

**SEC (2006) 634 FINAL**  
**[SANCO/102464R5/2006 part 3 WELFARE]**

## APPENDIX 3.7.2.

**The European Community can support these proposals but is communicating written comments on some particular issues (see below). Certain OIE amendments initially proposed in September are not submitted here and the Community would like to confirm that it maintains its comments previously communicated to the OIE on 15 February 2006 on the parts of the text not discussed today (Ref. D(2005) 522619). In particular to ensure the proper application of these guidelines the responsibilities of all those persons involved in the transport chain need to be very clearly explained. The European Community hopes that all of its comments will be considered by the relevant OIE Working Group.**

## GUIDELINES FOR THE TRANSPORT OF ANIMALS BY SEA

**Preamble:** These guidelines apply to the following live domesticated animals: cattle, buffalo, deer, camelids, sheep, goats, pigs and equines. They may also be applicable to other domesticated animals.

**Written Community comments:**

**The text on animal behaviour in the guidelines for the slaughter of animals for human consumption should also be inserted into the land and sea transport guidelines.**

**Justification: Such guidance and information would also be useful to handlers involved in the transport of animals, not just their slaughter.**

### Article 1

The amount of time animals spend on a journey should be kept to the minimum.

**Written Community comments:**

**The word “bis” should be deleted from the next article heading.**

**Justification: The word is not necessary.**

### Article 3.7.2.1. bis

#### Responsibilities

Once the decision to transport the animals by sea has been made, the welfare of the animals during their journey ~~transport~~ is the paramount consideration and is the joint responsibility of all people involved with the individual responsibilities of those persons being described in more detail in this Article. These guidelines may also be applied to the transport of animals by water within a country.

The management of animals at post-discharge facilities is outside the scope of this Appendix.

The roles of each of those responsible are defined below:

### Written Community comments

**The responsibilities of those various persons involved in the transport chain are presented in a confusing and overlapping manner. To facilitate the correct interpretation and application of these animal welfare guidelines, which is paramount, these responsibilities should be defined and described in a much clearer way, e.g. in tabular fashion describing clearly “who is responsible for what” during transport. Definitions or clearer descriptions are needed for some of the agents described, such as manager of facilities.**

### Justification

**Reading the current text it is very difficult to grasp the interlinked and overlapping responsibilities described, and it is even difficult to understand who is being referred to in some cases e.g. manager of facilities, senior animal handler.....**

1. Exporters, owners of animals and managers of facilities are jointly responsible for the general health of the animals and their fitness for the journey, and for their overall welfare during the journey, regardless of whether duties are subcontracted to other parties during transport.
2. The exporter has overall responsibility for the organisation, carrying out and completion of the journey, regardless of whether duties are subcontracted to other parties during transport. The exporter is also responsible for ensuring that equipment and medication are provided as appropriate for the species and journey, and for the presence during the journey of at least one *animal handler*<sup>1</sup> competent for the species being transported. The exporter is also responsible for ensuring compliance of the animals with any required veterinary certification and, in the case of animals for export, any other requirements of the *importing* and *exporting countries*.
3. Business or buying/selling agents have a joint responsibility with owners for the selection of animals that are fit to travel. They have a joint responsibility with masters of vessels and managers of facilities at the start and at the end of the journey for the availability of suitable facilities for the assembly, loading, transport, unloading and holding of animals, and for emergencies.
4. Animal handlers are responsible for the humane handling and care of animals, especially during loading and unloading. To carry out these responsibilities, they should have the authority to take prompt action.
5. The exporter, the shipping company and the master of the vessel are jointly responsible for planning the journey to ensure the care of the animals, including:
  - a) choosing appropriate vessels and ensuring that ~~competent~~ *animal handlers* are available to care for loading and caring for the animals throughout the journey;
  - b) developing and keeping up to date contingency plans to address emergencies (including adverse weather conditions) and minimise stress during transport;

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<sup>1</sup> ~~An *animal handler* is a person with a knowledge of the behaviour and needs of animals which, with appropriate experience and a professional and positive response to an animal's needs, results in effective management and good welfare; their competence should be demonstrated through independent assessment and certification.~~

- c) correct loading of the ship, regular inspections during the journey and for appropriate responses to problems arising;
  - d) disposal of carcasses according to international law.
6. To carry out these responsibilities, the people involved should be competent regarding transport regulations, equipment usage, and the humane handling and ~~the~~ care of animals.
7. Managers of facilities during loading of the animals are responsible for:
- a) providing suitable premises for loading the animals;
  - b) providing ~~competent~~ *animal handlers* to load the animals ~~in a manner that causes~~ with minimum stress and the avoidance of injury;
  - c) providing appropriate facilities for emergencies;
  - d) providing facilities and veterinarians or ~~competent~~ *animal handlers* capable of killing animals humanely when required.
8. Managers of facilities at the end of the journey are responsible for:
- a) providing suitable facilities for unloading the animals onto transport vehicles for immediate movement or securely holding the animals in lairage, with shelter, water and feed, when required, for transit;
  - b) providing ~~competent~~ *animal handlers* to unload the animals with minimum stress and injury;
  - c) minimising the opportunities for disease transmission while the animals are in the facilities;
  - d) providing appropriate facilities for emergencies;
  - e) providing facilities and veterinarians or ~~competent~~ *animal handlers* capable of killing animals humanely when required.
9. The responsibilities of the *Competent Authority* of the *exporting country* include:
- a) establishing minimum standards for animal welfare, including requirements for inspection of animals before and during their travel, and for certification and record keeping;

**Written Community comments:**

**Under point (b) the apparent obligation for a Competent Authority to approve all facilities, containers and vessels should be re-considered.**

**Justification: This would imply a very high administrative burden and would be very difficult to achieve in the case of all transport of animals by sea.**

- b) approving facilities, containers, vehicles/vessels for the holding and transport of animals;
- c) setting competence standards for *animal handlers* and managers;
- d) ensuring that the vessel transporting animals meets the required standards, including those of the *importing country*;
- e) implementation of the standards, including through accreditation of / interaction with other organisations and Competent Authorities;

**Written Community comments:**

**Under point (f) the apparent obligation for a Competent Authority to monitor animal health and welfare during the journey should be re-considered.**

**Justification: It may be impossible under practical conditions for a competent authority to monitor the health and welfare of all animals transported by sea.**

- f) monitoring and evaluating health and welfare performance, including the use of any veterinary medications.
10. The responsibilities of the *Competent Authority* of the *importing country* include:
- a) establishing minimum standards for animal welfare, including requirements for inspection of animals after their travel, and for certification and record keeping;

**Written Community comments:**

**Under point (b) the apparent obligation for a Competent Authority to approve all facilities, containers and vessels should be re-considered.**

**Justification: This would imply a very high administrative burden and would be very difficult to achieve in the case of all transports of animals by sea.**

- b) approving facilities, containers and vehicles for the unloading, holding and transport of animals;
- c) setting competence standards for *animal handlers* and managers;
- d) implementation of the standards, including through accreditation of / interaction with other organisations and Competent Authorities;
- e) ensuring that the *exporting country* is aware of the required standards for the vessel transporting the animals;

**Written Community comments:**

**Under point (f) the apparent obligation for a Competent Authority to monitor animal health and welfare during the journey should be re-considered.**

**Justification: It may be impossible under practical conditions for a competent authority to monitor the health and welfare of all animals transported by sea.**

- f) monitoring and evaluating health and welfare performance, including the use of any veterinary medications.

**Written Community comments**

**The last sentence of point 11 should be changed as follows: “The veterinarian should meet with the Master or Chief Officer of the vessel and the animal handler on a daily basis”.**

**Justification**

**The current wording implies meeting the Master and the Chief Officer of the vessel on a daily basis and this has no additional value. The term “senior animal handler” has not been defined and so “animal handler” is a more appropriate term.**

11. When travelling on vessels with the animals, veterinarians are responsible for the humane handling and treatment of the animals during the journey. To carry out these responsibilities, they should have the authority to act and report independently. The veterinarian should meet with the Master, Chief Officer and the senior *animal handler* on a daily basis.
12. The receiving *Competent Authority* should report back to the sending *Competent Authority* on significant animal welfare problems which occurred during the journey.

#### Article 3.7.2.2.

### Competence

1. All people ~~handling animals or who are otherwise~~ responsible for animals during *journeys*, should be competent according to their responsibilities listed in Article 3.7.2.1. Competence in areas other than animal welfare would need to be addressed separately. Competence may be gained through formal training and/or practical experience.

### Written Community comments

**The next sentence should be re-considered in the context of its possible implications:**  
 “The competence of *animal handlers* should be demonstrated through a current certificate from the *Competent Authority* or from an independent body accredited by a the *Competent Authority*.”

### Justification

**The current wording would imply that all animal handlers involved in the transport of any animals in any OIE member country would need to have “a current certificate from the *Competent Authority* or from an independent body accredited by a the *Competent Authority*.” This would have profound implications. A more appropriate wording is used in Article 3.7.6.1 of the guidelines for the killing of animals for disease control purposes where this requirement for the certification of all personnel has been deleted “All personnel involved in the humane killing of animals should have the relevant skills and competencies. Competence may be gained through formal training and/or practical experience. This competence should be demonstrated through a current certificate from an independent body accredited by a Competent Authority.”**

**It is important to have a consistent approach between the various OIE animal welfare guidelines.**

2. ~~This~~ The competence of *animal handlers* should be demonstrated through a current certificate from the *Competent Authority* or from an independent body accredited by a the *Competent Authority*. The certificate should be in one of the OIE official languages if the international transport of animals is involved.
3. The assessment of competence ~~for~~ of *animal handlers* should at a minimum address knowledge, and ability to apply that knowledge, in the following areas:

- a) responsibilities for animals during the journey;
  - b) sources of advice and assistance;
  - c) animal behaviour, general signs of disease, and indicators of poor animal welfare such as stress, pain and fatigue, and their alleviation;
  - d) assessment of fitness to travel;
  - e) relevant authorities and applicable transport regulations, and associated documentation requirements;
  - f) general disease prevention procedures, including cleaning and disinfection;
  - g) appropriate methods of animal handling during transport and associated activities such as assembling, loading, and unloading;
  - h) methods of inspecting animals, managing situations frequently encountered during transport such as adverse weather conditions, and dealing with emergencies;
  - i) species-specific aspects and age-specific aspects of animal handling and care, including feeding, watering and inspection;
  - j) ~~appropriate record keeping and~~ maintaining a journey log and other records.
4. Assessment of competence for exporters should at a minimum address knowledge, and ability to apply that knowledge, in the following areas:
- a) planning a journey, including appropriate space allowances, and feed, water and ventilation requirements;
  - b) relevant authorities and applicable transport regulations, and associated documentation requirements;
  - c) appropriate methods of animal handling during transport and associated activities such as cleaning and *disinfection*, assembling, loading, and unloading;
  - d) species-specific aspects of animal handling and care, including appropriate equipment and medication;
  - e) sources of advice and assistance;
  - f) ~~appropriate record keeping and journey log~~;
  - g) managing situations frequently encountered during transport, such as adverse weather conditions, and dealing with emergencies.

#### Article 3.7.2.3.

### Planning the journey

#### 1. General considerations

- a) Adequate planning is a key factor affecting the welfare of animals during a journey.
- b) Before the journey starts, plans should be made in relation to:

- i) preparation of animals for the journey;
- ii) type of transport vessel required;
- iii) route, taking into account distance, expected weather and sea conditions;
- iv) nature and duration of journey;
- v) daily care and management of the animals by providing the appropriate number of animal handlers;
- vi) avoiding the mixing of animals from different sources in a single pen group;
- vii) provision of appropriate equipment and medication for the numbers and species carried;
- viii) emergency response procedures.

## 2. Preparation of animals for the journey

- a) When animals are to be provided with a novel diet e.g. for dry food, and or unfamiliar methods of supplying of feed and or water, they should be preconditioned may be required.
- b) There should be planning for water and feed availability during the journey. Feed should be of appropriate quality and composition for the species, age, condition of the animals, etc.
- c) Extreme weather conditions are hazards for animals undergoing transport and require appropriate vessel design to minimise risks. Special precautions should be taken for animals that have not been acclimatised or which are unsuited to either hot or cold conditions. In some extreme conditions of heat or cold, animals should not be transported at all.
- d) Animals more accustomed to contact with humans and with being handled are likely to be less fearful of being loaded and transported. Animals should be handled and loaded in a manner that reduces their fearfulness and improves their approachability.
- e) Behaviour-modifying or other medication should not be used routinely during transport. Such medicines should only be administered when a problem exists in an individual animal, and should be administered by a veterinarian or other person who has been instructed in their use by a veterinarian. Treated animals should be placed in a dedicated area.
- f) ~~Where there is a potential for spread of infectious disease, and when requested by the Veterinary Authority of the importing country, animals should be vaccinated against diseases to which they are likely to be exposed at their destination.~~
- h) ~~There should be an emergency management plan that identifies the important adverse events that may be encountered during the journey, the procedures for managing each event and the action to be taken in an emergency. For each important event, the plan should document the actions to be undertaken and the responsibilities of all parties involved, including communications and record keeping.~~

## 3. Control of disease

As animal transport is often a significant factor in the spread of infectious diseases, journey planning should take into account the following:

- a) when possible and agreed by the Veterinary Authority of the importing country, animals should be vaccinated against diseases to which they are likely to be exposed at their destination;



- b) medications used prophylactically or therapeutically should only be administered by a veterinarian or other person who has been instructed in their use by a veterinarian;
- c) mixing of animals from different sources in a single consignment should be minimized.

#### 4. Vessel and container design and maintenance

- a) Vessels used for the sea transport of animals should be designed, constructed and fitted as appropriate to the species, size and weight of the animals to be transported. Special attention should be paid to the avoidance of injury to animals through the use of secure smooth fittings free from sharp protrusions and the provision of non-slip flooring. The avoidance of injury to *animal handlers* while carrying out their responsibilities should be emphasised.
- b) Vessels should be designed to permit thorough cleaning and *disinfection*, and the management of faeces and urine.
- c) Vessels and their fittings should be maintained in good mechanical and structural condition.
- d) Vessels should have adequate ventilation to meet variations in climate and the thermo-regulatory needs of the animal species being transported. The ventilation system should be ~~capable of operating effective~~ when the vessel is stationary ~~and the air flow should be adjustable.~~ An emergency power supply should be available to maintain ventilation in the case of primary machinery breakdown.

#### **Written Community comments**

**The need for lighting to facilitate inspection of the animals needs to be mentioned. The following wording is proposed: “Vessels should be properly illuminated to allow animals to be observed and inspected.”**

#### **Justification**

**It is a basic requirement to have sufficient light to carry out proper inspections of the animals.**

- e) The feeding and watering system should be designed to permit adequate access to feed and water appropriate to the species, size and weight of the animals, and to minimise soiling of pens.
  - f) Vessels should be designed so that the faeces or urine from animals on upper levels do not soil animals on lower levels, or their feed or water.
  - g) Loading and stowage of feed and bedding should be carried out in such a way to ensure protection from fire hazards, the elements and sea water
  - h) Where appropriate, suitable bedding, such as straw or sawdust, should be added to vessel floors to assist absorption of urine and faeces, provide better footing for animals and protect animals (especially young animals) from hard or rough flooring surfaces and adverse weather conditions.
  - i) The above principles apply also to containers used for the transport of animals.
- #### 5. Special provisions for transport in road vehicles on roll-on/roll-off vessels or for containers
- a) Road vehicles and containers should be equipped with a sufficient number of adequately designed, positioned and maintained securing points enabling them to be securely fastened to the vessel.

- b) Road vehicles and containers should be secured to the ship before the start of the sea journey to prevent them being displaced by the motion of the vessel.
- c) Vessels should have adequate ventilation to meet variations in climate and the thermo-regulatory needs of the animal species being transported, especially where the animals are transported in a secondary vehicle/container on enclosed decks.
- d) Due to the risk of limited airflow on certain vessels' decks, a road vehicle or container may require a forced ventilation system of greater capacity than that provided by natural ventilation.

### Written Community comments

**The list of factors described under point 6 to determine the maximum duration of a journey is incomplete and should be placed “under study” pending further analysis and preparation of a more complete list of determining factors. The first sentence should be rephrased as follows: “The maximum duration of a journey should be determined in relation to the overall welfare of the animal taking into account factors such as:”**

**An additional point should be added:**

- i) vessel type used, stability, method of propulsion and risks associated with particular sea conditions”.**

### Justification

**When determining the duration of a journey a risk-based approach should be taken which balances the risks of welfare costs to the benefit of each risk factor. The list of factors proposed is incomplete and further evaluation is necessary to more accurately address this point. The proposed text is scientifically incomplete and should be placed “under study” pending further careful analysis by the OIE’s ad hoc expert groups.**

### 6) Nature and duration of the journey

The maximum duration of a journey should be determined according to factors such as:

- a) the ability of the animals to cope with the stress of transport (such as very young, old, lactating or pregnant animals);
- b) the animals' previous transport experience;
- c) the likely onset of fatigue;
- d) the need for special attention;
- e) the need for feed and water;
- f) the increased susceptibility to injury and disease;
- g) space allowance and vessel design;
- h) weather conditions.

7. Space allowance

- a) The number of animals which should be transported on a vessel and their allocation to different pens on the vessel should be determined before loading.
- b) The amount of space required, including headroom, depends on the species of animal and should allow the necessary thermoregulation. Each animal should be able to assume its natural position for transport (including during loading and unloading) without coming into contact with the roof or upper deck of the vessel. When animals lie down, there should be enough space for every animal to adopt a ~~comfortable~~, normal lying posture.

**Written Community comments**

**In the first sentence of the next bullet point the words “in Appendix XXX, or, in their absence” should be deleted.**

**Justification**

**Appendix XXX does not exist and referring to such non-existent text in international guidelines to be adopted by 167 OIE member countries is inappropriate, unhelpful and confusing to the reader.**

- c) Calculations for the space allowance for each animal should be carried out, using the figures given in ~~these guidelines~~ Appendix XXX or, in their absence, in a relevant national or international document. The size of pens will affect the number of animals in each.
  - d) The same principles apply when animals are transported in containers.
8. Ability to observe animals ~~en route~~ during the journey

- a) Animals should be positioned to enable them each animal to be observed regularly and clearly by the *animal handler* or other responsible person, during the journey to ensure their safety and good welfare.
- b) ~~To allow an adequate inspection of animals en route, it should be possible for each animal to be clearly observed by the *animal handler* or other responsible person.~~

9. Emergency response procedures

~~Appropriate contingency plans to address emergencies should be prepared in advance.~~

There should be an emergency management plan that identifies the important adverse events that may be encountered during the journey, the procedures for managing each event and the action to be taken in an emergency. For each important event, the plan should document the actions to be undertaken and the responsibilities of all parties involved, including communications and record keeping.

## Article 3.7.2.4.

**Documentation**

1. Animals should not be loaded until the documentation required to that point is complete.
2. The documentation accompanying the consignment should include:

**Written Community comments:**

**The word “including” should be changed to “and”.**

**Justification: The emergency plan is an important issue and does not comprise part of the journey travel plan, which is implied by the current wording “including”.**

- a) journey travel plan (including an emergency management plan);
- b) time, date and place of loading;
- c) the journey log – a daily record of inspection and important events which includes records of morbidity and mortality and actions taken, climatic conditions, food and water consumed, medication provided, mechanical defects;
- d) expected time, date and place of arrival and unloading;
- e) veterinary certification, when required;
- f) animal identification to allow traceback of individual animals to the premises of departure, and, where possible, to the premises of origin;

**Written Community comments:**

**In the next bullet point the cross-reference should be amended to “Article 3.7.2.5.3 e)”.**

**Justification: To facilitate proper interpretation and application the text and any cross-references used should be as clear and precise as possible.**

**Written Community comments:**

**The words “Animals considered at risk” should be changed to “Animals considered at particular risk of suffering poor welfare during transport”.**

**Justification: It is important in such international guidelines that scientific terms are used in as clear, correct and comprehensible a manner as possible.**

- g) details of any animals considered ‘at risk’ (Article 3.7.2.5);
  - h) number of *animal handlers* on board, and their competencies;
  - i) stocking density estimate for each load in the consignment.
3. When veterinary certification ~~should~~ is required to accompany consignments of animals ~~and, it should~~ address:
- a) when required, cleaning and details of disinfection carried out of the vessel;
  - b) fitness of the animals to travel;
  - c) animal identification (description, number, etc.) ;
  - d) health status including any tests, treatments and vaccinations carried out, ~~if required~~.

