricted Zones, it will be helpful for all equine premises within the Restricted Zones to register with AH.

7.4.2 Visits to equine premises

The Directive requires that equine premises within the Restricted Zone are visited. Within the Restricted Zone, priority will be to:

- a) Investigate new report cases.
- b) Investigate tracings from infected premises. Tracings will include equidae which have, within the last 40 days, been resident on a premises now considered to be an IP or premises with equidae which have, within the last 40 days, been resident on a premises on which any donkeys or zebras were present.
- c) Visit premises considered to present greatest risk to the rest of the equine population i.e.:
 - Neighbouring premises.
 - Premises containing donkeys/zebras/mules.
 - Premises close to likely/suspected *Culicoides* breeding sites.
 - Premises sharing equipment, e.g. dental and obstetric tools, with a known IP.

7.4.3 Contact with premises that are not visited as a priority

Information and guidance on the signs for which keepers should be vigilant will be made available to all equine premises. The owner, and the veterinary surgeon if consulted by the owner, must notify their local AHVLA Office if any suspect clinical cases occur.

7.4.4 Suspect premises in the Restricted Zones

When a veterinary officer visits premises in the Restricted Zones considered to be suspect premises, monitoring and testing will be carried out as described in [5.3.4](#) At all other premises, samples may be collected as necessary. It is likely all donkeys and zebras within the Restricted Zones will undergo testing (this is most likely to be serological testing

at an interval of 10-14 days). Follow-up visits will be conducted as considered necessary, based on a veterinary risk assessment.

With the agreement of SCoFCAH, the relevant Minister may reduce the size of, or remove, any or all of the zones depending on the epidemiological situation and the measures necessary to control the spread of AHS virus. In the event that a prolonged outbreak occurs, altering the size of zones may allow the equine industry to continue to function without any risk of increased disease transmission. These decisions will be taken based on epidemiological and veterinary risk assessment.

7.4.5 Actions to be taken in the Control Zone

The measures laid down in [5.3.1](#) and [5.3.2](#) will be extended to all premises within the Control Zone. These actions can be extended outside of this zone if there are reasons for suspecting an extension of AHS. Defra will inform the European Commission of any changes to the boundary.

7.4.6 Actions to be taken in the Protection Zone

7.4.6.1 Movement of equidae

Equidae cannot be moved on to, or off, a premises in the Protection Zone unless licensed by a veterinary officer or an inspector acting under the direction of a veterinary officer. A licence may be granted at any time if:

- a) In the event of exceptional circumstances, movement of individual animals may be allowed by licence under veterinary supervision to ensure the health and welfare of individual animals.
- b) The move is direct to licensed place of slaughter within the Protection Zone for the purpose of emergency slaughter.
- c) The move is direct to a slaughter house designated by the relevant Minister within the Surveillance Zone if no slaughterhouse exists within the Protection Zone for the purpose of emergency slaughter.
- d) The move is to a quarantine station.
- e) A licence is needed to allow movement between two sets of premises divided by a road provided that the sites of premises would be contiguous except for the road.
- f) The move is direct to other premises within the Protection Zone, provided that:

- A veterinary surgeon has inspected all equidae on the premises and examined each of the equidae to be moved within 48 hours preceding movement and has no reason to believe AHS is present in any of the equidae on the premises;
- The equidae are accompanied by documentation by which it can be clearly identified (in practical terms this will be its passport) and is microchipped;
- If the equidae have been vaccinated against AHS, 60 days must have passed since date of that vaccination.

No person may move horses through the Protection Zone unless licensed by a veterinary officer, or an inspector acting under the direction of a veterinary officer. In practice this will be by general licence, which will require midge control measures to protect the horses while passing through the zone.

A veterinary risk assessment will be required to assess the specific licensing regime appropriate to the specific needs in each outbreak and the stage in each outbreak.

7.4.6.2 Sero-surveillance within the Protection Zone

Sero-surveillance for AHS will be required within the Protection Zone. A programme of active surveillance for susceptible animals would be developed at the time of an outbreak depending on the epidemiological assessment.