## Pre-journey period

### 1. General considerations

- a) Before each journey, vessels should be thoroughly cleaned and, if necessary, treated for animal and public health purposes, using chemicals approved by the *Competent Authority*. When cleaning is necessary during a journey, this should be carried out with the minimum of stress to the animals.
- b) In some circumstances, animals may require pre-journey assembly. In these circumstances, the following points should be considered:
  - i) Pre-journey rest is necessary if the welfare of animals has become poor during the collection period because of the physical environment or the social behaviour of the animals.
  - ii) For animals such as pigs which are susceptible to motion sickness, and in order to reduce urine and faeces production during the journey, a short period of feed deprivation prior to loading is desirable.
  - iii) ~~When animals will be provided with a novel diet or method of water provision during or after transport, an adequate period of pre-exposure is necessary. Preconditioning to the feed to be used on the vessel may be necessary in such cases.~~
  - iii) When animals are to be provided with a novel diet or unfamiliar methods of supplying of feed or water, they should be preconditioned.
- c) Where an *animal handler* believes that there is a significant risk of disease among the animals to be loaded or significant doubt as to their fitness to travel, the animals should be examined by a veterinarian.
- d) Pre-journey assembly /holding areas should be designed to:
  - i) securely contain the animals;
  - ii) maintain an environment safe from hazards, including predators and disease;
  - iii) protect animals from exposure to adverse weather conditions; ~~and~~
  - iv) allow for maintenance of social groups; and
  - v) allow for rest, watering and feeding.

### 2. Selection of compatible groups

Compatible groups should be selected before transport to avoid adverse animal welfare consequences. The following guidelines should be applied when assembling groups of animals:

- a) animals of different species should not be mixed unless they are judged to be compatible;
- b) animals of the same species can be mixed unless there is a significant likelihood of aggression; aggressive individuals should be segregated (recommendations for specific species are described in detail in Article 3.7.2.10.). For some species, animals from different groups should not be mixed because poor welfare occurs unless they have established a social structure;

- c) young or small animals may need to be separated from older or larger animals, with the exception of nursing mothers with young at foot;
- d) animals with horns or antlers should not be mixed with animals lacking horns or antlers, unless judged to be compatible;
- e) animals reared together should be maintained as a group; animals with a strong social bond, such as a dam and offspring, should be transported together.

### 3. Fitness to travel

- a) Animals should be inspected by a veterinarian or an animal handler to assess fitness to travel. If its fitness to travel is in doubt, the animal should be examined by a veterinarian. Animals found unfit to travel before travel and those found unfit to travel by farm staff, an animal handler or a veterinarian, should not be loaded onto a vessel.
- b) Humane and effective arrangements should be made by the owner or agent for the handling and care of any animal rejected as unfit to travel.
- c) Animals that are unfit to travel include:
  - i) those that are sick, injured, weak, disabled or fatigued;
  - ii) those that are unable to stand unaided ~~and~~ or bear weight on each leg;
  - iii) those that are blind in both eyes;
  - iv) those that cannot be moved without causing them additional suffering;
  - v) newborn with an unhealed navel;
  - vi) females travelling without young which have given birth within the previous 48 hours;
  - vii) pregnant animals which would be in the final 10% of their gestation period at the planned time of unloading.
- d) Risks during transport can be reduced by selecting animals best suited to the conditions of travel and those that are acclimatised to expected weather conditions.

#### **Written Community comments:**

**The words “at risk” should be changed to “at particular risk of suffering poor welfare during transport”.**

**Justification: More clear and precise wordings should be used where possible to facilitate correct interpretation of the intended meaning. In such internationally agreed guidelines it is important that scientific terms such as “risk” are used in as clear, correct and precise a manner as possible.**

- e) Animals at risk, and requiring better conditions and additional attention during transport include:
  - i) very large or obese individuals;
  - ii) very young or old animals;
  - iii) excitable or aggressive animals;
  - iv) animals subject to motion sickness;

- v) animals which have had little contact with humans;
- vi) females in the last third of pregnancy or in heavy lactation.
- f) Hair or wool length ~~needs consideration~~ should be considered in relation to the weather conditions expected during transport.

#### Article 3.7.2.6.

### Loading

#### 1. Experienced Competent supervision

- a) Loading should be carefully planned as it has the potential to be the cause of poor welfare in transported animals.

#### **Written Community comments:**

**The words “loading should be supervised by the Competent Authority” need to be carefully considered.**

**Justification: These guidelines may be applicable not just to the international transport of animals but also within national boundaries and journeys of short duration. It is questionable whether all Competent Authorities have the requisite resources to supervise the commencement of all such journeys.**

- b) Loading should be supervised by the *Competent Authority* and ~~managed~~ conducted by ~~an~~ *animal handler(s)*. Animal handlers should ensure that animals are loaded quietly and without unnecessary noise, harassment or force, and that untrained assistants or spectators do not impede the process.
  - e) ~~Ventilation during loading and the journey should provide for fresh air, and the removal of excessive heat, humidity and noxious fumes (such as ammonia and carbon monoxide). Under warm and hot conditions, ventilation should allow for the adequate convective cooling of each animal. In some instances, adequate ventilation can be achieved by increasing the space allowance for animals.~~
- #### 2. Facilities
- a) The facilities for loading including the collecting area at the wharf, races and loading ramps should be designed and constructed to take into account of the needs and abilities of the animals with regard to dimensions, slopes, surfaces, absence of sharp projections, flooring, sides, etc.
  - b) Ventilation during loading and the journey should provide for fresh air, and the removal of excessive heat, humidity and noxious fumes (such as ammonia and carbon monoxide). Under warm and hot conditions, ventilation should allow for the adequate convective cooling of each animal. In some instances, adequate ventilation can be achieved by increasing the space allowance for animals.
  - c) ~~All~~ Loading facilities should be properly illuminated to allow the animals to be easily inspected by the *animal handler(s)*, and to allow the animals' ease of movement at all times. Facilities should provide uniform lighting light levels directly over approaches to sorting pens, chutes, loading ramps, with brighter lighting light levels inside vehicles / containers, in order to minimise baulking. Dim lighting light levels may be advantageous for the catching of some animals. Artificial lightening may be required.

3. Goads and other aids

The following principles should apply:

**Written Community comments:**

**The following sentence should be added to point a: “Goads and other aids should not be used repeatedly if the animal fails to respond or move. In such cases it should be investigated whether some physical or other impediment is preventing the animal from moving”.**

**Justification: This is in line with basic practice that goads should not be used on animals who are unable to move.**<sup>a)</sup>

~~Goads (aids for encouraging animals to move) should not be used on~~ Animals that have little or no room to move should not be subjected to physical force or goads and other aids which compel movement.

- b) Useful and permitted goads include panels, flags, plastic paddles, flappers (a length of cane with a short strap of leather or canvas attached), plastic bags and metallic rattles; they should be used in a manner sufficient to encourage and direct movement of the animals ~~but without physical contact with them.~~
- c) Painful procedures (including whipping, tail twisting, use of nose twitches, pressure on eyes, ears or external genitalia), or the use of unsuitable goads or other aids (including sticks with sharp ends, lengths of metal piping, fencing wire or heavy leather belts), should not be used to move animals.
- e) ~~Unsuitable goads such as large wooden sticks, sticks with sharp ends, lengths of metal piping, fencing wire or heavy leather belts should not be used to strike animals.~~
- d) The use of goads which administer electric shocks should be discouraged, and restricted to that necessary to assist movement of the animal. ~~If Such use is necessary, it~~ should be limited to battery-powered goads on the hindquarters of pigs and large ruminants, and never on sensitive areas such as the eyes, mouth, ears, anogenital region or belly. Such instruments should not be used on horses, sheep and goats of any age, or on calves or piglets.
- e) Shouting or yelling at animals or making loud noises eg through the cracking of whips to encourage them to move should not occur, as such actions may make the animals agitated, leading to crowding or falling.
- f) The use of well trained dogs to help with the *loading* of some species may be acceptable.
- g) Manual lifting is permissible for young animals that may have difficulty negotiating ramps, but the lifting of animals by body parts such as their tail, head, horns, ears, limbs, wool or hair should not be permitted. The throwing or dropping of animals should not be permitted.

## Article 3.7.2.7.

**Travel**1. General considerations

- a) Animal handler(s) should check the consignment immediately before departure to ensure that the animals have been loaded according to the load plan. Each consignment should be checked again within ~~24~~ 12 hours.



**Written Community comments**

**The words “If necessary and where possible” should be added to the start of the next bullet point.**

**Justification**

**In many cases stocking density will not need to be changed during the journey. If it is necessary to make changes to the stocking density during the journey, this implies that additional free space should be held in reserve if the aforementioned stocking density changes are necessary. For these reasons the current wording should be changed.**

- b) Adjustments should be made to the stocking density ~~within 48 hours of departure and~~ as appropriate during the journey.
- c) Each pen of animals should be observed on a daily basis for normal behaviour, health and welfare, and the correct operation of ventilation, watering and feeding systems. There should also be a night patrol. Any necessary corrective action should be undertaken promptly.
- d) Adequate access to suitable feed and water should be ensured for all animals in each pen.

**Community comments**

**The text “Sick and injured” should be changed to “Sick or injured”.**

**Justification**

**The current wording is illogical. An animal may be sick without necessarily being injured.**

**This should also be changed again in points 2a-b and elsewhere in the text whenever this wording is used.**

2. Sick and injured animals**Written Community comments**

**1. The words: “if possible” should be deleted.**

**Justification**

**There should be a possibility to separate these sick or injured animals to avoid further seriously compromising their welfare.**

**2. The text “Sick and injured” should be changed to “Sick or injured”.**

**Justification**

**The current wording is illogical. An animal may be sick without necessarily being injured.**

- a) Sick ~~and~~ or injured animals should be segregated/~~isolated~~ if possible.

### Community comments

**The text “Sick and injured” should be changed to “Sick or injured”.**

### Justification

**The current wording is illogical. An animal may be sick without necessarily being injured.**

b) Sick ~~or~~ and injured animals should be appropriately treated ~~promptly and or humanely killed, in accordance with a predetermined emergency response plan (Article 3.7.2.3).~~ ~~and~~ Veterinary advice should be sought if necessary. All drugs and products should be used in accordance with the manufacturer’s or veterinarian’s recommendations.

c) **A record of treatments carried out and their outcomes should be kept.**

d) When euthanasia is necessary, the person responsible for the animals must ensure that it is carried out humanely, ~~and results in immediate death. When necessary.~~ Assistance should be sought from a veterinarian or other person(s) competent in euthanasia procedures. Recommendations for specific species are described in Appendix 3.7.6. on humane killing of animals for disease control purposes.

### 3. Cleaning and disinfection

a) ~~Vessels and containers used to carry the animals should be cleaned before re-use through the physical removal of manure and bedding by scraping, washing and flushing vessels and containers with water. This should be followed by *disinfection* when there are concerns about disease transmission.~~

b) ~~Manure, litter and bedding should be disposed of in such a way as to prevent the transmission of disease and in compliance with all relevant health and environmental legislation.~~

e) ~~Where cleaning or *disinfestation* is necessary during travel, it should be carried out with the minimum stress to the animals.~~

Article 3.7.2.8.

### Unloading and post-journey handling

#### 1. General considerations

a) The required facilities and the principles of animal handling detailed in Article 3.7.2.6. apply equally to unloading, but consideration should be given to the likelihood that the animals will be fatigued.

b) Unloading should be carefully planned as it has the potential to be the cause of poor welfare in transported animals.

c) A livestock vessel should have priority attention when arriving in port and have priority access to a berth with suitable unloading facilities. As soon as possible after the ship’s arrival at the port and acceptance of the consignment by the *Competent Authority*, animals should be unloaded into appropriate facilities.

d) The accompanying veterinary certificate and other documents should meet the requirements of the *importing country*. Veterinary inspections should be completed as quickly as possible.

- e) Unloading should be supervised by the *Competent Authority* and ~~managed~~ conducted by an ~~competent~~ *animal handler(s)*. The *animal handlers* should ensure that animals are unloaded as soon as possible after arrival but sufficient time should be allowed for unloading to proceed quietly and without unnecessary noise, harassment or force, and that untrained assistants or spectators do not impede the process.

## 2. Facilities

- a) The facilities for unloading including the collecting area at the wharf, races and unloading ramps should be designed and constructed to take into account of the needs and abilities of the animals with regard to dimensions, slopes, surfaces, absence of sharp projections, flooring, sides, etc.
- b) All unloading facilities should ~~be properly illuminated~~ have sufficient lighting to allow the animals to be easily inspected by the *animal handler(s)*, and to allow the animals' ease of movement at all times.
- c) ~~In case of emergencies,~~ There should be facilities should to provide animals with appropriate care and comfort, adequate space, access to quality feed and clean drinking water, and shelter from extreme weather conditions.

## 3. Sick and injured animals

- a) An animal that has become sick, injured or disabled during a journey should be appropriately treated or humanely killed (see Appendix 3.7.6.). When necessary, veterinary advice should be sought in the care and treatment of these animals.
- b) In some cases, where animals are non-ambulatory due to fatigue, injury or sickness, it may be in the best welfare interests of the animal to be treated or euthanased aboard the vessel.
- c) If unloading is in the best welfare interests of animals that are fatigued, injured or sick, there should be appropriate facilities and equipment for the humane unloading of such animals. These animals should be unloaded in a manner that causes the least amount of suffering. After unloading, separate pens and other appropriate facilities and treatments should be provided for sick or injured animals.

## 4. Cleaning and disinfection

- a) Vessels and containers used to carry the animals should be cleaned before re-use through the physical removal of manure and bedding, by scraping, washing and flushing vessels and containers with water until visibly clean. This should be followed by disinfection when there are concerns about disease transmission.
- b) Manure, litter and bedding should be disposed of in such a way as to prevent the transmission of disease and in compliance with all relevant health and environmental legislation.
- c) Where cleaning or disinfection is necessary during travel, it should be carried out with the minimum of stress to the animals.

Article 3.7.2.9.

## **Actions in the event of a refusal to allow the importation of a shipment**

1. The welfare of the animals should be the first consideration in the event of a refusal to import.

2. When ~~a shipment has~~ animals have been refused import, the *Competent Authority* of that country should make available suitable isolation facilities to allow the unloading of animals from a vessel and their secure holding, without posing a risk to the health of the national herd, pending resolution of the situation. In this situation, the priorities should be:
  - a) the *Competent Authority* of the *importing country* should provide urgently in writing the reasons for the refusal;
  - b) in the event of a refusal for animal health reasons, the *Competent Authority* of the *importing country* should provide urgent access to an OIE-appointed veterinarian(s) to assess the animals' health status with regard to the *importing country's* concerns, and the necessary facilities and approvals to expedite the required diagnostic testing;
  - c) the *Competent Authority* of the *importing country* should provide access to allow continued assessment of the ongoing health and welfare situation;
  - d) if the matter cannot be promptly resolved, the *Competent Authority* of the *exporting* and *importing countries* should call on the OIE to mediate.
3. In the event that the animals are required to remain on the *vessel*, the priorities should be:
  - a) the *Competent Authority* of the *importing country* should allow reprovision of the vessel with water and feed as necessary;
  - b) the *Competent Authority* of the *importing country* should provide urgently in writing the reasons for the refusal;
  - c) in the event of a refusal for animal health reasons, the *Competent Authority* of the *importing country* should provide urgent access to an OIE-appointed veterinarian(s) to assess the animals' health status with regard to the *importing country's* concerns, and the necessary facilities and approvals to expedite the required diagnostic testing;
  - d) the *Competent Authority* of the *importing country* should provide access to allow continued assessment of the ongoing health and ~~welfare situation~~ other aspects of the welfare of the animals, and the necessary actions to deal with any issues which arise;
  - e) if the matter cannot be urgently resolved, the *Competent Authorities* of the *exporting* and *importing countries* should call on the OIE to mediate.
4. The OIE should utilise its dispute settlement mechanism to identify a mutually agreed solution which will address the animal health and welfare issues in a timely manner.

Article 3.7.2.10.

**Written Community comments:**

**This text should be replicated at the end of Annex 3.7.1.**

**Justification: This text contains useful descriptions of issues of general interest and information, not specifically related to the transport of animals by sea. As such it could be useful to bring it to the attention of persons reading the other OIE animal welfare guidelines. Only presenting this text in the sea transport guidelines means that persons only reading the other animal welfare guidelines will be unaware of these important descriptions of species-specific issues.**

**Species specific issues**

**Cattle** are sociable animals and may become agitated if they are singled out. Social order is usually established at about two years of age. When groups are mixed, social order has to be re-established and aggression may occur until a new order is established. Crowding of cattle may also increase aggression as the animals try to maintain personal space. Social behaviour varies with age, breed and sex; *Bos indicus* and *B. indicus*-cross animals are usually more temperamental than European breeds. Young bulls, when moved in groups, show a degree of playfulness (pushing and shoving) but become more aggressive and territorial with age. Adult bulls have a minimum personal space of six square metres. Cows with young calves can be very protective, and handling calves in the presence of their mothers can be dangerous.

**Goats** should be handled calmly and are more easily led or driven than if they are excited. When goats are moved, their gregarious tendencies should be exploited. Activities which frighten, injure or cause agitation to animals should be avoided. Bullying is particularly serious in goats. Housing strange goats together could result in fatalities, either through physical violence, or subordinate goats being refused access to food and water.

**Sheep** are sociable animals with good eyesight and tend to “flock together”, especially when they are agitated. They should be handled calmly and their tendency to follow each other should be exploited when they are being moved. Sheep may become agitated if they are singled out for attention and will strive to rejoin the group. Activities which frighten, injure or cause agitation to sheep should be avoided. They can negotiate steep ramps.

**Pigs** have poor eyesight, and may move reluctantly in strange surroundings. They benefit from well lit loading bays. Since they negotiate ramps with difficulty, these should be as level as possible and provided with secure footholds. Ideally, a hydraulic lift should be used for greater heights. Pigs also negotiate steps with difficulty. A good ‘rule-of-thumb’ is that no step should be higher than the pig’s front knee. Serious aggression may result if unfamiliar animals are mixed. Pigs are highly susceptible to heat stress.

**Horses** in this context include all solipeds, donkeys, mules, hinnies and zebra. They have good eyesight and a very wide angle of vision. They may have a history of loading resulting in good or bad experiences. Good training should result in easier loading, but some horses can prove difficult, especially if they are inexperienced or have associated loading with poor transport conditions. In these circumstances, two experienced handlers can load an animal by linking arms or using a strop below its rump. Blindfolding may even be considered. Ramps should be as shallow as possible. Steps are not usually a problem when horses mount a ramp, but they tend to jump a step when descending, so steps should be as low as possible. Horses benefit from being individually stalled, but may be transported in compatible groups. When horses are to travel in groups, their shoes should be removed.

**Camelids** in this context comprise llamas, alpacas, guanaco and vicuna. They have good eyesight and, like sheep, can negotiate steep slopes, though ramps should be as shallow as possible. They load most easily in a bunch as a single animal will strive to rejoin the others. Whilst they are usually docile, they have an unnerving habit of spitting in self-defence. During transport, they usually lie down. They frequently extend their front legs forward when lying, so gaps below partitions should be high enough so that their legs are not trapped when the animals rise.

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— text deleted

## APPENDIX 3.7.3.

**Community position:**

**The European Community can support these proposals but will communicate written comments on some particular issues. In particular to ensure the proper application of these guidelines the responsibilities of all those persons involved in the transport chain need to be very clearly explained.**

**Certain OIE amendments initially proposed in September are not submitted here and the Community would like to confirm that it maintains its comments previously communicated to the OIE on 15 February 2006 on the parts of the text not discussed today (Ref. D(2005) 522619). The European Community hopes that all of its comments will be considered by the relevant OIE Working Group.**

## GUIDELINES FOR THE TRANSPORT OF ANIMALS BY LAND

### Article 1

The amount of time animals spend on a journey should be kept to the minimum.

**Written Community comments:**

**The word “bis” should be deleted from the next article heading.**

**Justification: The word is not necessary.**

### Article 3.7.3.1. bis

**Responsibilities**

Once the decision to transport the animals has been made, the welfare of the animals during their journey transport is the paramount consideration and is the joint responsibility of all people involved with the individual responsibilities of those persons being described in more detail in this Article.

The roles of each of those responsible are defined below:

1. The owners and managers of the animals are responsible for the general health of the animals and their fitness for the journey, and for their overall welfare during the journey, regardless of whether duties are subcontracted to other parties during transport. They are also responsible for ensuring compliance with any required veterinary or other certification, and for the presence during the journey of at least one *animal handler*<sup>2</sup> competent for the species being transported, with the authority to take prompt action. They are also responsible for ensuring that equipment and veterinary

<sup>2</sup> ~~An *animal handler* is a person with a knowledge of the behaviour and needs of animals which, with appropriate experience and a professional and positive response to an animal's needs, results in effective management and good welfare; their competence should be demonstrated through independent assessment and certification.~~

assistance are provided as appropriate for the species and journey. These responsibility should apply regardless of whether duties are subcontracted to other parties during transport.

2. Business agents or buying/selling agents have a joint responsibility with owners for the selection of animals that are fit to travel. They have a joint responsibility with market owners and managers of facilities at the start and at the end of the journey for the availability of suitable facilities for the assembly, loading, transport, unloading and holding of animals, including for any stops at resting points during the journey and for emergencies.
3. Animal handlers are responsible for the humane handling and care of the animals, especially during loading and unloading, and for maintaining a journey log. To carry out their responsibilities, they should have the authority to take prompt action. In the absence of a separate *animal handler*, the driver is the *animal handler*.
4. Transport companies, vehicle owners and drivers are responsible for planning the journey to ensure the care of the animals:

#### **Written Community comments**

**An extra bullet point should be added with the following text: “Transport companies are also responsible for the welfare of the animals during the actual transport”.**

#### **Justification**

**Transport companies have very important responsibilities concerning the transport of animals by land. Practical experience has shown the considerable animal welfare gains that can be achieved where transport companies promote a positive approach to ensuring the welfare of animals transported.**

- a) transport companies and vehicle owners are responsible for choosing appropriate vehicles and ensuring that properly trained staff are available for loading and caring for animals;
- b) transport companies and vehicle owners are responsible for developing and keeping up to date contingency plans to address emergencies and minimise stress during transport;

#### **Written Community comments**

**In the next bullet point the words “and vehicle owners” should be deleted.**

#### **Justification**

**Vehicle owners are usually natural persons or commercial haulage agencies not directly involved in planning and carrying out the transport.**

#### **Written Community comments**

**The word “itinerary” should be added after “journey duration”.**

#### **Justification**

**It is important that the description of the minimum requirements of the journey plan should be widened to include an itinerary, which is important for the driver to complete the journey in an efficient manner with appropriate animal welfare safeguards.**

- c) transport companies and vehicle owners are responsible for producing a journey plan which includes a loading plan, journey duration and location of resting places;
- d) drivers are responsible for loading only those animals which are fit to travel, for their correct loading into the vehicle and their inspection during the journey, and for appropriate responses to problems arising. If its fitness to travel is in doubt, the animal should be examined by a veterinarian in accordance with point 5 a) of Article 3.7.3.5.

**Written Community comments**

**“Managers of facilities” should be defined.**

**Justification**

**In order to ensure that these guidelines can be applied it is important that they are drafted in as clear and precise a manner as possible, especially with regard to the responsibilities of those involved in the animal transport chain.**

**Written Community comments**

**The first phrase of 5 should be replaced by “Drivers should only load and unload animals in places:”.**

**Justification**

**Drivers are a key actor in the animal transport chain and have important responsibilities in ensuring that the welfare of transported animals is properly safeguarded.**

5. Managers of facilities at the start and at the end of the journey and at resting points are responsible for:
- a) providing suitable premises for loading, unloading and securely holding the animals, with water and feed when required, until further transport, sale or other use (including rearing or slaughter);

**Written Community comments**

**Point (b) should be replaced with the following text**

**“- providing appropriate personnel to hold and care for the animals in a manner that causes minimum stress and injury**

**- providing appropriate personnel including animal handlers to load unload, hold and care for animals in the facility in a manner that causes minimum stress and injury”.**

**Justification**

**The responsibility of managers of facilities should be changed, because loading, unloading and driving are the responsibility of animal handlers and/or drivers rather than the manager of the facilities. Also cooperation between the animal**



**handler (driver) and personnel of the facility during loading and unloading should take place.**

- b) providing ~~competent~~ *animal handlers* to load, unload, drive and hold animals in a manner that causes minimum stress and injury;
- c) minimising the opportunities for disease transmission;
- d) providing appropriate facilities, with water and feed when required;
- e) providing appropriate facilities for emergencies;
- f) providing facilities for washing and disinfecting vehicles after unloading;
- g) providing facilities and competent staff to allow the humane killing of animals when required;
- h) ensuring proper rest times and minimal delay during stops.

#### **Written Community comments**

**The words: “Competent authorities should give animal consignments priority at frontiers in order to allow them to pass without unnecessary delay” should be added as an extra point.**

#### **Justification**

**The responsibilities of the Competent Authorities should include giving priority to animal consignments at frontiers in order to allow them to pass without undue delay. This should be recognised in the text.**

6. The responsibilities of *Competent Authorities* include:
- a) establishing minimum standards for animal welfare, including requirements for inspection of animals before, during and after their travel, defining ‘fitness to travel’ and appropriate certification and record keeping;
  - b) approving setting standards for facilities, containers and vehicles for the transport of animals;

#### **Written Community comments**

**For consistency, the word “manager” in c) and d) should be changed to “managers of facilities”.**

#### **Justification**

**Care is needed to ensure the clear and consistent use of terminology throughout the text.**

- c) setting standards for the competence of drivers, *animal handlers* and managers;
- d) ensuring appropriate awareness and training of drivers, *animal handlers* and managers;

- e) implementation of the standards, including through accreditation of / interaction with other organisations;
  - f) monitoring and evaluating the effectiveness of standards of health and other aspects of welfare;
  - g) monitoring and evaluating the use of veterinary medications.
  - h) expediting the passage of animal consignments at frontiers.**
7. All individuals, including veterinarians, involved in transporting animals and the associated handling procedures should receive appropriate training and be competent to meet their responsibilities.
  8. The receiving *Competent Authority* should report back to the sending *Competent Authority* on significant animal welfare problems which occurred during the journey.

#### Article 3.7.3.2.

### Competence

1. All people ~~handling animals, or who are otherwise~~ responsible for animals during *journeys*, should be competent according to their responsibilities listed in Article 3.7.3.1. Competence may be gained through formal training and/or practical experience. Competence in areas other than animal welfare would need to be addressed separately.

#### Written Community comments

**The next sentence should be re-considered in the context of its possible implications:**  
 “The competence of *animal handlers* should be demonstrated through a current certificate from the *Competent Authority* or from an independent body accredited by ~~a~~ the *Competent Authority*.”

#### Justification

**The current wording would imply that all animal handlers involved in the transport of any animals in any OIE member country would need to have “a current certificate from the *Competent Authority* or from an independent body accredited by ~~a~~ the *Competent Authority*”.** This would have profound implications. A more appropriate wording is used in Article 3.7.6.1 of the guidelines for the killing of animals for disease control purposes where this requirement for the certification of all personnel has been deleted “All personnel involved in the humane killing of animals should have the relevant skills and competencies. Competence may be gained through formal training and/or practical experience. This competence should be demonstrated through a current certificate from an independent body accredited by a *Competent Authority*.”

**It is important to have a consistent approach between the various OIE animal welfare guidelines.**

2. The competence of *animal handlers* should be demonstrated through a current certificate from **the *Competent Authority*** or an independent body, accredited by the *Competent Authority*. The certificate should be in one of the OIE official languages if the international transport of animals is involved.
3. The assessment of the competence of *animal handlers* should at a minimum address knowledge, and ability to apply that knowledge, in the following areas:

- a) planning a journey, including appropriate space allowance, and feed, water and ventilation requirements;

#### Written Community comments

**The words: “including loading and unloading” should not be deleted.**

#### Justification

**Loading and unloading are often the most stressful events during the journey. In addition such operations represent serious risks for the welfare of the animals (e.g. risks of injury) and allow an important opportunity for the handler to assess if the animals are fit for transport.**

- b) responsibilities for animals during the *journey*; ~~including loading and unloading~~;
- c) sources of advice and assistance;
- d) animal behaviour, general signs of disease, and indicators of poor animal welfare such as stress, pain and fatigue, and their alleviation;
- e) assessment of fitness to travel;
- f) relevant authorities and applicable transport regulations, and associated documentation requirements;
- g) general disease prevention procedures, including cleaning and disinfection;
- h) appropriate methods of driving;
- i) methods of inspecting animals, managing situations frequently encountered during *transport* such as adverse weather conditions, and dealing with emergencies;
- j) species-specific and age-specific aspects of animal handling and care, including feeding, watering and inspection;
- k) maintaining a journey log and other records.

Article 3.7.3.3.

#### Planning the journey

#### Written Community comments

**The following points should be added under 1b:**

- “xi) Weather forecasting (e.g. conditions being too hot or cold to travel during certain periods of the day)**
- xii) Transfer time when changing mode of transport**
- xiii) Waiting time at frontiers and inspection points”**

#### Justification

**Planning should also incorporate forecasting of expected weather conditions and expected transfer time when changing mode of transport (e.g. from vehicle to aeroplane or to roll-on roll-off vessel). Expected waiting time at frontiers/ inspection points should also be taken into account. These could have an impact on the welfare of the animals. Therefore it is important to include the afore-mentioned 3 additional bullet points.**

## 1. General considerations

- a) Adequate planning is a key factor affecting the welfare of animals during a journey.
- b) Before the journey starts, plans should be made in relation to:
  - i) preparation of animals for the journey;
  - ii) choice of road or rail;
  - iii) nature and duration of the journey;
  - iv) vehicle / container design and maintenance, including roll-on roll-off vessels;
  - v) required documentation;
  - vi) space allowance;
  - vii) rest, water and feed;
  - viii) observation of animals en route;
  - ix) control of disease; and
  - x) emergency response procedures.
- c) Regulations concerning drivers (for example, maximum driving periods) should be harmonised with maximum transport journey intervals appropriate for the species.

## 2. Preparation of animals for the journey

### **Written Community comments**

**The last part of the last sentence can be changed as follow: “.....of feed deprivation, for example 10-12 hours for pigs prior to loading may be desirable. There should be no period of water deprivation before transport”.**

### **Justification**

**To avoid different interpretations of the last sentence “a short period” should be more clearly defined or otherwise the whole sentence should be deleted. According to the Report of the Scientific Committee on Animal Health and Animal welfare adopted on 11 March 2002, 10 to 12 hours fasting is recommended. It should also be clarified that it is not justified to deprive animals of water prior to transport.**

- a) When animals are to be provided with a novel diet or method of water provision during transport, an adequate period of adaptation should be planned. For animals such as pigs which are susceptible to motion sickness, and in order to reduce urine and faeces production during the journey, a short period of feed deprivation prior to loading may be desirable.
- b) ~~Animals should be exposed to appropriate contact with humans and handling conditions (including methods of restraint) prior to transport to reduce their fearfulness and improve their approachability (see Article 3.7.3.5).~~ **Since** Animals more accustomed to contact with humans

and with being handled are likely to be less fearful of being loaded and transported. People handling animals should handle and load animals in a manner that reduces their fearfulness and improves their approachability.

- c) Behaviour-modifying compounds (such as tranquilisers) should not be used routinely during transport. Such compounds should only be administered when a problem exists in an individual animal, and should be administered by a veterinarian or other person who has been instructed in their use by a veterinarian.

### Written Community comments

**The list of factors described under point 6 to determine the maximum duration of a journey is incomplete and should be placed “under study” pending further analysis and preparation of a more complete list of determining factors. The first sentence should be rephrased as follows: “The maximum duration of a journey should be determined in relation to the overall welfare of the animal taking into account factors such as:”**

**An additional point should be added:**

**“i) vehicle type used, terrain to be traversed, road surfaces and quality, skill and experience of the driver”.**

### Justification

**When determining the duration of a journey a risk-based approach should be taken which balances the risks of welfare costs to the benefit of each risk factor. The list of factors proposed is incomplete and further evaluation is necessary to more accurately address this point. The proposed text is scientifically incomplete and should be placed “under study” pending further analysis by the OIE’s ad hoc expert groups.**

### 3. Nature and duration of the journey

The maximum duration of a journey should be determined according to **factors such as:**

- a) the ability of the animals to cope with the stress of transport (such as very young, old, lactating or pregnant animals);
- b) the animals’ previous transport experience;
- c) the **likely** onset of fatigue;
- d) the need for special attention;
- e) the need for feed and water;
- f) the increased susceptibility to injury and disease;
- g) space allowance, vehicle design, road conditions and driving quality;
- h) weather conditions.

### 4. Vehicle and container design and maintenance

- a) Vehicles and containers used for the transport of animals should be designed, constructed and fitted as appropriate to the species, size and weight of the animals to be transported; special attention should be paid to the avoidance of injury to animals through the use of secure smooth fittings free from sharp protrusions. The avoidance of injury to drivers and *animal handlers* while carrying out their responsibilities should be emphasised.
- b) Vehicles and containers should be designed with the structures necessary to provide protection from adverse weather conditions and to minimise the opportunity for animals to escape.
- c) In order to minimise the likelihood of the spread of ~~pathogenic agents~~ infectious disease during transport, vehicles and containers should be designed to permit thorough cleaning and *disinfection*, and the containment of faeces and urine during a journey.
- d) Vehicles and containers should be maintained in good mechanical and structural condition.

### Written Community comments

**The last part of the last sentence should not be deleted**

#### Justification

**The temperature can change during the journey. Therefore the airflow should be adjustable.**

- e) Vehicles and containers should have adequate ventilation to meet variations in climate and the thermo-regulatory needs of the animal species being transported; the ventilation system natural or mechanical should be ~~capable of operating~~ effective when the vehicle is stationary ~~and the air flow should be adjustable~~.
  - f) Vehicles should be designed so that the faeces or urine from animals on upper levels do not soil animals on lower levels, nor their feed and water.
  - g) When vehicles are carried on board ferries, facilities for adequately securing them should be available.
  - h) If feeding or watering while the vehicle is moving is required, adequate facilities on the vehicle should be available.
  - i) When appropriate, suitable bedding should be added to vehicle floors to assist absorption of urine and faeces, to minimise slipping by animals, and protect animals (especially young animals) from hard flooring surfaces and adverse weather conditions.
5. Special provisions for transport in vehicles (road and rail) on roll-on/roll-off vessels or for containers
- a) Vehicles and containers should be equipped with a sufficient number of adequately designed, positioned and maintained securing points enabling them to be securely fastened to the vessel.
  - b) Vehicles and containers should be secured to the ship before the start of the sea journey to prevent them being displaced by the motion of the vessel.
  - c) Roll-on/roll-off vessels should have adequate ventilation to meet variations in climate and the thermo-regulatory needs of the animal species being transported, especially where the animals are transported in a secondary vehicle/container on enclosed decks.
6. Space allowance

- a) The number of animals which should be transported on a vehicle or in a container and their allocation to ~~different~~ compartments should be determined before ~~the vehicle or container is loaded~~ loading.
- b) The space required on a vehicle or in a container depends upon whether or not the animals need to lie down (for example, pigs, camels and poultry), or to stand (horses). Animals which will need to lie down often stand when first loaded or when the vehicle is driven with too much lateral movement or sudden braking.
- c) When animals lie down, they should all be able to adopt a ~~comfortable~~, normal lying posture which allows necessary thermoregulation.

**Written Community comments**

**“(Article XXX)” should be deleted.**

**Justification**

**Article XXX does not exist and referring to non-existent text in international guidelines to be adopted by 167 OIE member countries is inappropriate, unhelpful and confusing to the reader.**

- d) When animals are standing, they should have sufficient space to adopt a balanced position as appropriate to the climate and species transported (Article XXX).

**Written Community comments**

**The words “and there should be sufficient headroom to allow adequate airflow over the animals” should be added to the end of the next bullet point.**

**Justification**

**If the space is not sufficient this can limit the airflow, with potentially serious welfare consequences.**

- e) The amount of headroom necessary depends on the species of animal. Each animal should be able to assume its natural position for transport (including during loading and unloading) without coming into contact with the roof or upper deck of the vehicle.

**Written Community comments**

**In the first sentence of the next bullet point the words “in Appendix XXX, or, in their absence” should be deleted.**

**Justification**

**Appendix XXX does not exist and referring to such non-existent text in international guidelines to be adopted by 167 OIE member countries is inappropriate, unhelpful and confusing to the reader.**

- f) Calculations ~~according to~~ for the space allowance ~~permitted~~ for each animal should be carried out using the figures given in Appendix XXX or, in their absence, in a relevant national or international document. ~~The size of already established groups will affect the number and size of the pens, and the distribution of animals in pens on the vehicle. The number and size of pens on the vehicle should be varied to where possible accommodate already established groups of animals while avoiding group sizes which are too large.~~

- g) Other factors which may influence space allowance include:
- i) vehicle / container design;
  - ii) length of journey;
  - iii) need to provide feed and water on the vehicle;
  - iv) quality of roads;
  - v) expected weather conditions.

7. Rest, water and feed

- a) There should be planning for the availability of suitable water and feed ~~during the journey. Feed should be of appropriate quality and composition for the species, age, condition of the animals, climatic conditions, etc~~ as appropriate and needed for the species, age, and condition of the animals, as well as the duration of the journey, climatic conditions, etc.
- b) ~~Animals should be rested~~ There should be planning for the resting of animals at resting points at appropriate intervals during the journey. The type of transport, the age and species of the animals being transported, and climatic conditions should determine the frequency of rest stops and whether the animals ~~are~~ should be unloaded. There should be planning for water and feed availability during rest stops.

8. Ability to observe animals en-route in relation to ~~during the journey~~ duration

- a) Animals should be positioned to enable each animal to be observed regularly during the journey to ensure their safety and good welfare.

**Written Community comments**

**“If” should be changed to “However” and this point (b) combined with bullet point (a).**

**Justification**

**This change is necessary for linguistic reasons and to improve readability and clarity, which are very important if the guidelines are to be correctly interpreted, understood and ultimately applied by the OIE’s member countries.**

**Written Community comments**

**“(i.e. less than 1.3 m)” should be deleted.**

**Justification**

**The basis for deciding on an absolute figure of 1.3 m is not clear, would an alternative figure of 1.2 or 1.4 m be acceptable under some circumstances ? Therefore this provision should be deleted.**

- b) If the animals are in crates or on multi-tiered vehicles which do not allow free access for observation, for example where the roof of the tier is too low (i.e. less than 1.3 m), animals cannot be inspected adequately, and serious injury or disease could go undetected. In these circumstances, a shorter journey duration should be allowed, and the maximum duration will



vary according to the rate at which problems arise in the species and under the conditions of transport.

#### 9. Control of disease

As animal transport is often a significant factor in the spread of infectious diseases, journey planning should take the following into account:

- a) mixing of animals from different sources in a single consignment should be minimised;
- b) contact at resting points between animals from different sources should be avoided;
- c) when possible, animals should be vaccinated against diseases to which they are likely to be exposed at their destination;

#### **Written Community comments**

**The original wording should be retained:** “medications used prophylactically or therapeutically should only be administered by a veterinarian or other person who has been instructed in their use by a veterinarian and agreed by the Veterinary Authority of the importing country.”

#### **Justification**

**The original text should be retained due to the varying procedures for medicine registration and licensing in countries around the world and the legal implications of such obligations.**

- d) medications used prophylactically or therapeutically should be approved by the Veterinary Authority of the importing country and should only be administered by a veterinarian or other person who has been instructed in their use by a veterinarian and agreed by the Veterinary Authority of the importing country.

#### 10. Emergency response procedures

~~Appropriate contingency plans to address emergencies should be prepared in advance.~~

There should be an emergency management plan that identifies the important adverse events that may be encountered during the journey, the procedures for managing each event and the action to be taken in an emergency. For each important event, the plan should document the actions to be undertaken and the responsibilities of all parties involved, including communications and record keeping.

#### 11. Other considerations

- a) Extreme weather conditions are hazardous for animals undergoing transport and require appropriate vehicle design to minimise risks. Special precautions should be taken for animals that have not been acclimatised or which are unsuited to either hot or cold conditions. In some extreme conditions of heat or cold, animals should not be transported at all.
- b) In some circumstances, transportation during the night may reduce thermal stress or the adverse effects of other external stimuli.