7.4.6.3 Vaccination within the Control and/or Protection Zone

The relevant CVO may require vaccination of all equidae within the Control and/or Protection Zone using a vaccine authorised by the Veterinary Medicines Directorate (VMD). All equidae will be identified with a microchip upon vaccination (if not already identified in this way) and the vaccination will be recorded in the individual's passport as per horse passport legislation. It is important to note that it is an offence to vaccinate against AHS if this is not specifically authorised by the relevant Minister. Equidae that have been vaccinated within the previous 60 days cannot be moved from the premises on which they resided at the time of vaccination.

7.4.7 Actions to be taken within the Surveillance Zone (extending 50km beyond the Protection Zone)

7.4.7.1 Movement of equidae

Equidae cannot be moved on to, or off, a premises in the Surveillance Zone unless licensed by a veterinary officer or an inspector acting under the direction of a veterinary officer. A licence may be granted at any time if:

- a) In the event of exceptional circumstances, movement of individual animals may be allowed by licence under veterinary supervision to ensure the health and welfare of individual animals.
- b) The move is direct to slaughterhouse within the Surveillance Zone for the purpose of emergency slaughter.
- c) The move is direct to a slaughter house designated by the relevant Minister within the Protection Zone if no slaughterhouse exists within the Surveillance Zone for the purpose of emergency slaughter.
- d) The move is to a quarantine station.
- e) A licence is needed to allow movement between two sets of premises divided by a road provided that the sets of premises would be contiguous except for the road.
- f) The move is direct to other premises within the Surveillance Zone, provided that:
 - A veterinary surgeon has inspected all equidae on the premises and examined each of the equidae to be moved within 48 hours preceding movement and has no reason to believe AHS is present in any of the equidae on the premises;
 - The equidae are accompanied by their passports and are microchipped;

A veterinary risk assessment will be required to assess the specific licensing regime appropriate to the specific needs in each outbreak and the stage in each outbreak.

7.4.7.2 Sero-surveillance within the Surveillance Zone

Sero-surveillance (surveillance using blood tests) for AHS will be required within the Surveillance Zone. A programme of active surveillance for susceptible animals would be developed at the time of an outbreak depending on the epidemiological assessment.

7.4.7.3 Vaccination within the Surveillance Zone

In accordance with the Directive (92/35/EEC), vaccination of equidae within the Surveillance Zone would not be allowed.

7.4.8 Activity outside the Restricted Zones

Appropriate surveillance will be undertaken outside of the Restricted Zone.

Any suspicious case, or case that is considered to be suspect on *post-mortem* examination, must be sampled and these subjected to testing at an appropriate laboratory and the local AHVLA Office informed of the result. The premises of origin of the case will become a suspect premises.

Active surveillance may also be carried out depending on the need determined through epidemiological assessment of the outbreak.

7.4.9 Epidemiological links within infected premises

In the event that due to an epidemiological link with an infected premises, a veterinary officer suspects that a premises outside a Restricted Zone which does not contain any equidae, may contain infected vectors, the relevant Minister may serve a notice on the owner or occupier of that premises prohibiting equidae entering it for a specified period. In practice, this provision is likely to be used when there is suspicion that infected vectors are present for some reason on a premises where equine gatherings occur i.e. show grounds, racecourses etc..

7.4.10 Suspect case within a slaughterhouse

If suspected equidae or carcasses are in a slaughterhouse when notification of suspicion is made and the duty veterinary officer at the AHVLA Office considers further investigation is necessary, the duty veterinary officer must tell, the person in charge of the equidae/carcasses of the following:

- a) Any live suspect equidae and any live equidae from the same premises as the suspect must not be slaughtered until examined by a veterinary officer and the veterinary officer has confirmed that the necessary samples have been taken.
- b) If any of the suspect equidae or equidae from the same premises have already been slaughtered, or have died, their carcasses must be separately identified and retained until a veterinary officer has examined them and confirmed all necessary samples have been taken.

If, after investigation, the veterinary officer suspects AHS virus does exist in any equidae or carcasses at the slaughterhouse, the veterinary officer will serve a notice requiring that all live suspect equidae and equidae from the same premises are slaughtered and the carcasses are separately identified and made available to the veterinary officer for examination and sampling. The veterinary officer must take samples and test them to

ascertain if AHS virus is present. Samples can be from equidae/carcasses at the slaughterhouse, or at the premises of origin. If test results show AHS virus is present, the relevant Minister shall remove and dispose of the carcasses. The premises of origin will be investigated as a suspect premises.