## Article 3.7.3.4.

**Documentation**

1. Animals should not be loaded until the ~~required~~ documentation required to that point is complete.
2. The documentation accompanying the consignment should include:

**Written Community comments:**

**In the next bullet point the word “including” should be changed to “and”.**

**Justification: An emergency plan is not necessarily part of the journey travel plan, which is the meaning implied by the current wording of the text.**

- a) journey travel plan (including an emergency management plan);
- b) date, time, and place of loading and unloading;
- c) veterinary certification, when required;
- d) driver’s competencies;
- e) identities of the animals transported to allow traceback of individual animals to the premises of departure and, where possible, to the premises of origin;

**Written Community comments:**

**In point f) the words “Animals considered at risk” should be changed to “Animals considered at particular risk of suffering poor welfare during transport”.**

**Justification: It is important in such international guidelines that scientific terms are used in as clear, correct and comprehensible a manner as possible.**

- f) details of any animals considered ‘at risk’ (Article 3.7.3.5.);
  - g) documentation of the period of rest, and access to feed and water, prior to the journey;
  - h) stocking density estimate for each load in the consignment;
  - i) the journey log - daily record of inspection and important events, including records of morbidity and mortality and actions taken, climatic conditions, rest stops, travel time and distance, feed and water offered and estimates of consumption, medication provided, and mechanical defects.
3. When veterinary certification is required to accompany consignments of animals, it should ~~include~~ address:
    - a) fitness of animals to travel;
    - b) ~~appropriate~~ animal identification (description, number, etc.);
    - c) health status including any tests, treatments and vaccinations ~~status~~ carried out;
    - d) when required, details of *disinfection* carried out.

At the time of certification, the veterinarian should notify the *animal handler* of any factors affecting the animals’ fitness to travel for a particular journey.

## Article 3.7.3.5.

**Pre-journey period**1. General considerations

- a) Pre-journey rest is necessary if the welfare of animals has become poor during the collection period because of the physical environment or the social behaviour of the animals.
- b) Pre-journey assembly/holding areas should be designed to:
  - i) securely hold the animals;
  - ii) maintain a safe environment from hazards, including predators and disease;
  - iii) protect animals from exposure to severe weather conditions;
  - iv) allow for maintenance of social groups, and
  - v) allow for rest, and appropriate water and feed.
- c) Consideration should be given to an animal's previous transport experience, training and conditioning if known as these may reduce fear and stress in animals.
- d) Feed and water should be provided pre-journey if the journey duration is greater than the normal inter-feeding and drinking interval for the animal. Recommendations for specific species are described in detail in Article 3.7.3.10.
- e) When animals ~~will~~ are to be provided with a novel diet or method of feed or water provision during ~~or after transport,~~ an adequate period of adaptation should be planned. ~~pre-exposure is necessary.~~
- f) Before each journey, vehicles and containers should be thoroughly cleaned and, if necessary, treated for animal health and public health purposes, using methods approved by the *Competent Authority*. When cleaning is necessary during a journey, this should be carried out with the minimum of stress to the animals.
- g) Where an *animal handler* believes that there is a significant risk of disease among the animals to be loaded or significant doubt as to their fitness to travel, the animals should be examined ~~inspected~~ by a veterinarian.

2. Selection of compatible groups

Compatible groups should be selected before transport to avoid adverse animal welfare consequences. The following guidelines should be applied when assembling groups of animals:

- a) animals reared together should be maintained as a group; animals with a strong social bond, such as a dam and offspring, should be transported together;
- b) animals of the same species ~~should not~~ can be mixed ~~if~~ unless there is a significant likelihood of aggression; aggressive individuals should be segregated (recommendations for specific species are described in detail in Article 3.7.3.10.). For some species, animals from different groups should not be mixed because poor welfare occurs unless they have established a social structure;
- c) young or small animals should be separated from older or larger animals, with the exception ~~that~~ dam and offspring should be transported together ~~of nursing mothers with young at foot;~~

- d) animals with horns or antlers should not be mixed with animals lacking horns or antlers unless judged to be compatible;
- e) animals of different species should not be mixed unless they are judged to be compatible.

3- Shelter in the assembly/holding area

~~Assembly/holding areas should be designed to:~~

- ~~a) securely hold the animals;~~
- ~~b) maintain a safe environment from hazards, including predators and disease;~~
- ~~c) protect animals from exposure to severe weather conditions;~~
- ~~d) allow for maintenance of social groups, and~~
- ~~e) allow for rest, and appropriate water and feed.~~

4- Effect of travel experience, long and short term

- ~~a) Consideration should be given to an animal's previous transport experience, training and conditioning as these may reduce fear and stress in animals. Animals that are carefully and regularly transported may show less adverse responses to transport.~~
- ~~b) Exposure to familiar personnel should reduce the fearfulness of animals and improve their approachability during transport procedures.~~

5. Fitness to travel

- a) Each animal should be inspected by a veterinarian or an *animal handler* to assess fitness to travel. If its fitness to travel is in doubt, the animal should be examined by a veterinarian. Animals found unfit to travel should not be loaded onto a vehicle, except for transport to receive veterinary treatment.

**Written Community comments:**

**The next bullet point should be clarified.**

**Justification: Sharing the responsibilities between different agents “e.g. the owner or agent” is likely to give rise to confusion and ineffective handling of animal welfare problems when they arise.**

- b) Humane and effective arrangements should be made by the owner or agent for the handling and care of any animal rejected as unfit to travel.
- c) Animals that are unfit to travel include:
  - i) those that are sick, injured, weak, disabled or fatigued;
  - ii) those that are unable to stand unaided and bear weight on each leg;
  - iii) those that are blind in both eyes;
  - iv) those that cannot be moved without causing them additional suffering;

- v) newborn with an unhealed navel;
  - vi) ~~pregnant animals which are likely to give birth during the journey~~ pregnant animals which would be in the final 10% of their gestation period at the planned time of unloading;
  - vii) females travelling without young which have given birth within the previous 48 hours;
  - viii) those whose body condition would result in poor welfare because of the expected climatic conditions.
- d) Risks during transport can be reduced by selecting animals best suited to the conditions of travel and those that are acclimatised to expected weather conditions.

**Written Community comments:**

**In point e) the words “Animals at risk” should be changed to “Animals at particular risk of suffering poor welfare during transport and which require special conditions.....”.**

**Justification: It is important in such international guidelines that scientific terms are used in as clear, correct and comprehensible a manner as possible.**

- e) Animals ‘at risk’ which require special conditions (such as in the design of facilities and vehicles, and the length of the journey) and additional attention during transport, may include:
    - i) large or obese individuals;
    - ii) very young or old animals;
    - iii) excitable or aggressive animals;
    - iv) animals which have had little contact with humans;
    - v) animal subject to motion sickness;
    - vi) females in late pregnancy or heavy lactation, dam and offspring;
    - vii) ~~those~~ animals with a history of exposure to stressors or pathogenic agents prior to transport.
6. Specific species requirements

Transport procedures should be able to take account of variations in the behaviour of the species. Flight *zones*, social interactions and other behaviour vary significantly among species and even within species. Facilities and handling procedures that are successful with one species are often ineffective or dangerous with another.

Recommendations for specific species are described in detail in Article 3.7.3.10.

Article 3.7.3.6.

**Loading**

1. Experienced Competent supervision

- a) ~~Since loading has been shown to be the procedure most likely to be the cause of poor welfare in transported animals, the methods to be used should be carefully planned. Loading should be carefully planned as it has the potential to be the cause of poor welfare in transported animals.~~

**Written Community comments:**

**The next bullet point should be clarified.**

**Justification: Stating that “loading should be supervised and/or conducted by animal handlers” is confusing and gives rise to the question of who will actually conduct and supervise the loading. To ensure proper application of the guidelines such responsibilities need to be clearly and carefully described.**

- b) Loading should be supervised and/or conducted by *animal handlers*. These *animal handlers* should ensure that animals are loaded quietly and without unnecessary noise, harassment or force, and that untrained assistants or spectators do not impede the process.
- c) When containers are loaded onto a vehicle, this should be carried out in such a way to avoid poor animal welfare.
2. Facilities
- a) The facilities for loading including the collecting area, races and loading ramps should be designed and constructed to take into account the needs and abilities of the animals with regard to dimensions, slopes, surfaces, absence of sharp projections, flooring, etc.
- b) Loading facilities should be properly illuminated to allow the animals to be observed by the *animal handler(s)*, and to allow the animals’ ease of movement at all times. Facilities should provide uniform lighting light levels directly over approaches to sorting pens, chutes, loading ramps, with brighter lighting light levels inside vehicles / containers, in order to minimise baulking. Dim lighting light levels may be advantageous for the catching of poultry and some other animals. Artificial lightening may be required.
- c) Ventilation during loading and the journey should provide for fresh air, the removal of excessive heat, humidity and noxious fumes (such as ammonia and carbon monoxide), and the prevention of accumulations of ammonia and carbon dioxide. Under warm and hot conditions, ventilation should allow for the adequate convective cooling of each animal. In some instances, adequate ventilation can be achieved by increasing the space allowance for animals.
3. Goads and other aids

The following principles should apply:

**Written Community comments:**

**The following sentence should be added to point a: “Goads and other aids should not be used repeatedly if the animal fails to respond or move. In such cases it should be investigated whether some physical or other impediment is preventing the animal from moving”.**

**Justification: This is in line with basic practice that goads should not be used on animals who are unable to move.**

- a) Animals which have little or no room to move should not be subjected to physical force or goads and other aids which compel movement.
- b) Useful and permitted aids include panels, flags, plastic paddles, flappers (a length of cane with a short strap of leather or canvas attached), plastic bags and metallic rattles; they should be used in a manner sufficient to encourage and direct movement of the animals ~~but without physical contact with them.~~
- c) Painful procedures (including whipping, tail twisting, use of nose twitches, pressure on eyes, ears or external genitalia), or the use of unsuitable goads or other aids (including sticks with sharp ends, lengths of metal piping, fencing wire or heavy leather belts), should not be used to move animals.
- d) The use of goads which administer electric shocks should be discouraged, and restricted to that necessary to assist movement of the animal. Such use should be limited to battery-powered goads on the hindquarters of adult pigs and cattle, and never on sensitive areas such as the eyes, mouth, ears, anogenital region or belly. Such instruments should not be used on other animals.
- e) The use of well trained dogs to help with the loading of some species may be acceptable.
- f) The throwing or dropping of animals, or their lifting or dragging by body parts such as their tail, head, horns, ears, limbs, wool, hair or feathers, should not be permitted. The manual lifting of small animals is permissible.
- g) Shouting or yelling at animals or making loud noises e.g. through the cracking of whips to encourage them to move should not occur, as such actions may make the animals agitated, leading to crowding or falling.

Article 3.7.3.7.

**Travel**

1. General considerations

**Written Community comments:**

**The words “especially at rest or re-fuelling stops or during meal breaks when the vehicle is stationary” should be added to the end of the next bullet point.**

**Justification: Drivers or conveyors of animals should be encouraged to take any available opportunity when the vehicle is stationary for a period of time in order to examine the animals. Common terminology should be used as in point 7a of this article.**

- a) Drivers and *animal handlers* should check the load immediately before departure to ensure that the animals have been properly loaded. Each load should be checked again early in the trip and adjustments made as appropriate. Periodic checks should be made throughout the trip.
  - b) Drivers should utilise smooth, defensive driving techniques, without sudden turns or stops, to minimise uncontrolled movements of the animals.
2. Methods of restraining or containing animals
- a) Methods of restraining animals should be appropriate to the species and age of animals involved and the training of the individual animal.

b) Recommendations for specific species are described in detail in Article 3.7.3.10.

3. Regulating the environment within vehicles or containers

**Written Community comments:**

**The last sentence of the next bullet point should be deleted.**

**Justification: Appendix XXX does not exist and referring to such non-existent text in international guidelines to be adopted by 167 OIE member countries is inappropriate, unhelpful and confusing to the reader.**

- a) Animals should be protected against harm from hot or cold conditions during travel. Effective ventilation procedures for maintaining the animals' environment within vehicles or containers will vary according to whether conditions are cold, hot and dry or hot and humid, but in all conditions a build-up of noxious gases should be prevented. Specific temperature and humidity parameters are described in detail in Appendix XXX.
- b) The animals' environment in hot weather can be regulated by the flow of air produced by the movement of the vehicle. In warm and hot weather, the duration of journey stops should be minimised and vehicles should be parked under shade, with ~~maximal~~ adequate and appropriate ventilation.
- c) To minimise slipping and soiling, and maintain a healthy environment, urine and faeces should be removed from floors when necessary and disposed of in such a way as to prevent the transmission of disease and in compliance with all relevant health and environmental legislation.

4. Sick, injured and dead animals

- a) A driver or *animal handler* finding sick, injured or dead animals should act according to a predetermined emergency response plan.
- b) If possible, sick or injured animals should be segregated.
- c) Ferries (roll-on roll-off) should have procedures to treat sick or injured animals during the journey.
- d) In order to reduce the likelihood that animal transport will increase the spread of infectious disease, contact between transported animals, or the waste products of the transported animals, and other farm animals should be minimised.
- e) During the journey, when disposal of a dead animal becomes necessary, this should be carried out in such a way as to prevent the transmission of disease and in compliance with all relevant health and environmental legislation.
- f) When euthanasia is necessary, the driver or *animal handler* should ensure that it is carried out as quickly as possible and ~~humanely, and results in immediate death. When necessary,~~ assistance should be sought from a veterinarian or other person(s) competent in humane euthanasia procedures. Recommendations for specific species are described in Appendix 3.7.6. on humane killing of animals for disease control purposes.

5. Water and feed requirements

- a) If journey duration is such that feeding or watering is required or if the species requires feed or water throughout, access to suitable feed and water for all the animals (appropriate for their species and age) carried in the vehicle should be provided. There should be adequate space for



all animals to move to the feed and water sources and due account taken of likely competition for feed.

b) Recommendations for specific species are described in detail in Article 3.7.3.10.

6. Rest periods and conditions including hygiene

a) Animals that are being transported should be rested at appropriate intervals during the journey and offered feed and water, either on the vehicle or, if necessary, unloaded into suitable facilities.

b) Suitable facilities should be used en route, when resting requires the unloading of the animals. These facilities should meet the needs of the particular animal species and should allow access of all animals to feed and water.

7. In-transit observations

**Written Community comments:**

**In the next point “With a maximum interval of 5 hours” should be deleted.**

**Justification: No clear basis is given for the figure of “with a maximum interval of 5 hours” and someone could equally propose a figure of 3-4-6-7 hours. In such internationally agreed guidelines it is important that recommendations should have a clear and objective scientific basis, rather than discretionary subjective figures being used.**

a) Animals being transported by road should be observed soon after a journey is commenced and whenever the driver has a rest stop (with a maximum interval of 5 hours). After meal breaks and refuelling stops, the animals should be observed immediately prior to departure.

**Written Community comments:**

**In the next point “5 hours since” should be deleted.**

**Justification: No clear basis is given for the figure of “5 hours” and someone could equally propose figures of 3-4-6-7 hours. In such internationally agreed guidelines it is important that recommendations should have a clear and objective scientific basis, rather than discretionary subjective figures being used.**

b) Animals being transported by rail should be observed at each scheduled stop nearest to 5 hours since the last observation. The responsible rail transporter should monitor the progress of trains carrying animals and take all appropriate action to minimise delays.

c) During stops, it should be ensured that the animals continue to be properly confined, have appropriate feed and water, and their physical condition is satisfactory.

Article 3.7.3.8.

## Unloading and post-journey handling

1. General considerations

a) The required facilities and the principles of animal handling detailed in Article 3.7.3.6. apply equally to unloading, but consideration should be given to the likelihood that the animals will be fatigued.

b) Unloading should be supervised and/or conducted by an *animal handler* with knowledge and experience of the behavioural and physical characteristics of the species being unloaded. Animals should be unloaded from the vehicle into appropriate facilities as soon as possible after arrival at the destination but sufficient time should be allowed for unloading to proceed quietly and without unnecessary noise, harassment or force.

- c) Facilities should provide all animals with appropriate care and comfort, adequate space and ventilation, access to feed (if appropriate) and water, and shelter from extreme weather conditions.
- d) For details regarding the unloading of animals at a slaughterhouse, see Appendix 3.7.5. on slaughter of animals for human consumption.

**Written Community comments:**

**In the next heading the word “and” should be changed to “or”.**

**Justification: A sick animal is not necessarily injured.**

2. Sick and injured animals

- a) An animal that has become sick, injured or disabled during a journey should be appropriately treated or humanely killed (see Appendix 3.7.6. on humane killing of animals for disease control purposes). When necessary, veterinary advice should be sought in the care and treatment of these animals. In some cases, where animals are non-ambulatory due to fatigue, injury or sickness, it may be in the best welfare interests of the animal to be treated or euthanased aboard the vehicle.
- b) At the destination, the *animal handler* during transit should ensure that responsibility for the welfare of sick, injured or disabled animals is transferred to a suitable person.
- c) There should be appropriate facilities and equipment for the humane unloading of animals that are non-ambulatory due to fatigue, injury or sickness. These animals should be unloaded in a manner that causes the least amount of suffering. After unloading, separate pens and other appropriate facilities should be available for sick or injured animals.
- d) Feed, if appropriate, and water should be available for each sick or injured animal.

3. Addressing disease risks

The following should be taken into account in addressing the greater risk of disease due to animal transport and the possible need for segregation of transported animals at the destination:

- a) increased contact among animals, including those from different sources and with different disease histories;
- b) increased shedding of pathogens and increased susceptibility to infection related to stress and impaired defences against disease, including immunosuppression;
- c) exposure of animals to pathogens which may contaminate vehicles, resting points, markets, etc.

4. Cleaning and disinfection

- a) Vehicles, crates, containers, etc. used to carry the animals should be cleaned before re-use through the physical removal of manure and bedding by scraping, washing and flushing vehicles and containers with water and detergent. This should be followed by *disinfection* when there are concerns about disease transmission.
- b) ~~Manure, litter and bedding should be disposed of in such a way as to prevent the transmission of disease and in compliance with all relevant health and environmental legislation.~~
- e) ~~When disposal of a dead animal becomes necessary, this should be carried out in such a way as to prevent the transmission of disease and in compliance with all relevant health and environmental legislation.~~

- b) Manure, litter, bedding and the bodies of any animals which die during the journey should be disposed of in such a way as to prevent the transmission of disease and in compliance with all relevant health and environmental legislation.
- c) Establishments like livestock markets, slaughterhouses, resting sites, railway stations, etc. where animals are unloaded should be provided with appropriate areas for the cleaning and *disinfection* of vehicles.
- d) Where *disinfestation* is necessary, it should be carried out with the minimum stress to the animals.

Article 3.7.3.9.

**Actions in the event of a refusal to allow the completion of the journey**

1. The welfare of the animals should be the first consideration in the event of a refusal to allow the completion of the journey.
2. When the animals have been refused import, the *Competent Authority* of that country should make available suitable isolation facilities to allow the unloading of animals from a vehicle and their secure holding, without posing a risk to the health of national herd or flock, pending resolution of the situation. In this situation, the priorities should be:
  - a) the *Competent Authority* of the *importing country* should provide urgently in writing the reasons for the refusal;
  - b) in the event of a refusal for animal health reasons, the *Competent Authority* of the *importing country* should provide urgent access to a veterinarian, where possible an OIE veterinarian(s) appointed by the Director General, to assess the animals' health status with regard to the *importing country's* concerns, and the necessary facilities and approvals to expedite the required diagnostic testing;
  - c) the *Competent Authority* of the *importing country* should provide access to allow continued assessment of the health and other aspects of the welfare of the animals;
  - d) if the matter cannot be promptly resolved, the *Competent Authorities* of the *exporting* and *importing countries* should call on the OIE to mediate.
3. In the event that a *Competent Authority* requires the animals to remain on the vehicle, the priorities should be:

**Written Community comments:**

**In the next point “reprovisionsing” should be replaced by “reprovisioning”.**

**Justification: Linguistic spelling correction.**

- a) the *Competent Authority* should allow reprovisionsing of the vehicle with water and feed as necessary;
  - b) the *Competent Authority* should provide urgently in writing the reasons for the refusal;
  - c) in the event of a refusal for animal health reasons, the *Competent Authority* should provide urgent access to an independent veterinarian(s) to assess the animals' health status, and the necessary facilities and approvals to expedite the required diagnostic testing;
  - d) the *Competent Authority* should provide access to allow continued assessment of the health and other aspects of the welfare of the animals, and the necessary actions to deal with any animal issues which arise.
4. The OIE should utilise its dispute settlement mechanism to identify a mutually agreed solution which will address animal health and any other welfare issues in a timely manner.

Article 3.7.3.10.

**Species specific issues**

(To be developed)

**Written Community comments:**

**The text on species specific issues included in the sea transport guidelines should be replicated here.**

**Justification:**

**This text contains useful descriptions of issues of general interest and information, not specifically related to the transport of animals by sea. As such it could be useful to bring it to the attention of persons reading the other OIE animal welfare guidelines. Only presenting this text in the sea transport guidelines means that persons only reading the other animal welfare guidelines will be unaware of these important descriptions of species-specific issues.**

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— text deleted

## APPENDIX 3.7.5.

**Community position:**

**The European Community can support these proposals but is communicating written comments on some particular issues (see below). In particular to facilitate the application of these guidelines in practice it is important that information and training materials are prepared and disseminated. These guidelines also need to be updated over time to take account of important scientific advances in these areas. Certain OIE amendments initially proposed in September are not submitted here and the Community would like to confirm that it maintains its comments previously communicated to the OIE on 15 February 2006 on the parts of the text not discussed today (Ref. D(2005) 522619). The European Community hopes that all of its comments will be considered by the relevant OIE Working Group.**

**GUIDELINES FOR THE SLAUGHTER OF  
ANIMALS ~~FOR HUMAN CONSUMPTION~~****Written Community comments:**

**The modification of the title is not in line with the definition of slaughter of Chapter 1.1.1 where "*slaughter*" is defined as "*any procedure causes the death of an animal by bleeding*". Bleeding may be in particular applied for killing animals for disease control purposes and not necessarily for human consumption.**

**However the Community would support this change provided that its proposed definition for slaughter as "any procedure which causes the death of an animal intended for human consumption" would be accepted.**

Article 3.7.5.1.

**General principles**

1. Object

These guidelines address the need to ensure the welfare of food animals during pre-slaughter and slaughter processes, until they are dead.

**Written Community comments**

**Camelids should be added to the list of species established in the first sentence "These guidelines apply to the slaughter in slaughterhouses of the following ~~those~~ domestic animals ~~commonly slaughtered in slaughterhouses, that is:~~ cattle, buffalo, sheep, goats, camelids, deer, horses, pigs, ratites and poultry."**

These guidelines apply to the slaughter in slaughterhouses of the following ~~those~~ domestic animals ~~commonly slaughtered in slaughterhouses, that is:~~ cattle, buffalo, sheep, goats, deer, horses, pigs, ratites and poultry. Other animals, wherever they have been reared, and all animals slaughtered outside slaughterhouses should be managed to ensure that their transport, lairaging, restraint and slaughter is carried out without causing undue stress to the animals; the principles underpinning these guidelines apply also to these animals.

2. Personnel

Persons engaged in the unloading, moving, lairaging, care, restraining, stunning, slaughter and bleeding of animals play an important role in the welfare of those animals. For this reason, there should be a sufficient number of personnel, who should be patient, considerate, competent and familiar with the guidelines outlined in the present Appendix and their application within the national context.

**Written Community comments**

**The next sentence should be re-considered in the context of its possible implications:**  
 "The competence of animal handlers should be demonstrated through a current certificate from the Competent Authority or from an independent body accredited by ~~a~~ the Competent Authority."

**Justification**

**The current wording would imply that all animal handlers involved in the transport of any animals in any OIE member country would need to have "a current certificate from the Competent Authority or from an independent body accredited by ~~a~~ the Competent Authority". This would have profound implications. A more appropriate wording is used in Article 3.7.6.1 of the guidelines for the killing of animals for disease control purposes where this requirement for the certification of all personnel has been deleted "All personnel involved in the humane killing of**

**animals should have the relevant skills and competencies. Competence may be gained through formal training and/or practical experience. This competence should be demonstrated through a current certificate from an independent body accredited by a Competent Authority.**

**It is important to have a consistent approach between the various OIE animal welfare guidelines. It may be relevant for persons involved in particular tasks such as the actual stunning of animals to be specifically trained and certified.**

Competence may be gained through formal training and/or practical experience. This competence should be demonstrated through a current certificate from the *Competent Authority* or from an independent body accredited by the *Competent Authority*.

The management of the slaughterhouse and the Veterinary Services should ensure that slaughterhouse staff are competent and carry out their tasks in accordance with the principles of animal welfare.

The management of the slaughterhouse and the *Veterinary Services* should ensure that slaughterhouse staff carry out their tasks in accordance with the principles of animal welfare.

### 3. Animal behaviour

Animal handlers should be experienced and competent in handling and moving farm livestock, and understand the behaviour patterns of animals and the underlying principles necessary to carry out their tasks.

The behaviour of individual animals or groups of animals will vary, depending on their breed, sex, temperament and age and the way in which they have been reared and handled. Despite these differences, the following behaviour patterns which are always present to some degree in domestic animals, should be taken into consideration in handling and moving the animals.

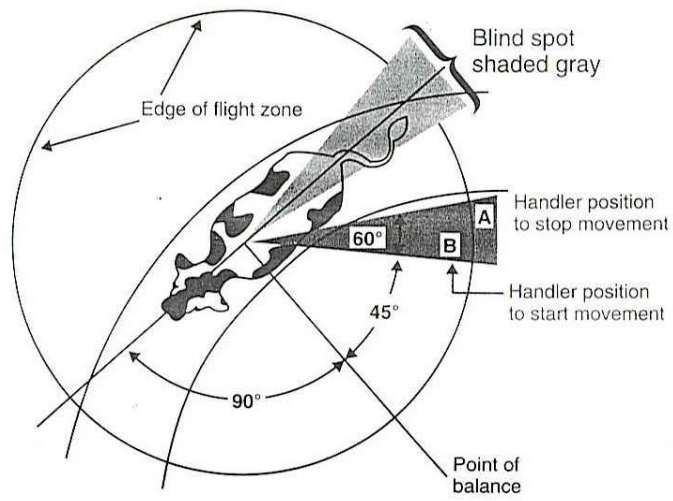
Most domestic livestock are kept in herds and follow a leader by instinct.

Animals which are likely to be hostile to each other in a group situation should not be mixed at slaughterhouses.

The desire of some animals to control their personal space should be taken into account in designing facilities.

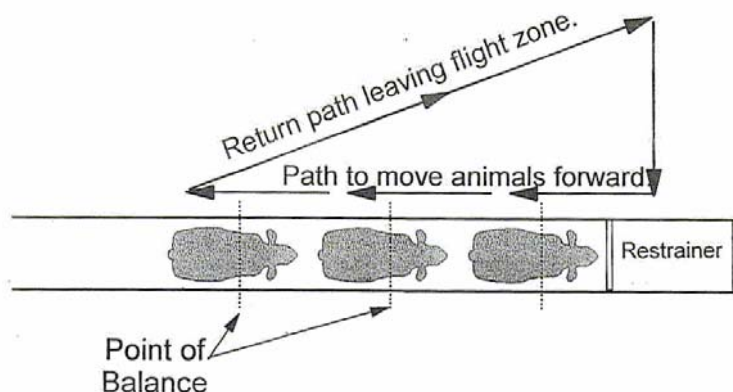
Domestic animals will try to escape if an *animal handler* approaches closer than a certain distance. This critical distance, which defines the flight *zone*, varies among species and individuals of the same species, and depends upon previous contact with humans. Animals reared in close proximity to humans i.e. tame have ~~no~~ a small flight *zone*, whereas those kept in free range or extensive systems may have flight *zones* which may vary from one metre to many metres. Animal handlers should avoid sudden penetration of the flight *zone* which may cause a panic reaction which could lead to aggression or attempted escape.

#### **An example of a flight zone (cattle)**





### Handler movement pattern to move cattle forward



Animal handlers should use the point of balance at an animal's shoulder to move animals, adopting a position behind the point of balance to move an animal forward and in front of the point of balance to move it backward.

Domestic animals have wide-angle vision but only have limited forward binocular vision and poor perception of depth. This means that they can detect objects and movements beside and behind them, but can only judge distances directly ahead.

Although all domestic animals have a highly sensitive sense of smell, they react in different ways to the smells of slaughterhouses. Smells which cause fear or other negative responses should be taken into consideration when managing animals.

Domestic animals can hear over a greater range of frequencies than humans and are more sensitive to higher frequencies. They tend to be alarmed by constant loud noise and by sudden noises, which may cause them to panic. Sensitivity to such noises should also be taken into account when handling animals.

#### 4. Distractions and their removal

Distractions that may cause approaching animals to stop, baulk or turn back should be designed out from new facilities or removed from existing ones. Below are examples of common distractions and methods for eliminating them:

- a) reflections on shiny metal or wet floors - move a lamp or change lighting;
- b) dark entrances to chutes, races, stun boxes or conveyor restrainers - illuminate with indirect lighting which does not shine directly into the eyes of approaching animals;
- c) animals seeing moving people or equipment up ahead - install solid sides on chutes and races or install shields;
- d) chains or other loose objects hanging in chutes or on fences - remove them;

- e) uneven floors or a sudden drop in floor levels at the entrance to conveyor restrainers – avoid uneven floor surfaces or install a solid false floor under the restrainer to provide an illusion of a solid and continuous walking surface;
- f) sounds of air hissing from pneumatic equipment - install silencers or use hydraulic equipment or vent high pressure to the external environment using flexible hosing;
- g) clanging and banging of metal objects - install rubber stops on gates and other devices to reduce metal to metal contact;
- h) air currents from fans or air curtains blowing into the face of animals - redirect or reposition equipment.

#### Article 3.7.5.2.

### Moving and handling animals

#### 1. General considerations

Animals should be transported to slaughter in a way that minimises adverse animal health and welfare outcomes, and the transport should be conducted in accordance with the OIE guidelines for the transportation of animals (Chapters 3.7.2 and 3.7.3).

The following principles should apply to unloading animals, moving them into lairage pens, out of the lairage pens and up to the slaughter point:

- a) The conditions of the animals should be assessed upon their arrival for any animal welfare and health problems.
- b) Injured or sick animals, requiring immediate slaughter, should be killed humanely, preferably at the site where they are found in accordance with the OIE guidelines for the killing of animals for disease control purposes (Chapter 3.7.6).
- c) The use of force on animals that have little or no room to move should not occur.

#### **Written Community comments:**

***Add "Electric goads and prods should only be used in extreme cases and not on a routine basis to move animals. They should not be used repeatedly on the same animal which may be unable to move due to other factors".***

#### **Justification**

**These OIE guidelines should take into account existing good practices applied in the industry.**

- d) The use of instruments which administer electric shocks (e.g. goads and prods) and their power output should be restricted to that necessary to assist movement of an the animals and only when an animal has a clear path ahead to move. If such use is necessary, it should be limited to the hindquarters of pigs and large ruminants, and never on sensitive areas such as the eyes, mouth, ears, anogenital region or belly. Such instruments should not be used on horses, sheep and goats of any age, or on calves or piglets, nor on animals that have little or no room to move.
- e) Performance standards should be established in which numerical scoring is used to evaluate the use of such instruments, and to measure the percentage of animals moved with an electric

instrument and the percentage of animals slipping or falling at a point in the slaughterhouse; the slaughterhouse should be investigated for faults in flooring, raceway design, lighting or handling, and these should be rectified to enable free movement of the animals without the need to use such instruments.

Performance standards should be established in which numerical scoring is used to evaluate the use of such instruments and to measure the percentage of animals moved with an electric instrument. In properly designed and constructed facilities with competent *animal handlers*, it should be possible to move 75% or more of the animals without the use of electric instruments.

#### **Written Community comments:**

**Add "*but without physical contact with them*" at the end of the following paragraph.**

#### **Justification**

**This was included in the original wording and we would prefer to keep it. Animals can be moved very effectively by trained personnel without the need to resort to striking animals with such "aids".**

- f) ~~Useful and permitted aids for moving animals include panels, flags, plastic paddles, flappers (a length of cane with a short strap of leather or canvas attached), plastic bags and metallic rattles; they should be used in a manner sufficient to encourage and direct movement of the animals~~ Aids for moving animals such as panels, flags, plastic paddles, flappers (a length of cane with a short strap of leather or canvas attached), plastic bags and metallic rattles should be used in a manner sufficient to encourage and direct movement of the animals.
- g) Shouting or yelling at animals or making loud noises e.g. through the cracking of whips to encourage them to move should not occur as such actions may make the animals agitated, leading to crowding or falling.
- h) Implements which cause pain and suffering such as large sticks, sticks with sharp ends, metal piping, fencing wire or heavy leather belts should not be used to move animals.
- i) Animals should be grasped or lifted in a manner which avoids pain or suffering and physical damage (e.g. bruising, fractures, dislocations). In the case of quadrupeds, manual lifting by a person should only be used in young animals or small species, and in a manner appropriate to the species; grasping or lifting such animals only by their wool, hair, feet, neck, ears or tails causing pain or suffering should not be permitted, except in an emergency where animal welfare or human safety may otherwise be compromised.
- j) Conscious animals should not be thrown or dragged.
- k) Animals should not be forced to move at a speed greater than their normal walking pace, in order to minimise injury through falling or slipping. Performance standards should be established where numerical scoring of the prevalence of animals slipping or falling is used to evaluate whether animal moving practices and/or facilities should be improved. In properly designed and constructed facilities with competent *animal handlers*, it should be possible to move 99% of animals without their falling.
- l) ~~Animal handlers should not force an animal to walk over the top of other animals.~~ Animals for slaughter should not be forced to walk over the top of other animals.
- m) Animals should be handled in such a way as to avoid harm, distress or injury. Under no circumstances should *animal handlers* resort to violent acts to move animals, such as crushing or breaking animals' tails, grasping animals' eyes or pulling them by their ears. Animal handlers should never apply an injurious object or irritant substance to animals and especially not to

sensitive areas such as eyes, mouth, ears, anogenital region or belly. The throwing or dropping of animals, or their lifting or dragging by body parts such as their tail, head, horns, ears, limbs, wool, hair or feathers, should not be permitted. The manual lifting of small animals is permissible.

## 2. Provisions relevant to animals delivered in containers

### **Written Community comments:**

#### **Add at the end of the paragraph (a):**

***"In any case they should be moved and stored in an upright position as indicated by specific marks."***

#### **Justification**

**When transporting animals in containers it is very important for their welfare that they are kept upright and not mishandled. This is in line with basic good practices applied in the transport sector.**

- a) Containers in which animals are transported should be handled with care, and should not be thrown, dropped or knocked over. Where possible, they should ~~be loaded and unloaded horizontally and mechanically~~ be horizontal while being loaded and unloaded mechanically, and stacked to ensure ventilation.
- b) Animals delivered in containers with perforated or flexible bottoms should be unloaded with particular care in order to avoid injury. Where appropriate, animals should be unloaded from the containers individually.
- c) Animals which have been transported in containers should be slaughtered as soon as possible; mammals and ratites which are not taken directly upon arrival to the place of slaughter should have drinking water available to them from appropriate facilities at all times. Delivery of poultry for slaughter should be scheduled such that they are not deprived of water at the premises for longer than 12 hours. Animals which have not been slaughtered within 12 hours of their arrival should be fed, and should subsequently be given moderate amounts of food at appropriate intervals.

## 3. Provisions relevant to restraining and containing animals

### **Written Community comments:**

#### **The following provisions should be added:**

- a) ***Appropriate restraint shall be applied to the animals before they are stunned or immediately killed. In particular individual restraint is necessary in the case of captive-bolt is used or when electrodes are placed on the animals. In addition restraint shall be applied to animals that are bled without stunning.***
- b) ***The method of restraint should be adapted to the size and species of animals concerned as well as to the stunning/killing method to be used.***
- c) ***The method of restraint should be designed and operated in order to optimise the application of the stunning/killing method."***

<b>Justification</b>
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<p><b>To ensure that animals are effectively stunned and to ensure their welfare the importance of appropriate restraint cannot be underestimated. See EFSA report</b></p>
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<p><a href="http://www.efsa.eu.int/science/ahaw/ahaw_opinions/495/opinion_ahaw_02_ej45_stunning_report_v2_en1.pdf">http://www.efsa.eu.int/science/ahaw/ahaw_opinions/495/opinion_ahaw_02_ej45_stunning_report_v2_en1.pdf</a></p>
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- a) Provisions relevant to restraining animals for stunning or slaughter without stunning, to help maintain animal welfare, include:
  - i) provision of a non-slip floor;
  - ii) avoidance of excessive pressure applied by restraining equipment that causes struggling or vocalisation in animals;
  - iii) equipment engineered to reduce noise of air hissing and clanging metal;
  - iv) absence of sharp edges in restraining equipment that would harm animals;
  - v) avoidance of jerking or sudden movement of restraining device.
- b) Methods of restraint causing avoidable suffering, such as the following, should not be used in conscious animals because they cause severe pain and stress:
  - i) suspending or hoisting animals (other than poultry) by the feet or legs;
  - ii) indiscriminate and inappropriate use of stunning equipment;
  - iii) mechanical clamping of an animal's legs or feet (other than shackles used in poultry and ostriches) as the sole method of restraint;
  - iv) breaking legs, cutting leg tendons or blinding animals in order to immobilise them;
  - v) severing the spinal cord, for example using a puntilla or dagger, to immobilise animals using electric currents to immobilise animals, except for proper stunning.

Article 3.7.5.3.

### Lairage design and construction

#### 1. General considerations

The lairage should be designed and constructed to hold an appropriate number of animals in relation to the throughput rate of the slaughterhouse without compromising the welfare of the animals.

In order to permit operations to be conducted as smoothly and efficiently as possible without injury or undue stress to the animals, the lairage areas should be designed and constructed so as to allow the animals to move freely in the required direction, using their behavioural characteristics and without undue penetration of their flight *zone*.

The following guidelines may help to achieve this.

#### 2. Design of lairages

- a) The lairage should be designed to allow a one-way flow of animals from unloading to the point of slaughter, with a minimum number of abrupt corners to negotiate.

- b) In red meat slaughterhouses, pens, passageways and races should be arranged in such a way as to permit inspection of animals at any time, and to permit the removal of sick or injured animals when considered to be appropriate, for which separate appropriate accommodation should be provided.
  - c) Each animal should have room to stand up and lie down and, when confined in a pen, to turn around. The lairage should have sufficient accommodation for the number of animals intended to be held. Drinking water should always be available to the animals, and the method of delivery should be appropriate to the type of animal held. Troughs should be designed and installed in such a way as to minimise the risk of fouling by faeces, without introducing risk of bruising and injury in animals, and should not hinder the movement of animals.
  - d) Holding pens should be designed rectangular rather than square, to allow as many animals as possible to stand or lie down against a wall. Where feed troughs are provided, they should be sufficient in number and feeding space to allow adequate access of all animals to feed. The feed trough should not hinder the movement of animals.
  - e) Where tethers, ties or individual stalls are used, these should be designed so as not to cause injury or distress ~~especially when the animals are lying down, standing up, drinking and feeding to the animals and should also allow the animals to stand, lie down and access any food or water that may need to be provided.~~
  - f) Passageways and races should be either straight or ~~slightly~~ consistently curved, as appropriate to the animal species. Passageways and races should have solid sides, but when there is a double race, the shared partition should allow adjacent animals to see each other. For pigs and sheep, passageways should be wide enough to enable two or more animals to walk side by side for as long as possible. At the point where passageways are reduced in width, this should be done by a means which prevents excessive bunching of the animals.
  - g) Animal handlers should be positioned alongside races and passageways on the inside radius of any curve, to take advantage of the natural tendency of animals to circle an intruder. Where one-way gates are used, they should be of a design which avoids bruising. Races should be horizontal but where there is a slope, they should be constructed to allow the free movement of animals without injury.
  - h) There should be a waiting pen, with a level floor and solid sides, between the holding pens and the race leading to the point of stunning or slaughter, to ensure a steady supply of animals for stunning or slaughter and to avoid having *animal handlers* trying to rush animals from the holding pens. The waiting pen should preferably be circular, but in any case, so designed that animals cannot be trapped or trampled.
  - i) Ramps or lifts should be used for loading and unloading of animals where there is a difference in height or a gap between the floor of the *vehicle* and the unloading area. Unloading ramps should be designed and constructed so as to permit animals to be unloaded from vehicles on the level or at the minimum gradient achievable. Lateral side protection should be available to prevent animals escaping or falling. They ramp should be well drained, non-slippery with secure footholds and adjustable to facilitate easy movement of animals without causing distress or injury.
3. Construction of lairages
- a) Lairages should be constructed and maintained so as to provide protection from unfavourable climatic conditions, using strong and resistant materials such as concrete and metal which has been treated to prevent corrosion. Surfaces should be easy to clean. There should be no sharp edges or protuberances which may injure the animals.