If the veterinary officer determines AHS virus does not exist in any equidae or carcasses at the slaughterhouse, these controls will cease to apply.

7.4.11 Premises straddling zones

If premises straddle the border of two zones, they shall be treated as being within the higher risk zone i.e. if a premises straddles the Protection and Surveillance Zone, it will be treated as being in the Protection Zone.

7.5 Equidae living in the wild/non-captive horses

With regards to those non-captive equidae living essentially in the wild e.g. feral ponies, a veterinary officer any other officer of the relevant Minister may:

- a) Undertake surveillance for such equidae;
- b) Capture them;
- c) Vaccinate them;
- d) Take samples from them; and
- e) kill them if the veterinary officer is satisfied that:
 - it is not possible to take samples from them without killing them; or
 - it is not reasonably practicable to detain them pending the results of any testing or sampling; or
 - they are spreading or may spread AHS virus to other horses, or are at risk of acquiring AHS virus.

8 Vector investigation

Vector investigations may be conducted on any premises. If undertaken, the aim will be to:

- a) Establish the *Culicoides* species present and the abundance of each species (this will assist in determining which vector species are involved in transmitting AHS virus).
- b) Collect insects on the suspect premises or in the local area of the affected animals and submit these to the Pirbright Institute for identification as required.
- c) Isolate virus from the collected *Culicoides* sp. (Although this may be unrewarding if the vector involved has low (1-2%) competency. Best success will be achieved with vectors from premises where disease is known to be present).

8.1 Vector mitigation measures

Guidance on measures that can be taken to decrease the risk of horses being bitten by *Culicoides* species is available at:

www.archive.defra.gov.uk/foodfarm/farmanimal/diseases/documents/ahs-guidance.pdf.

The general environment should not be treated with insecticides. Expert advice indicates that this will probably have little effect on midge populations and can cause serious environmental damage, particularly in water courses.

8.2 Vector monitoring

Where considered appropriate, vector sampling may also be undertaken in the Protection Zone and Surveillance Zone, at sites selected for serological monitoring to establish whether competent vectors are present, their abundance, seasonality and prevalence. These data may assist in planning resource deployment, modelling and predicting spread of the outbreak.

Isolation of AHS virus from vectors is not suitable as a technique for monitoring disease.

9 Exports

It is unlikely that trading partners will allow import of equidae from GB if AHS virus is present in the country. However, movement from free areas, Protection Zones and Surveillance Zones is envisaged if certain conditions are met (EU Directive 90/426).

- a) Equidae must travel from the PZ/SZ to a quarantine station where they will remain for 40 days prior to despatch.
- b) This movement and dispatch can only occur at times of year when vectors are inactive and the equidae must show no clinical signs of AHS on examination prior to dispatch (examination must occur within 48 hours of dispatch).
- c) If equidae have been vaccinated against AHS they must not have been vaccinated within the last 60 days and must undergo two serological tests with no evidence of a rising antibody titre.
- d) If the equidae have not been vaccinated, they must test negative by serological test on two occasions, with 21-30 days between tests with the final test being carried out not more than 10 days prior to dispatch.
- e) Equidae must be kept in the quarantine station for 40 days prior to dispatch.
- f) The equidae must have been protected from vectors during the quarantine period and during transport from the quarantine station to the place of dispatch.

Surveillance on infected premises will be conducted through testing and monitoring by a veterinary officer.

10 Vaccination

Under normal circumstances, no one in the UK is allowed to vaccinate a horse against AHS. No AHS vaccine is currently authorised by the Veterinary Medicines Directorate for use in GB. The relevant CVO may permit the use of an unauthorised vaccine in an emergency.

Use of any vaccine will be determined based on advice from the relevant CVO based on the safety and efficacy information available for the vaccine. Proposals for the establishment of a vaccine bank, which will contain a number of monovalent live vaccine types, are being considered by the European Commission. This may be considered for use in an emergency situation.

Where a vaccination zone has been declared, any occupier of premises inside that zone **must** ensure the vaccination of horses on their premises in accordance with that declaration.

Horses that are vaccinated must be identified by way of a microchip and a record of such horse having been vaccinated must be kept.