- b) Floors should be well drained and not slippery; they should not cause injury to the animals' feet. Where necessary, floors should be insulated or provided with appropriate bedding. Drainage grids should be placed at the sides of pens and passageways and not where animals would have to cross them. Discontinuities or changes in floor patterns or texture which could cause baulking in the movement of animals should be avoided.
- c) Lairages should be provided with adequate lighting, but care should be taken to avoid harsh lights and shadows, which frighten the animals or affect their movement. The fact that animals will move more readily from a darker area into a well-lit area might be exploited by providing for lighting that can be regulated accordingly.
- d) Lairages should be well ventilated, and the air flow should be arranged so that odours and draughts do not adversely affect the health and welfare of the animals adequately ventilated to ensure that waste gases, e.g. ammonia do not build up and that draughts at animal height are minimised. Ventilation should be able to cope with the range of expected climatic conditions and the number of animals the lairage will be expected to hold.
- e) Care should be taken to protect the animals from excessively or potentially disturbing noises, for example by avoiding the use of noisy hydraulic or pneumatic equipment, and muffling noisy metal equipment by the use of suitable padding, or by minimising the transmission of such noise to the areas where animals are held and slaughtered.
- f) Where animals are kept in outdoor lairages without natural shelter or shade, they should be protected from the effects of adverse weather conditions.

#### Article 3.7.5.4.

#### Care of animals in lairages

Animals in lairages should be cared for in accordance with the following guidelines:

1. As far as possible, established groups of animals should be kept together. Each animal should have enough space to stand up, lie down and turn around. Animals hostile to each other should be separated.
2. Where tethers, ties or individual stalls are used, they should allow animals to stand up and lie down without causing injury or distress.
3. Where bedding is provided, it should be maintained in a condition that minimises risks to the health and safety of the animals, and sufficient bedding should be used so that animals do not become soiled with manure.
4. Animals should be kept securely in the lairage, and care should be taken to prevent them from escaping and from predators.
5. Suitable drinking water should be available to the animals on their arrival and at all times to animals in lairages unless they are to be slaughtered without delay.
6. If animals are not to be slaughtered as soon as possible, suitable feed should be available to the animals on arrival and at intervals appropriate to the species. Unweaned animals should be slaughtered as soon as possible.
7. In order to prevent heat stress, animals subjected to high temperatures, particularly pigs and poultry, should be cooled by the use of water sprays, fans or other suitable means. However, the potential for water sprays to reduce the ability of animals to thermoregulate (especially poultry) should be considered in any decision to use water sprays. The risk of animals being exposed to very cold temperatures or sudden extreme temperature changes should also be considered.

8. The lairage area should be well lit in order to enable the animals to see clearly without being dazzled. During the night, the lights should be dimmed. Lighting should also be adequate to permit inspection of all animals. Subdued lighting, and for example, blue light may be useful in poultry lairages in helping to calm birds.
9. The condition and state of health of the animals in a lairage should be inspected at least every morning and evening by a veterinarian or, under the latter's responsibility, by another competent person. Animals which are sick, weak, injured or showing visible signs of distress should be **separated, and** treated or humanely killed immediately.
10. Lactating dairy animals should be slaughtered as soon as possible. Dairy animals with obvious udder distension should be milked to minimise udder discomfort.
11. **Pregnant** Animals **giving which have given** birth during the journey or in the lairage should be slaughtered as soon as possible or provided with conditions which are appropriate for suckling for its welfare and the welfare of the newborn. Under normal circumstances, animals which are expected to give birth during a journey should not be transported.
12. Animals with horns, **antlers** or tusks capable of injuring other animals, if aggressive, should be penned separately.

Recommendations for specific species are described in detail in Articles 3.7.5.5. to 3.7.5.8.

Article 3.7.5.5.  
(under study)

#### **Community comments:**

##### **1) The introductory sentence should be replaced by the following text:**

**"Pregnant animals which would be in the final 10% of their gestation period at the planned time of unloading at the slaughterhouse should neither be transported nor slaughtered under normal circumstances. When such event occurs, females should be treated separately as to ensure that the specific procedures described below will be applied by appropriately trained personnel. In any case, the welfare of foetuses and dams during slaughter needs to be safeguarded."**

##### **2) The last sentence of Paragraph 3 should be replaced by the following text:**

**"When uterine, placental or foetal tissues are to be collected, foetuses should be kept in anoxia for at least 15-20 minutes after the maternal neck or chest cut, as to ensure death, either by keeping the foetus within the uterus or, otherwise, by preventing the foetus from inflating its lungs and breathing air during this period."**

##### **3) Paragraph 4 should be amended by adding the underlined text as follows:**

**"If there is any doubt about consciousness, the foetus should be killed with a captive bolt of appropriate size or a blow to the head with a suitable blunt instrument."**

#### **Management of foetuses during slaughter of pregnant animals**

The welfare of foetuses during slaughter of pregnant animals needs to be safeguarded.

1. Foetuses should not be removed from the uterus sooner than five minutes after the maternal neck or chest cut, to ensure absence of consciousness. A foetal heartbeat will usually still be present and foetal movements may occur at this stage, but these are only a cause for concern if the exposed foetus successfully breathes air.



2. If a live mature foetus is removed from the uterus, it should be prevented from inflating its lungs and breathing air (e.g. by clamping the trachea).
3. When uterine, placental or foetal tissues, including foetal blood, are not to be collected as part of the post-slaughter processing of pregnant animals, all foetuses should be left inside the unopened uterus until they are dead. When uterine, placental or foetal tissues are to be collected, where practical, foetuses should not be removed from the uterus until at least 15-20 minutes after the maternal neck or chest cut.
4. If there is any doubt about consciousness, the foetus should be killed with a captive bolt or a blow to the head with a suitable blunt instrument.

The above guidelines do not refer to foetal rescue. Foetal rescue, the practice of attempting to revive foetuses found alive at evisceration of the dam, should not be attempted during normal commercial slaughter as it may lead to serious welfare complications in the newborn animal. These include impaired brain function resulting from oxygen shortage before rescue is completed, compromised breathing and body heat production because of foetal immaturity, and an increased incidence of infections due to a lack of colostrum.

Article 3.7.5.6.

Summary of acceptable handling and restraining methods and the associated animal welfare issues

**Written Community comments:**

**1. The use of rotating box (i.e. restraining by inversion for cattle) should not be recommended. Therefore the two rows referring to restraining by inversion should be deleted in the table.**

**Justification:** The rotating box represents serious animal welfare concerns while alternative methods are available which provide better welfare conditions without additional costs. See p. 25 EFSA – AHAW/04-027 "Welfare aspects of stunning and killing methods" Scientific report of the Scientific Panel for Animal Health and Welfare on a request from the Commission related to welfare aspects of animal stunning and killing methods - [http://www.efsa.eu.int/science/ahaw/ahaw\\_opinions/495\\_en.html](http://www.efsa.eu.int/science/ahaw/ahaw_opinions/495_en.html)

**2. The word “acceptable” should be deleted from the table’s heading**

**Justification:** Acceptable implies a value judgement or subjective analysis. In any given situation a variety of handling and restraining methods may be available and the best animal welfare outcome needs to be considered on a case-by-case basis. Therefore a given method may be “acceptable” under certain circumstances and “unacceptable” under a different set of conditions.

	Presentation of animals	Specific procedure	Specific purpose	AW concerns/implications	Key AW requirements	Applicable species
No restraint	Animals are grouped	Group container	Gas stunning	Specific procedure is suitable only for gas stunning	Competent <i>animal handlers</i> in lairage; facilities; stocking density	Pigs, poultry
		In the field	Free bullet	<del>Shooting distance, calibre and</del> Inaccurate targeting and inappropriate ballistics <u>not achieving outright kill with first shot</u>	Operator competence	Deer
		Group stunning pen	Head-only electrical Captive bolt	Uncontrolled movement of animals impedes use of hand operated electrical and mechanical stunning methods	Competent <i>animal handlers</i> in lairage and at stunning point	Pigs, sheep, goats, calves
	Individual animal confinement	Stunning pen/box	Electrical and mechanical stunning methods	Loading of animal; accuracy of stunning method, slippery floor and animal falling down	Competent <i>animal handlers</i>	Cattle, buffalo, sheep, goats, horses, pigs, deer, camelids, ratites
Restraining methods	Head restraint, upright	Halter/ head collar/bridle	Captive bolt Free bullet	Suitable for halter-trained animals; stress in untrained animals	Competent <i>animal handlers</i>	Cattle, buffalo, horses, camelids
	Head restraint, upright	Neck yoke	Captive bolt Electrical-head-only Free bullet Slaughter without stunning	Stress of loading and neck capture; stress of prolonged restraint, horn configuration; unsuitable for fast line speeds, animals struggling and falling due to slippery floor, excessive pressure	Equipment; competent <i>animal handlers</i> , prompt stunning or slaughter	Cattle

	Leg restraint	Single leg tied in flexion (animal standing on 3 legs)	Captive bolt Free bullet	Ineffective control of animal movement, misdirected shots	Competent <i>animal handler</i>	Breeding pigs (boars and sows)
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Summary of acceptable handling and restraining methods and the associated animal welfare issues (contd)

	Presentation of animals	Specific procedure	Specific purpose	AW concerns/implications	Key AW requirements	Applicable species
Restraining methods	Upright restraint	Beak holding	Captive bolt Electrical-head-only	Stress of capture	Sufficient competent <i>animal handlers</i>	Ostriches
		Head restraint in electrical stunning box	Electrical-head-only	Stress of capture and positioning	Competent <i>animal handler</i>	Ostriches
	Holding body upright-manual	Manual restraint	Captive bolt Electrical-head-only Slaughter without stunning	Stress of capture and restraint; accuracy of stunning/slaughter	Competent <i>animal handlers</i>	Sheep, goats, calves, ratites, small camelids, poultry
	Holding body upright mechanical	Mechanical clamp / crush / squeeze/ V-restrainer (static)	Captive bolt Electrical methods Slaughter without stunning	Loading of animal and overriding; excessive pressure	Proper design and operation of equipment	Cattle, buffalo, sheep, goats, deer, pigs, ostriches
	Lateral restraint – manual or mechanical	Restraint/cradle/crush	Slaughter without stunning	Stress of restraint	Competent <i>animal handlers</i>	Sheep, goats, calves, camelids, cattle
	Upright restraint	Mechanical straddle (static)	Slaughter without stunning	Loading of animal and overriding	Competent <i>animal handlers</i>	Cattle, sheep, goats, pigs

	mechanical		Electrical methods Captive bolt			
	Upright restraint – manual or mechanical	Wing shackling	Electrical	Excessive tension applied prior to stunning	Competent <i>animal handlers</i>	Ostriches

Summary of acceptable handling and restraining methods and the associated animal welfare issues (contd)

	Presentation of animals	Specific procedure	Specific purpose	AW concerns/implications	Key AW requirements	Applicable species
Restraining and /or conveying methods	Mechanical - upright	V-restrainer	Electrical methods Captive bolt Slaughter without stunning	Loading of animal and overriding; excessive pressure, size mismatch between restrainer and animal	Proper design and operation of equipment	Cattle, calves, sheep, goats, pigs
	Mechanical - upright	Mechanical straddle – band restrainer (moving)	Electrical methods Captive bolt Slaughter without stunning	Loading of animal and overriding, size mismatch between restrainer and animal	Competent <i>animal handlers</i> , proper design and layout of restraint	Cattle, calves, sheep, goats, pigs
	Mechanical - upright	Flat bed/deck Tipped out of containers on to conveyors	Presentation of birds for shackling prior to electrical stunning Gas stunning	Stress and injury due to tipping in dump-module systems height of tipping conscious poultry broken bones and dislocations	Proper design and operation of equipment	Poultry
	Suspension and/or inversion	Poultry shackle	Electrical stunning Slaughter without stunning	Inversion stress; pain from compression on leg bones	Competent <i>animal handlers</i> ; proper design and operation of equipment	Poultry
	Suspension and/or inversion	Cone	Electrical – head-only Captive bolt	Inversion stress	Competent <i>animal handlers</i> ; proper design and operation of	Poultry

			Slaughter without stunning		equipment	
	Upright restraint	Mechanical leg clamping	Electrical – head-only	Stress of resisting restraint in ostriches	Competent <i>animal handlers</i> ; proper equipment design and operation	Ostriches

Summary of acceptable handling and restraining methods and the associated animal welfare issues (contd)

	Presentation of animals	Specific procedure	Specific purpose	AW concerns/implications	Key AW requirements	Applicable species
Restraining by inversion	Rotating box	Fixed side(s) (e.g. Weinberg pen)	Slaughter without stunning	Inversion stress; stress of resisting restraint, prolonged restraint, <u>inhalation of blood and ingesta</u> . Keep restraint as brief as possible	Proper design and operation of equipment	Cattle
		Compressible side(s)	Slaughter without stunning	Inversion stress, stress of resisting restraint, prolonged restraint Preferable to rotating box with fixed sides Keep restraint as brief as possible	Proper design and operation of equipment	Cattle
Body restraint	Casting/hobbling	Manual	Mechanical stunning methods Slaughter without stunning	Stress of resisting restraint; animal temperament; bruising. Keep restraint as short as possible	Competent <i>animal handlers</i>	Sheep, goats, calves, small camelids, pigs
Leg restraints		Rope casting	Mechanical stunning methods Slaughter without stunning	Stress of resisting restraint; prolonged restraint, animal temperament; bruising Keep restraint as short as possible	Competent <i>animal handlers</i>	Cattle, camelids
		Tying of 3 or 4	Mechanical	Stress of resisting restraint;	Competent <i>animal</i>	Sheep, goats,



		legs	stunning methods Slaughter without stunning	prolonged restraint, animal temperament; bruising Keep restraint as short as possible	<i>handlers</i>	small camelids, pigs
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## Article 3.7.5.7.

**Stunning methods**1. General considerations

The competence of the operators, and the appropriateness, and effectiveness of the method used for stunning and the maintenance of the equipment are the responsibility of the management of the slaughterhouse, and should be checked regularly by a Competent Authority.

Persons carrying out stunning should be properly trained and competent, and should ensure that:

- a) the animal is adequately restrained;
- b) animals in restraint are stunned as soon as possible;
- c) the equipment used for stunning is maintained and operated properly in accordance with the manufacturer's recommendations, in particular with regard to the species and size of the animal;
- d) the instrument is applied correctly;
- e) stunned animals are bled out (slaughtered) as soon as possible;
- f) animals should not be stunned when slaughter is likely to be delayed;
- g) backup stunning devices are available for immediate use if the primary method of stunning fails.

In addition, such persons should be able to recognise when an animal is not correctly stunned and should take appropriate action.

2. Mechanical stunning

A mechanical device should be applied usually to the front of the head and perpendicular to the bone surface. The following diagrams illustrate the proper application of the device for certain species.

**Written Community comments:**

**A frontal view and lateral view of the correct stunning position should be displayed for all species mentioned here.**

**Justification: This would provide more comprehensive and clear information to operators on the recommended locations for appropriate stunning.**

**Pictures are in particular available from organisations such as the Humane Slaughter Association or in the EFSA Scientific report of the Scientific Panel for Animal Health and Welfare on welfare aspects of animal stunning and killing methods - [http://www.efsa.eu.int/science/ahaw/ahaw\\_opinions/495\\_en.html](http://www.efsa.eu.int/science/ahaw/ahaw_opinions/495_en.html)**

**Written Community comments:**

**It should be mentioned that in adult cattle for example the optimal shooting position for mechanical stunning methods is often up to 2cm paramedian from the midline.**

**Justification**

This has been shown by scientific papers (e.g. Ilgert 1985, Kaegi 1988) and long-standing practical experience in the field. A reason for such paramedian placement is that in the actual midline the bone thickness of the sinus frontalis is several cms thick, which leads to a reduced speed of the captive bolt and thus less effective stunning.

**Ilgert, H. (1985). Effizienz der Bolzenschussbetaubung beim Rind mit Berucksichtigung der Einschussstelle und der Eindringtiefe des Bolzens unter Praxisbedingungen. Vet.med.Diss. Freie Universitat Berlin.**

**Kaegi, B. (1988) Untersuchungen zur Bolzenschussbetaubung beim Rind. Vet.med.Diss. Universitat Zurich**

**Written Community comments:**

For sheep the optimal stunning position should be clarified by adding the words “with the shot aiming at the angle of the jaw”.

**Justification**

See EFSA Scientific report of the Scientific Panel for Animal Health and Welfare on welfare aspects of animal stunning and killing methods - [http://www.efsa.eu.int/science/ahaw/ahaw\\_opinions/495\\_en.html](http://www.efsa.eu.int/science/ahaw/ahaw_opinions/495_en.html)

Cattle



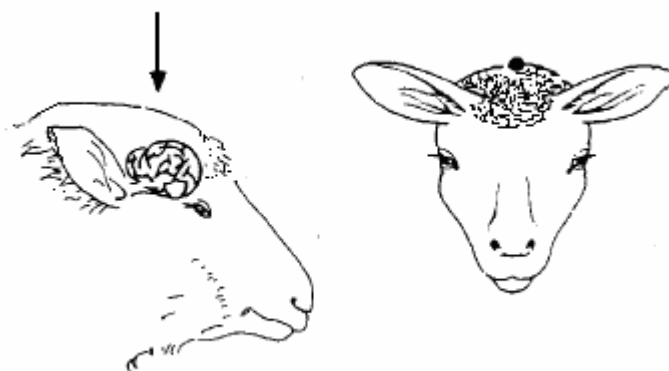
The optimum position for cattle is at the intersection of two imaginary lines drawn from the rear of the eyes to the opposite horn buds.

### Pigs



The optimum position for pigs is on the midline just above ~~the eyes level~~, with ~~and directing~~ the shot directed down the line of the spinal cord.

### Sheep



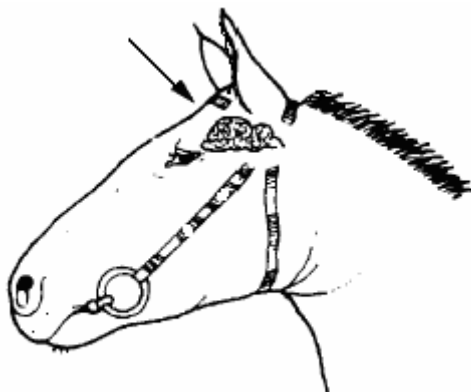
The optimum position for hornless sheep and goats is on the midline ~~just above the eye level~~, and ~~directing the shot down the line of the spinal cord~~.

### Goats



The optimum position for heavily horned sheep and horned goats is behind the poll, aiming towards the angle of the jaw.

## Horses



~~Place the muzzle~~ The optimum position for horses is at right angles to the frontal surface, well above the point where imaginary lines from eyes to ears cross.

Signs of correct stunning using a mechanical instrument are as follows:

- a) the animal collapses immediately and does not attempt to stand up;
- b) the body and muscles of the animal become tonic (rigid) immediately after the shot;
- c) normal rhythmic breathing stops; and
- d) the eyelid is open with the eyeball facing straight ahead and is not rotated.

### 3. Electrical stunning

- a) General considerations

An electrical device should be applied to the animal in accordance with the following guidelines.

**Written Community comments:**

**1. In the third sentence of the following paragraph, "effectively stunned" should replace "stunned".**

**Justification: It is important to underline, when two-cycle stun/kill methods apply with e.g. cardiac fibrillation, that the second phase of the electrical application should only take place after having ascertained that the animals is already effectively stunned.**

**2. The sentence "they should be placed so that they span the brain" should be further expanded, clarified and accompanied by an illustration to show proper placement.**

**Justification: It is important that the guidelines demonstrate clearly the proper placement of electrodes**

**3. A further sentence should be added stating "The electrical parameters should be set so as to ensure effective stunning, given that immediate human**

**intervention to correct any deficiencies may be curtailed by the design and operation of the equipment”.**

**Justification: It is important that the guidelines take account of the practical use and design of such stunning systems and the opportunities or restrictions for operator intervention (due to health and safety considerations or logistical-layout restrictions etc.).**

Electrodes should be designed, constructed, maintained and cleaned regularly to ensure that the flow of current is optimal and in accordance ~~with~~ ~~to~~ manufacturing specifications. They should be placed so that they span the brain. The application of electrical currents which bypass the brain is unacceptable unless the animal has been stunned. The use of a single current leg-to-leg is unacceptable as a stunning method.

If, in addition, it is intended to cause cardiac arrest, the electrodes should either span the brain and immediately thereafter the heart, on the condition that it has been ascertained that the animal is adequately stunned, or span brain and heart simultaneously.

Electrical stunning equipment should not be applied on animals as a means of guidance, movement, restraint or immobilisation, and shall not deliver any shock to the animal before the actual stunning or killing.

Electrical stunning apparatus should be tested prior to application on animals using appropriate resistors or dummy loads to ensure the power output is adequate to stun animals.

The apparatus should incorporate a device which monitors and displays stunning current delivered to the animals.

**Written Community comments:**

**Add a sentence above "In all cases electrodes should be applied rapidly and firmly and appropriate pressure maintained to facilitate proper contact and effective stunning”.**

**Justification: Correct operator technique in applying the electrodes is very important to achieve effective stunning.**

Appropriate measures, such as removing excess wool or wetting the skin only at the point of contact, can be taken to minimise impedance of the skin and facilitate effective stunning.

**Written Community comments:**

**In the next paragraph "indicate" should be replaced by "indicated".**

**Justification: Grammatical correction.**

The stunning apparatus required for electrical stunning should be provided with adequate power to achieve continuously the minimum current level recommended for stunning as indicate in the table below:

**Written Community comments:**

**1) The table below should specify that the minimum current levels apply for head-only stunning. Therefore the table heading "Minimum current levels" should be replaced by "Minimum current levels for head-only stunning".**

2) For the purpose of this table "calves" and "lambs" should be defined more specifically as the application of insufficient current may affect the welfare of the animals.

The table should be amended as follows:

"calves" should be replaced by "bovine of less than six months of age"

It should be re-considered whether a minimum current of 1.5 amps is sufficient under practical conditions to stun cattle aged over 6 months of age. Certain experts have suggested a minimum current of 2.5 amps to stun such animals.

Justification: See EFSA report for more detailed scientific basis

[http://www.efsa.eu.int/science/ahaw/ahaw\\_opinions/495/opinion\\_ahaw\\_02\\_ej45\\_stunning\\_report\\_v2\\_en1.pdf](http://www.efsa.eu.int/science/ahaw/ahaw_opinions/495/opinion_ahaw_02_ej45_stunning_report_v2_en1.pdf)

See article Gregory N.G., M.H. Anil, I.L. McKinstry and C.C. Daly (1996). Prevalence and duration of insensibility following electrical stunning in calves. New Zealand Veterinary Journal, 44: S. 1-3.

Nevertheless it should be noted that under current practical conditions many slaughterhouses are not currently complying with the specifications set out in this Article of the OIE guidelines.

Species	Minimum current levels
Cattle	1.5 amps
Calves	1.0 amps
Pigs	1.25 amps
Sheep and goats	1.0 amps
Lambs	<u>0.7 amps</u>
Ostriches	0.4 amps

**Written Community comments:**

The following paragraph should be replaced by the following text:

"In all cases, the correct current level shall be attained within one second of the initiation of stun and maintained at least for ~~between one and~~ three seconds and in accordance with the manufacturer's instructions."

Justification: See EFSA report for more detailed scientific basis

[http://www.efsa.eu.int/science/ahaw/ahaw\\_opinions/495/opinion\\_ahaw\\_02\\_ej45\\_stunning\\_report\\_v2\\_en1.pdf](http://www.efsa.eu.int/science/ahaw/ahaw_opinions/495/opinion_ahaw_02_ej45_stunning_report_v2_en1.pdf)

This has also been shown in papers by Lambooij et al (1996,1997). A period of stunning of less than 3 seconds is insufficient to ensure proper and sufficient insensibility of animals under practical conditions and with sub-optimal stunning there is a risk of animals regaining consciousness during the bleeding-out period before death has intervened.

**Lambooij B., S.M. Merkus, N. van Voorst u., C. Pieterse (1996). Wirkung der elektrischen Niederspannung und Hochfrequenzbetaubung auf den BewuBtseinsverlust von Schlachtschweinen. Fleischwirtschaft 76, S. 1026-1028**

**Lambooij B., S.M. Merkus, N. van Voorst u., C. Pieterse (1997). Effect of low voltage with high frequency electrical stunning on unconsciousness in slaughter pigs. Fleischwirtschaft International 2, S. 13-14**

**Nevertheless it should be noted that under current practical conditions many slaughterhouses are not currently complying with the specifications set out in this Article of the OIE guidelines.**

In all cases, the correct current level shall be attained within one second of the initiation of stun and maintained at least for between one and three seconds and in accordance with the manufacturer's instructions.

- b) Electrical stunning of birds using a waterbath

**Written Community comments:**

**The following text should be added here: "There should be no sharp bends or steep gradients in the shackle line and the shackle line should be as short as possible consistent with achieving acceptable line speeds, and ensuring that birds have settled by the time they reach the water bath. A breast comforter can be used effectively to reduce wing flapping and calm birds. The angle at which the shackle line approaches the entrance to the water bath, and the design of the entrance to the water bath, and the draining of excess 'live' water from the bath are all important considerations in ensuring birds are calm as they enter the bath, do not flap their wings, and do not receive pre-stun electric shocks."**

**Justification: See EFSA report for more detailed scientific basis**

**[http://www.efsa.eu.int/science/ahaw/ahaw\\_opinions/495/opinion\\_ahaw\\_02\\_ej45\\_stunning\\_report\\_v2\\_en1.pdf](http://www.efsa.eu.int/science/ahaw/ahaw_opinions/495/opinion_ahaw_02_ej45_stunning_report_v2_en1.pdf)**

In the case of birds suspended on a moving line, measures should be taken to ensure that the birds are not wing flapping at the entrance of the stunner. The birds should be secure in their shackle, but there should not be undue pressure on their shanks.

Waterbaths for poultry should be adequate in size and depth for the type of bird being slaughtered, and their height should be adjustable to allow for the head of each bird to be immersed. The electrode immersed in the bath should extend the full length of the waterbath. Birds should be immersed in the bath up to the base of their wings.

The waterbath should be designed and maintained in such a way that when the shackles pass over the water, they are in continuous contact with the earthed rubbing bar.

The control box for the waterbath stunner should incorporate an ammeter which displays the total current flowing through the birds.

The shackle-to-leg contact should be wetted preferably before the birds are inserted in the shackles. In order to improve electrical conductivity of the water it is recommended that salt be added in the waterbath as necessary. Additional salt should be added regularly as a solution to maintain suitable constant concentrations in the waterbath.



Using waterbaths, birds are stunned in groups and different birds will have different impedances. The voltage should be adjusted so that the total current is the required current per bird as shown in the table hereafter, multiplied by the number of birds in the waterbath at the same time. The following values have been found to be satisfactory when employing a 50 Hertz sinusoidal alternating current.

Birds should receive the current for at least 4 seconds.

Species	Current (milliamperes per bird)
Broilers	120
Layers (spent hens)	120
Turkeys	150
Ducks and Geese	130

While a lower current may also be satisfactory, the current shall in any case be such as to ensure that unconsciousness occurs immediately and lasts until the bird has been killed by cardiac arrest or by bleeding. When higher electrical frequencies are used, higher currents may be required.

**Written Community comments:**

**As mentioned in the previous paragraph, waterbath stunners may also use higher frequencies than 50 Hz. Therefore recommendations for those cases should also be provided. The EFSA opinion on the subject (Opinion of the Scientific Panel on Animal Health and Welfare on welfare aspects of the main systems of stunning and killing the main commercial species of animals, *The EFSA Journal* (2004), 45, 1-29) recommends particular figures (see p. 19). Based on this information, the following table should be added here:**

Frequency (Hz)	Chickens	Turkeys
< 200 Hz	100 mA	250 mA
From 200 to 400 Hz	150 mA	400 mA
From 400 to 1500 Hz	200 mA	400 mA

**Justification: See EFSA report for more detailed scientific basis**

**[http://www.efsa.eu.int/science/ahaw/ahaw\\_opinions/495/opinion\\_ahaw\\_02\\_ej45\\_stunning\\_report\\_v2\\_en1.pdf](http://www.efsa.eu.int/science/ahaw/ahaw_opinions/495/opinion_ahaw_02_ej45_stunning_report_v2_en1.pdf)**

**Nevertheless it should be noted that under current practical conditions many slaughterhouses are not currently complying with the specifications set out in this Article of the OIE guidelines.**

Every effort shall be made to ensure that no conscious or live birds enter the scalding tank.

In the case of automatic systems, until fail-safe systems of stunning and bleeding have been introduced, a manual back-up system should be in place to ensure that any birds which have missed the waterbath stunner and/or the automatic neck-cutter are immediately stunned and/or killed immediately, and they are dead before entering scald tank.

To lessen the number of unstunned birds, reaching neck cutters, steps should be taken to ensure that small birds do not go on the line amongst bigger birds and that these small birds are stunned separately.

4. Gas stunning (under study)

**Written Community comments:**

**This section should be retained “under study” until further information is to hand. In particular appropriate minimum gas concentrations need to be carefully considered.**

**Justification: These gas concentrations need to be carefully assessed and kept under review from a scientific perspective. New scientific data are continuing to emerge on this issue (e.g. from researchers based in Roslin-Silsoe institutes in UK, Swedish data etc.). Some of these papers are still “in press” and full publication details will be provided to the OIE once available. Examples of such studies already available and which could be usefully reviewed include:**

**“A Study of 2 Pig Abattoirs with Regard to CO<sub>2</sub> Concentration, CO<sub>2</sub> Exposure Time, Stun Group Size, Stun to Stick Interval, and Stun Effect, Sophie Atkinson, Swedish University of Agricultural Sciences Skara 2003”**

**"An investigative study of 2 pig abattoirs in Sweden with regard to CO<sub>2</sub> concentration, CO<sub>2</sub> exposure time, stun group size, stun to stick interval and stun effect." Bo Algers and Sophie Atkinson, Swedish University of Agricultural Sciences. Presented at ISAH (International Society for Animal Hygiene) congress October 2004.**

**Therefore it would be premature to finalise these provisions on CO<sub>2</sub> concentrations etc. pending the careful analysis of such new scientific data.**

**It should be noted that under current practical conditions many slaughterhouses are not currently complying with the specifications set out in this Article of the OIE guidelines.**

a) Stunning of pigs by exposure to carbon dioxide (CO<sub>2</sub>)

The concentration of CO<sub>2</sub> for stunning should be preferably 90% by volume but in any case no less than 80% by volume. After entering the stunning chamber, the animals should be conveyed to the point of maximum concentration of the gas as rapidly as possible and be kept until they are dead or brought into a state of insensibility which lasts until death occur due to bleeding. Ideally, pigs should be exposed to this concentration of CO<sub>2</sub> for 3 minutes. Sticking should occur as soon as possible after exit from the gas chamber.

In any case, the concentration of the gas should be such that it minimises as far as possible all stress of the animal prior to loss of consciousness.

The chamber in which animals are exposed to CO<sub>2</sub> and the equipment used for conveying them through it shall be designed, constructed and maintained in such a way as to avoid injury or unnecessary stress to the animals. The animal density within the chamber should be such to avoid stacking animals on top of each others.

The conveyor and the chamber shall be adequately lit to allow the animals to see their surroundings and, if possible, each other.

**Written Community comments:**  
**The next sentence should be re-considered.**

**Justification:**

**In many cases it is neither possible or practical to inspect CO<sub>2</sub> chambers while in use. Possible occupational safety risks to personnel of such practices also need to be considered.**

It should be possible to inspect the CO<sub>2</sub> chamber whilst it is in use, and to have access to the animals in emergency cases.

**Written Community comments:**  
**The following text should be added here:**

**"Emergency stunning equipment should be available at the point of exit from the stunning chamber and used on any pigs that do not appear to be dead or completely stunned."**

**Justification:**

**The availability of emergency stunning equipment is a basic pre-requisite, in line with procedures of good practice etc. See EFSA report for more detailed scientific basis**

**[http://www.efsa.eu.int/science/ahaw/ahaw\\_opinions/495/opinion\\_ahaw\\_02\\_ej45\\_stunning\\_report\\_v2\\_en1.pdf](http://www.efsa.eu.int/science/ahaw/ahaw_opinions/495/opinion_ahaw_02_ej45_stunning_report_v2_en1.pdf)**

The chamber shall be equipped to continuously measure and display register at the point of stunning the CO<sub>2</sub> concentration and the time of exposure, and to give a clearly visible and audible warning if the concentration of CO<sub>2</sub> falls below the required level.

- b) Inert gas mixtures for stunning pigs

Inhalation of high concentrations of carbon dioxide is aversive and can be distressing to animals. Therefore, the use of non-aversive gas mixtures is being developed.

Such gas mixtures include:

- i) a maximum of 2% by volume of oxygen in argon, nitrogen or other inert gases, or

**Community comment:**  
**Delete "to" at the beginning of the next sentence.**

**Justification: Grammatical correction, not included in (a) and is thus inconsistent in style.**

- ii) to a maximum of 30% by volume of carbon dioxide and a maximum of 2% by volume of oxygen in mixtures with carbon dioxide and argon, nitrogen or other inert gases.

Exposure time to the gas mixtures should be sufficient to ensure that no pigs regain consciousness before death supervenes through bleeding or cardiac arrest is induced.

## c) Gas stunning of poultry

The main objective of gas stunning is to avoid the pain and suffering associated with shackling conscious poultry under water bath stunning and killing systems. Therefore, gas stunning should be limited to birds contained in crates or on conveyors only. The gas mixture should be non-aversive to poultry.

Gas stunning of poultry in their transport containers will eliminate the need for live bird handling at the processing plant and all the problems associated with the electrical stunning. Gas stunning of poultry on a conveyor eliminates the problems associated with the electrical water bath stunning.

Live poultry should be conveyed into the gas mixtures either in transport crates or on conveyor belts.

**Written Community comments:**

**The following text should be added here:**

**"The following gas procedures have been properly documented for chickens and turkeys but do not necessarily apply for other domestic birds. In any case the procedure should be designed as to ensure that all animals are properly stunned without unnecessary suffering and gas concentration should be established so as to avoid convulsions (wing flapping)."**

**Justification : See EFSA report for more detailed scientific basis**

**[http://www.efsa.eu.int/science/ahaw/ahaw\\_opinions/495/opinion\\_ahaw\\_02\\_ej45\\_stunning\\_report\\_v2\\_en1.pdf](http://www.efsa.eu.int/science/ahaw/ahaw_opinions/495/opinion_ahaw_02_ej45_stunning_report_v2_en1.pdf)**

## i) Gas mixtures used for stunning poultry include:

**Community comment:**

**"a" should precede each paragraph.**

**Justification; Linguistic correction, see previous bullet points for consistency of style etc.**

- minimum of 2 minutes exposure to 40% carbon dioxide, 30% oxygen and 30% nitrogen, followed by a minimum of one minute exposure to 80% carbon dioxide in air; or
- minimum of 2 minutes exposure to any mixture of argon, nitrogen or other inert gases with atmospheric air and carbon dioxide, provided that the carbon dioxide concentration does not exceed 30% by volume and the residual oxygen concentration does not exceed 2% by volume; or
- minimum of 2 minutes exposure to argon, nitrogen, other inert gases or any mixture of these gases in atmospheric air with a maximum of 2% residual oxygen by volume; or
- minimum of 2 minutes exposure to a minimum of 55% carbon dioxide in air.

## ii) Requirements for effective use are as follows:

- compressed gases should be vaporised prior to administration into the chamber and should be at room temperature to prevent any thermal shock. Under no circumstances, should solid gases with freezing temperatures enter the chamber;
- gas mixtures should be humidified;

**Written Community comments:**

**The next indent should be replaced by the following text:**

- “ – **appropriate gas concentrations of oxygen and, if necessary, carbon dioxide should be monitored and displayed continuously at the level of the birds inside the chamber to ensure that anoxia ensues.**”

**Justification: It is appropriate to measure both gas concentrations.**

**See EFSA report for more detailed scientific**

**basis [http://www.efsa.eu.int/science/ahaw/ahaw\\_opinions/495/opinion\\_ahaw\\_02\\_ej45\\_stunning\\_report\\_v2\\_en1.pdf](http://www.efsa.eu.int/science/ahaw/ahaw_opinions/495/opinion_ahaw_02_ej45_stunning_report_v2_en1.pdf)**

- appropriate gas concentrations should be monitored and displayed continuously at the level of the birds inside the chamber.

Under no circumstances, should birds exposed to gas mixtures be allowed to regain consciousness. If necessary, the exposure time should be extended.

5. Bleeding

**Written Community comments:**

**The following text should be amended as follows: "From the point of view of animal welfare, animals which are stunned with a reversible method should be bled without delay. Maximum stun-stick interval depends on the parameters of the stunning method applied, the species concerned and the bleeding method used (full cut or chest stick when possible). As a consequence, depending on those factors, the slaughterhouse operator should set up a maximum stun-stick interval that ensures that no animals recover consciousness during bleeding. In any case the following time limits should be applied:"**

**Justification: The stun-to-stick interval depends on the parameters used for the stunning method, the species concerned and the bleeding method used (full cut or chest stick when possible). Stun-to-stick interval is more clearly understood than "Maximum delay for bleeding to be started".**

**See EFSA report for more detailed scientific**

**basis [http://www.efsa.eu.int/science/ahaw/ahaw\\_opinions/495/opinion\\_ahaw\\_02\\_ej45\\_stunning\\_report\\_v2\\_en1.pdf](http://www.efsa.eu.int/science/ahaw/ahaw_opinions/495/opinion_ahaw_02_ej45_stunning_report_v2_en1.pdf)**

**Nevertheless it should be noted that under current practical conditions many slaughterhouses are not currently complying with the specifications set out in this Article of the OIE guidelines.**

From the point of view of animal welfare, animals which are stunned with a reversible method should be bled without delay and in any case within the following time limits:

Stunning method	Maximum delay for bleeding to be started
Electrical methods and non penetrating <u>captive bolt</u>	20 seconds
CO <sub>2</sub>	60 seconds (after leaving the chamber)

**Written Community comments:**

**Replace "from the point of animal welfare" by "from the point of view of animal welfare".**

**Justification: Linguistic correction, consistency of style etc.**

All animals should be bled by incising both carotid arteries, or the vessels from which they arise (e.g. chest stick). However, when the stunning method used causes cardiac arrest, the incision of all of these vessels is not necessary from the point of animal welfare.

It should be possible for staff to observe, inspect and access the animals throughout the bleeding period. Any animal showing signs of recovering consciousness should be restunned.

After incision of the blood vessels, no scalding carcass treatment or dressing procedures should be performed on the animals for at least 30 seconds, or in any case until all brain-stem reflexes have ceased.