No person may move a vaccinated horse from the premises where it was vaccinated until at least 60 days have elapsed since:

- a) the date of the vaccination, or
- b) if the vaccination includes a course of doses, the date of the final dose,

except under the authority of a licence granted by a veterinary officer.

The policy on vaccination is subject to change depending on the development of AHS vaccine technology e.g. Differentiate Infected from Vaccinated Animals (DIVA) tests.

11 General issues

11.1 Compensation

The African Horse Sickness (England) Regulations 2012 and The African Horse Sickness (Scotland) Order 2012 provide for the relevant Minister to pay compensation for horses killed for the purpose of controlling the disease, and for any thing seized under the legislation, unless it is returned.

Where following confirmation of the presence of the AHS, a horse is killed on the basis of presenting clinical signs of the disease, but **is subsequently shown to be free of the disease by way of an approved diagnostic test** carried out by the National Reference Laboratory for AHS (see [Appendix](#)), the relevant Minister will pay compensation.

No compensation is payable for any horse that, at the time it was killed, was shown by a laboratory test to be affected with AHS.

The value of the horse will be that determined by the relevant Minister as the value of the horse immediately before it was killed, but will not exceed £2,500 in any circumstances. The valuer will be appointed and paid by the relevant Minister.

Compensation will be paid for any items seized under the legislation (unless it is returned) as its value at the time of seizure.

Where the valuation is disputed, the procedure for this is described in the relevant regulations.

Nothing in the relevant legislation can be used to authorise any delay in killing a horse for disease control purposes.

Owners of susceptible animals, particularly in the highly-valued racing and breeding sectors, should be encouraged to explore options such as insurance and construction of vector-proofed accommodation.

The relevant Minister will pay for:

- a) the cost of putting down all horses killed by Government for disease control purposes,
- b) transporting the carcass and
- c) the cost of safe disposal.

11.2 Enforcement

Enforcement of the legislation is carried out by Local Authorities.

12 Information management

12.1 Stakeholder awareness and communication

During an outbreak, information must be provided for all keepers of equidae, occupiers, veterinary practitioners and other stakeholders, particularly within the Restricted Zone. The key information provided will vary during the course of the outbreak, but key elements will include:

- a) Clinical signs of AHS.
- b) Action to take if the disease is suspected.
- c) The current disease situation within GB (and possibly Europe and rest of world).
- d) Current control measures in place.
- e) Legislative and licensing procedures that must be complied with.
- f) Responsibilities and restrictions applicable to infected premises and those within the designated area.

The general public will be kept informed about the disease, the outbreak and the control measures being implemented. The public will be re-assured that AHS does not affect humans and has no public health implications.

Communication with the equine sector will be focus on the dissemination of information through stakeholders and wider networks, such as Local Authorities.

13 Long term action following confirmation of disease

The aim will be to eradicate the disease and re-establish freedom from AHS.

13.1 Stakeholder awareness and communication

Defra, on behalf of all three GB administrations, must apply to SCoFCAH for permission to lift the restrictions and remove the zones when it is believed that AHS virus is no longer present.

If vaccination has been carried out, the restrictions and zones must remain in place for no less than 12 months after completion of the last vaccination.

The requirements for a country being declared free of AHS are laid down in the latest version of the OIE Terrestrial Animal Health Code (2011) (Chapter 12.1.2

http://www.oie.int/index.php?id=169&L=0&htmfile=chapitre_1.12.1.htm) and in

90/426/EEC: [http://faolex.fao.org/cgi-](http://faolex.fao.org/cgi-bin/faolex.exe?rec_id=014051&database=faolex&search_type=link&table=result&lang=en)

[bin/faolex.exe?rec_id=014051&database=faolex&search_type=link&table=result&lang=en](http://faolex.fao.org/cgi-bin/faolex.exe?rec_id=014051&database=faolex&search_type=link&table=result&lang=en)
[g&format_name=@ERALL](http://faolex.fao.org/cgi-bin/faolex.exe?rec_id=014051&database=faolex&search_type=link&table=result&lang=en)

13.2 Surveillance in the immediate subsequent years

The aim of surveillance in the immediate subsequent years of an outbreak would be to aid eradication of disease and to attain the requirements needed to gain 'free' status.

The objectives would be to determine the following:

- a) Has AHS virus persisted over the winter?
- b) Has AHS virus been reintroduced?
- c) Confirmation that AHS virus is no longer present?

In the initial stages, it is expected that horses will exhibit severe disease, and very high levels of mortality. Donkeys will show variable levels of disease severity and zebras will not be expected to show clinical signs despite infection.

According to the OIE, in order to demonstrate AHS freedom, a Member State must provide evidence for the existence of an effective surveillance programme. The strategy and design of the surveillance programme will be dependent on the epidemiological circumstances but should be based on the methods described in the Terrestrial Animal

Health Code chapter 12.1

(http://www.oie.int/index.php?id=169&L=0&htmfile=chapitre_1.12.1.htm).

Susceptible wild equidae must be included in any disease surveillance scheme intended to provide evidence to all disease free status to be regained.

13.3 Vector monitoring

Vector sampling using light traps may also be undertaken to determine their geographical and seasonal distribution and prevalence in risk areas.

Vector surveillance can be used to identify high, medium and low risk areas by determining the various species present in an area, their abundance and seasonal occurrence. This information may in turn inform targeted surveillance of equidae.

Appendix

1.1 National Laboratory for AHS

The UK National Reference Laboratory for AHS is;

Pirbright Institute

Pirbright Laboratory

Vector-borne Diseases Programme

Ash Road

Pirbright

Woking

Surrey GU24 0NF

The national laboratories for AHS are responsible for: (i) co-ordinating the standards and diagnostic methods laid down in each diagnostic laboratory of the Member State, (ii) for the use of reagents and (iii) for the testing of vaccines. To this end, they:

- 1 may provide diagnostic reagents to diagnostic laboratories requesting them;
- 2 will control the quality of all diagnostic reagents used in that Member State;
- 3 will arrange comparative tests periodically;
- 4 will hold isolates of AHS virus from cases confirmed in that Member State;
- 5 will ensure the confirmation of positive results obtained in regional diagnostic laboratories.

1.2 National Laboratory for AHS virus vectors (*Culicoides* species)

Pirbright Institute

Pirbright Laboratory

Vector-borne Diseases Programme

Ash Road

Pirbright

Woking

Surrey GU24 0NF

Note that the National Laboratory for AHS based at IAH is also an OIE designated Reference Laboratory for AHS.

This *Culicoides* vector Reference Laboratory shall be responsible for:

- 1 providing staff to collect vectors and if required to train others in vector collection;
- 2 identification of insects collected to determine *Culicoides* sp acting as vectors;
- 3 maintaining knowledge and providing advice on ecology, distribution, seasonality and control of vectors.
- 4 developing novel techniques for the rapid identification of potential and proven vector species.

1.3 Community Reference Laboratory

Laboratorio de Sanidad Produccion Animal

Ministerio de Agricultura, Pesca y Alimentacion

28110 Algete, Madrid,

Spain

This laboratory has been designated by the European Commission as the Community Reference Laboratory for African Horse Sickness. (Directive 1992/35/EEC. Annexe II)

The Community reference laboratory has the following functions and duties:

- 1 to coordinate, in consultation with the Commission, the methods employed in the Member States for diagnosing AHS, specifically by:
- 2 typing, storing and supplying strains of AHS virus for serological tests and the preparation of antiserum;
- 3 supplying standard sera and other reference reagents to the national reference laboratories in order to standardize the tests and reagents used in each Member State;
- 4 building up and maintaining a collection of AHS virus strains and isolates;

- 5 organizing periodical comparative tests of diagnostic procedures at Community level;
- 6 collecting and collating data and information on the methods of diagnosis used and the results of tests carried out in the Community;
- 7 characterising isolates of AHS by the most up-to-date methods available to allow greater understanding of the epizootiology of AHS;
- 8 monitoring developments in AHS surveillance, epizootiology and prevention throughout the world;
- 9 to assist actively in the diagnosis of AHS outbreaks in Member States by receiving virus isolates for confirmatory diagnosis, characterization and epizootiological studies;
- 10 to facilitate the training or retraining of experts in laboratory diagnosis with a view to the harmonization of techniques throughout the Community;
- 11 to carry out a mutual and reciprocal exchange of information with the other Reference laboratories for AHS designated by the International Office of Epizootics (OIE), in particular with regard to changes and developments in the world situation concerning AHS.