## Article 3.7.5.8.

<b>Written Community comments:</b>					
<b>1. The row on captive bolt non-penetrating should be replaced as follows:</b>					
	Captive bolt - non-penetrating	Inaccurate targeting, velocity of bolt, potentially higher failure rate than penetrating captive bolt	Competent operation and maintenance of equipment; restraint; accuracy	Cattle, calves, sheep, goats, deer, pigs, camelids, ratites	<b><u>This method should only be used when alternative methods are not available for cattle and sheep.</u></b> Presently available devices are not recommended for young bulls and animals with thick skull
<p><b>Justification:</b> According to the EFSA opinion (Opinion of the Scientific Panel on Animal Health and Welfare on welfare aspects of the main systems of stunning and killing the main commercial species of animals, <i>The EFSA Journal</i> (2004), 45, 1-29) the use of non-penetrating captive bolt is unreliable and should not be used for cattle (p. 9). In addition there is no available investigation for its use on adult sheep (p. 10) that would prove that it is suitable for them.</p> <p><b>2. Delete “acceptable” from the table heading.</b> <b>Justification:</b> Acceptable implies a value judgement or subjective analysis. In any given situation a variety of handling and restraining methods may be available and the best animal welfare outcome needs to be considered on a case-by-case basis. Therefore a given method may be “acceptable” under certain circumstances and “unacceptable” under a different set of conditions.</p> <p><b>3. Reconsider the inclusion of free bullet as a “stunning method”.</b> <b>Justification:</b> Free bullet if correctly applied will often kill the animal.</p> <p><b>4. To ensure consistency in the OIE’s approach to these issues please consider other parts of the OIE code dealing with related issues, e.g. the implications that stunning-killing methods applied may have on food safety, BSE control-testing etc</b> <b>Justification:</b> Consider EFSA and Scientific Steering Committee opinions on the risk of dissemination of brain material using penetrating stunning methods for example.</p>					

## Summary of acceptable stunning methods and the associated animal welfare issues

Method	Specific method	AW concerns/implications	Key AW requirements applicable	Species	Comment
Mechanical	Free bullet	Inaccurate targeting and inappropriate ballistics	Accuracy; head shots only correct ballistics,	Cattle, calves, buffalo, deer,	Personnel safety

			<u>Operator competence, achieving outright kill with first shot</u>	horses, pigs (boars and sows)	
	Captive bolt - penetrating	Inaccurate targeting, velocity and diameter of bolt	Competent operation and maintenance of equipment; restraint; accuracy	Cattle, calves, buffalo, sheep, goats, deer, horses, pigs, camelids, ratites	(Unsuitable for specimen collection from TSE suspects). A back-up gun should be available in the event of an ineffective shot
	Captive bolt - non-penetrating	Inaccurate targeting, velocity of bolt, potentially higher failure rate than penetrating captive bolt	Competent operation and maintenance of equipment; restraint; accuracy	Cattle, calves, sheep, goats, deer, pigs, camelids, ratites	Presently available devices are not recommended for young bulls and animals with thick skull
	Manual percussive blow	Inaccurate targeting; insufficient power; size of instrument	Competent <i>animal handlers</i> ; restraint; accuracy. Not recommended for general use	Young and small mammals, ostriches and poultry	Mechanical devices potentially more reliable. Where manual percussive blow is used, unconsciousness should be achieved with single sharp blow delivered to central skull bones
Electrical	Split application: 1. across head then head to chest; 2. across head then across chest	Accidental pre-stun electric shocks; electrode positioning; application of a current to the body while animal conscious; inadequate current and voltage	Competent operation and maintenance of equipment; restraint; accuracy	Cattle, calves, sheep, goats and pigs, ratites and poultry	Systems involving repeated application of head-only or head-to-leg with short current durations (<1 second) in the first application should not be used. <del>Where cardiac arrest occurs, the carcass may not be suitable for Halal</del>



Summary of acceptable stunning methods and the associated animal welfare issues

Method	Specific method	AW concerns/implications	Key AW requirements applicable	Species	Comment
Electrical	Single application: 1. head only; 2. head to body; 3. head to leg	Accidental pre-stun electric shocks; inadequate current and voltage; wrong electrode positioning; recovery of consciousness	Competent operation and maintenance of equipment; restraint; accuracy	Cattle, calves, sheep, goats, pigs, ratites, poultry	<del>Where cardiac arrest occurs, the carcass may not be suitable for Halal</del>
	Waterbath	Restraint, accidental pre-stun electric shocks; inadequate current and voltage; recovery of consciousness	Competent operation and maintenance of equipment	Poultry only	<del>Where cardiac arrest occurs, the carcass may not be suitable for Halal</del>
Gaseous	CO <sub>2</sub> air/O <sub>2</sub> mixture; CO <sub>2</sub> inert gas mixture	Aversiveness of high CO <sub>2</sub> concentrations, respiratory distress; inadequate exposure	Concentration; duration of exposure; design, maintenance and operation of equipment; stocking density management	Pigs, poultry	<del>Gaseous methods may not be suitable for Halal</del>
	Inert gases	Recovery of consciousness	Concentration; duration of exposure; design, maintenance and operation of equipment; stocking density management	Pigs, poultry	<del>Gaseous methods may not be suitable for Halal</del>

**Written Community comments:**

1) The row "bleeding out by severance of blood vessels in the neck without stunning" should be moved to the end of the table as it does not represent the most reliable and optimal method of slaughter in terms of ensuring the welfare of the animals.

2) In addition, particular attention should be drawn to the competence of the personnel and the quality of the restraint. As the animal remains conscious for a certain period of time, no further procedure should be carried out before the bleeding out is completed (see Article on bleeding provides for at least 30 s). In particular the practice to remove hypothetical blood clots just after the bleeding should be discouraged as it increases the suffering of the animals without providing a better bleeding.

Therefore this row should be moved to the end of the list and be replaced as follows:

Bleeding out by severance of blood vessels in the neck without stunning	Full frontal cutting across the throat	Failure to cut both common carotid arteries; occlusion of cut arteries.	<b><u>Operator competencies</u></b> A very sharp blade or knife, of sufficient length so that the point of the knife remains outside the incision during the cut; the point of the knife should not be used to make the incision. An incision which does not close over the knife during the throat cut.	Cattle, buffalo, horses, camelids, sheep, goats, poultry, ratites	<b><u>No further procedure should be carried out before the bleeding out is completed (i.e. at least 30 seconds for mammals)</u></b> <b><u>The practice to remove hypothetical blood clots just after the bleeding should be discouraged since this may increase animal suffering.</u></b>
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3) In addition the row on "free bullet" listed within the stunning methods should be also listed here as free bullet often provides an instant killing.

4) the wording "ineffective stunning" in the column "AW concerns/implications" should be deleted as it applies to all slaughter methods.

**Justification:** See EFSA report

5. Delete "acceptable" from the table heading.

**Justification :** Acceptable implies a value judgement or subjective analysis. In any given situation a variety of handling and restraining methods may be available and the best animal welfare outcome needs to be considered on a case-by-case basis. Therefore a given method may be "acceptable" under certain circumstances and "unacceptable" under a different set of conditions.

Summary of acceptable slaughter methods and the associated animal welfare issues

Slaughter methods	Specific method	AW concerns / implications	Key requirements	Species	Comments
Bleeding out by severance of blood vessels in the neck without stunning	Full frontal cutting across the throat	Failure to cut both common carotid arteries; occlusion of cut arteries.	A very sharp blade or knife, of sufficient length so that the point of the knife remains outside the incision during the cut; the point of the knife should not be used to make the incision. An incision which does not close over the knife during the throat cut.	Cattle, buffalo, horses, camelids, sheep, goats, poultry, ratites	<del>This method is applicable to Halal and Kosher slaughter for relevant species</del>
Bleeding with prior stunning	<u>Full frontal cutting across the throat</u>	<u>Failure to cut both common carotid arteries; occlusion of cut arteries; pain during and after the cut.</u>	<u>A very sharp blade or knife, of sufficient length so that the point of the knife remains outside the incision during the cut; the point of the knife should not be used to make the incision. An incision which does not close over the knife during the throat cut.</u>	<u>Cattle, buffalo, horses, camelids, sheep, goats,</u>	
	Neck stab followed by forward cut	Ineffective stunning; failure to cut both common carotid arteries; impaired blood flow; delay in cutting after reversible stunning	Prompt and accurate cutting	Camelids, sheep, goats, poultry, ratites	
	Neck stab alone	Ineffective stunning; failure to cut both common	Prompt and accurate cutting	Camelids, sheep, goats, poultry,	

		carotid arteries; impaired blood flow; delay in cutting after reversible stunning		ratites	
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Appendix XXII (contd)

## Summary of acceptable slaughter methods and the associated animal welfare issues (contd)

Slaughter methods	Specific method	AW concerns / implications	Key requirements	Species	Comments
Bleeding with prior stunning (contd)	Chest stick into major arteries or hollow-tube knife into heart	Ineffective stunning; Inadequate size of stick wound inadequate length of sticking knife; delay in sticking after reversible stunning	Prompt and accurate sticking	Cattle, sheep, goats, pigs	
	Chest stick into major arteries or hollow-tube knife into heart	Ineffective stunning; Inadequate size of stick wound inadequate length of sticking knife; delay in sticking after reversible stunning	Prompt and accurate sticking	Cattle, sheep, goats, pigs	
	Neck skin cut followed by severance of vessels in the neck	Ineffective stunning; Inadequate size of stick wound; Inadequate length of sticking knife; delay in sticking after reversible stunning	Prompt and accurate cutting of vessels	Cattle	
Bleeding with prior stunning	Automated mechanical cutting	Ineffective stunning; failure to cut and misplaced cuts. Recovery of consciousness	Design, maintenance and operation of equipment; accuracy of cut; manual back-up	Poultry only	

		following reversible stunning systems			
	Manual neck cut on one side	Ineffective stunning; recovery of consciousness following reversible stunning systems	Prior non-reversible stunning	Poultry only	N.B. slow induction of unconsciousness under slaughter without stunning
	Oral cut	Ineffective stunning; recovery of consciousness following reversible stunning systems	Prior non-reversible stunning	Poultry only	N.B. slow induction of unconsciousness in non-stun systems

Slaughter methods	Specific method	AW concerns / implications	Key requirements	Species	Comments
Bleeding with prior stunning (contd)	Oral cut	Ineffective stunning; recovery of consciousness following reversible stunning systems	Prior non-reversible stunning	Poultry only	N.B. slow induction of unconsciousness in non-stun systems
Other methods without stunning	Decapitation with a sharp knife	Pain due to loss of consciousness not being immediate		Sheep, goats, poultry	This method is only applicable to Jhatka slaughter
	Manual neck dislocation and decapitation	Pain due to loss of consciousness not being immediate; difficult to achieve in large birds	Neck dislocation should be performed in one stretch to sever the spinal cord	Poultry only	Slaughter by neck dislocation should be performed in one stretch to sever the spinal cord
Cardiac arrest in a waterbath electric stunner	Bleeding by evisceration		Induction of cardiac arrest	Quail	
	Bleeding by neck cutting			Poultry	

Article 3.7.5.10.

**Methods, procedures or practices unacceptable on animal welfare grounds**

**Written Community comments:**

**In paragraph 1 below the word "puntilla" should not be deleted but explained with a more precise description such as for example "puntilla (i.e. severing the spinal cord)".**

**Justification: Puntillas have been used in certain situations and their use should be explained rather than ignored.**

1. The restraining methods which work through immobilisation by injury such as 'puntilla', breaking legs and 'leg tendon cutting', cause severe pain and stress in animals. Those methods are not acceptable in any species.
2. The use of the electrical stunning method with a single application leg to leg is ineffective and unacceptable in any species, as it is likely to be painful. The animal welfare concerns are:
  - a) accidental pre-stun electric shocks;
  - b) inadequate current and voltage;
  - c) wrong electrode positioning;

- d) recovery of consciousness.
3. The slaughter method of brain stem severance by piercing through the eye socket or skull bone without prior stunning is not acceptable in any species.

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— text deleted



**Community position:**

The European Community can support these proposals but will communicate written comments on some particular issues. To facilitate the application of these guidelines in practice it is important that information and training materials are prepared and disseminated. These guidelines also need to be updated over time to take account of important scientific advances in these areas. However certain OIE amendments initially proposed in September are not submitted here and the Community would like to confirm that it maintains its comments previously communicated to the OIE on 15 February 2006 on the parts of the text not discussed today (Ref. D(2005) 522619). The European Community hopes that all of its comments will be considered by the relevant OIE Working Group.

## APPENDIX 3.7.6.

## GUIDELINES FOR THE KILLING OF ANIMALS FOR DISEASE CONTROL PURPOSES

## Article 3.7.6.1.

## General principles

~~This Appendix is~~ These guidelines are based on the premise that a decision to kill the animals has been made, and address the need to ensure the welfare of the animals until they are dead.

**Written Community comments:**

**The following paragraph could be completed as follows:**

*"Such a certificate should be delivered if the applicant has demonstrated sufficient knowledge, with due regard to the tasks, methods, equipments and species concerned by the applicant responsibilities as laid down in these guidelines."*

**Justification:** The introduction of a certificate of competence is welcomed but it should explicitly refer to the knowledge of these guidelines. It should be specified whether this certificate of competence is mandatory for only those personnel actually killing the animals, or also for all other personnel involved in handling animals and assisting the killing procedure.

1. All personnel involved in the humane killing of animals should have the relevant skills and competencies. Competence may be gained through formal training and/or practical experience. This competence should be demonstrated through a current certificate from an independent body accredited by a Competent Authority.

**Written Community comments:**

**The order of the various aspects listed in the next sentence should be amended as follows:**

“As necessary, operational procedures should be adapted to the specific circumstances operating on the premises and should address, apart from animal welfare, operator safety, biosecurity, environmental aspects, aesthetics of the method of euthanasia and cost of the method”.

**Justification: The current wording could be misinterpreted to give the impression that the aesthetics of the method takes precedence over other issues.**

2. As necessary, operational procedures should be adapted to the specific circumstances operating on the premises and should address, apart from animal welfare, aesthetics of the method of euthanasia, cost of the method, operator safety, biosecurity and environmental aspects.
3. Following the decision to kill the animals, killing should be carried out as quickly as possible and normal husbandry should be maintained until the animals are killed.
4. The handling and movement of animals should be minimised and when done, it should be done in accordance with the guidelines described below.
5. Animal restraint should be sufficient to facilitate effective killing, and in accordance with animal welfare and operator safety requirements; when restraint is required, killing should follow with minimal delay.
6. When animals are killed for disease control purposes, methods used should result in immediate death or immediate loss of consciousness lasting until death; when loss of consciousness is not immediate, induction of unconsciousness should be non-aversive and should not cause anxiety, pain, distress or suffering in the animals.
7. For animal welfare considerations, young animals should be killed before older animals; for biosecurity considerations, infected animals should be killed first, followed by in-contact animals, and then the remaining animals.
8. There should be continuous monitoring of the procedures by the Competent Authorities to ensure they are consistently effective with regard to animal welfare, operator safety and biosecurity.
9. When the operational procedures are concluded, there should be a written report describing the practices adopted and their effect on animal welfare, operator safety and biosecurity.
10. ~~To the extent possible to minimise public distress, killing of animals and carcass disposal should be carried out away from public view.~~
44. These general principles should also apply when animals need to be killed for other purposes such as after natural disasters or for culling animal populations.

Article 3.7.6.2.

### Organisational structure

Disease control contingency plans should be in place at a national level and should contain details of management structure, disease control strategies and operational procedures; animal welfare considerations should be addressed within these disease control contingency plans. The plans should also include a strategy to ensure that an adequate number of personnel trained competent in the humane killing of animals is available. Local level plans should be based on national plans and be informed by local knowledge.

Disease control contingency plans should address the animal welfare issues that may result from animal movement controls.

The operational activities should be led by an official veterinarian who has the authority to appoint the personnel in the specialist teams and ensure that they adhere to the required animal welfare and biosecurity standards. When appointing the personnel, he/she should ensure that the personnel involved has the required competencies.

The official veterinarian should be responsible for all activities across one or more affected premises and should be supported by coordinators for planning (including communications), operations and logistics to facilitate efficient operations.

The official veterinarian should provide overall guidance to personnel and logistic support for operations on all affected premises to ensure consistency in adherence to the OIE animal welfare and animal health guidelines.

A specialist team, led by a team leader answerable to the *official veterinarian*, should be deployed to work on each affected premises. The team should consist of personnel with the competencies to conduct all required operations; in some situations, personnel may be required to fulfil more than one function. Each team should contain a veterinarian or have access to veterinary advice at all times.

In considering the animal welfare issues associated with killing animals, the key personnel, their responsibilities and competencies required are described in Article 3.7.6.3.

#### Article 3.7.6.3.

### Responsibilities and competencies of the specialist team

#### 1. Team leader

##### a) Responsibilities

- i) plan overall operations on an affected premises;
- ii) determine and address requirements for animal welfare, operator safety and biosecurity;
- iii) organise, brief and manage team of people to facilitate humane killing of the relevant animals on the premises in accordance with national regulations and these guidelines;
- iv) determine logistics required;
- v) monitor operations to ensure animal welfare, operator safety and biosecurity requirements are met;
- vi) report upwards on progress and problems;
- vii) provide a written report at the conclusion of the killing, describing the practices adopted and **their effect on the** animal welfare, operator safety and biosecurity outcomes.

##### b) Competencies

- i) appreciation of normal animal husbandry practices;
- ii) appreciation of animal welfare and the underpinning behavioural, anatomical and physiological processes involved in the killing process;
- iii) skills to manage all activities on premises and deliver outcomes on time;

- iv) awareness of psychological effects on farmer, team members and general public;
- v) effective communication skills;
- vi) appreciation of the environmental impacts caused by their operation.

## 2. Veterinarian

- a) Responsibilities
  - i) determine and implement the most appropriate killing method to ensure that animals are killed without avoidable pain and distress;
  - ii) determine and implement the additional requirements for animal welfare, including the order of killing;
  - iii) ensure that confirmation of animals deaths is carried out by competent persons at appropriate times after the killing procedure;
  - iv) minimise the risk of disease spread within and from the premises through the supervision of biosecurity procedures;
  - v) continuously monitor animal welfare and biosecurity procedures;
  - vi) in cooperation with the leader, prepare a written report at the conclusion of the killing, describing the practices adopted and their effect on animal welfare.
- b) Competencies
  - i) ability to assess animal welfare, especially the effectiveness of stunning and killing, and to correct any deficiencies;
  - ii) ability to assess biosecurity risks.

## 3. Animal handlers

- a) Responsibilities
  - i) review on-site facilities in terms of their appropriateness;
  - ii) design and construct temporary animal handling facilities, when required;
  - iii) move and restrain animals;
  - iv) continuously monitor animal welfare and biosecurity procedures.
- b) Competencies

### **Written Community comments:**

**The following text should be added:**

**"v) above-mentioned competencies should be demonstrated through a certificate of competence as referred to in Article 3.7.6.1."**

**Justification: In the interests of consistency, reference to the certificate of competence mentioned in Article 3.7.6.1. (paragraph 1) should be included here. The efficient and humane killing of animals has profound animal welfare**

**implications and so it may be justified for such killing personnel to be specifically trained and certified, as compared to all personnel involved in handling animals or their carcasses.**

- i) ~~An experience of~~ Animal handling in emergency situations and in close confinement is required;
- ii) an appreciation of biosecurity and containment principles.

4. Slaughterers Animal killing personnel

a) Responsibilities

Humane killing of the animals through effective stunning and killing should be ensured.

b) Competencies

- i) when required by regulations, licensed to use necessary equipment ~~or licensed to be slaughterers~~;
- ii) competent to use and maintain relevant equipment;
- iii) competent to use techniques for the species involved;
- iv) competent to assess effective stunning and killing.

5. Carcass disposal personnel

a) Responsibilities

An efficient carcass disposal (to ensure killing operations are not hindered) should be ensured.

b) Competencies

The personnel should be competent to use and maintain available equipment and apply techniques for the species involved.

6. Farmer/owner/manager

a) Responsibilities

- i) assist when requested.

b) Competencies

- i) specific knowledge of his/her animals and their environment.

Article 3.7.6.4.

**Considerations in planning the humane killing of animals**

Many activities will need to be conducted on affected premises, including the humane killing of animals. The team leader should develop a plan for humanely killing animals on the premises which should include consideration of:

**Written Community comments:**

**Two important considerations should be added to the list below:**

***"- The plan should minimise the negative welfare impacts of the killing by taking into account the different phases of the procedures to be applied for killing (choice of the killing sites, killing methods, etc.) and the measures restricting the movements of the animals.***

***- Competences and skills of the personnel handling and killing animals"***

**Justification: This is in line with basic good practices. For a scientific basis see EFSA report.**

1. minimising handling and movement of animals;
2. killing the animals on the affected premises; however, there may be circumstances where the animals may need to be moved to another location for killing; when the killing is conducted at an abattoir, the guidelines in the Chapter on slaughter of animal for human consumption should be followed;
3. the species, number, age and size of animals to be killed, and the order of killing them;
4. methods of killing the animals, and their cost;

**Written Community comments:**

**The following text should be added to the next bullet point “as well as accessibility of the farm”.**

**Justification: Topographical factors and farm location accessibility can be very important in determining the methods which could be applied.**

5. housing, husbandry and location of the animals;

**Written Community comments:**

**The following text should be added to the next bullet point “as well as the time necessary to kill the required number of animals using such methods”.**

**Justification: Animal health and biosecurity considerations may imply that animals need to be killed very rapidly. This is an important criterion when considering the method to be used.**

6. the availability and effectiveness of equipment needed for killing of the animals;
7. the facilities available on the premises that will assist with the killing including any additional facilities that may need to be brought on and then removed from the premises;
8. biosecurity and environmental issues;
9. the health and safety of personnel conducting the killing;
10. any legal issues that may be involved, for example where restricted veterinary drugs or poisons may be used, or where the process may impact on the environment; and
11. the presence of other nearby premises holding animals.

In designing a killing plan, it is essential that the method chosen be consistently reliable to ensure that all animals are humanely and quickly killed.

## Article 3.7.6.5.

Table summarising killing methods described in Articles 3.7.6.6.-3.7.6.17.

Species	Age range	Procedure	Restraint necessary	Animal welfare concerns with inappropriate application	Article reference
Cattle	all	free bullet	no	non-lethal wounding	3.7.6.6.
	all except neonates	captive bolt - penetrating, followed by pithing or bleeding	yes	ineffective stunning	3.7.6.7.
	adults only	captive bolt - non-penetrating, followed by bleeding	yes	ineffective stunning, regaining of consciousness before killing	3.7.6.8.
	calves only	electrical, two stage application	yes	pain associated with cardiac arrest after ineffective stunning	3.7.6.10.
	calves only	electrical, single application (method 1)	yes	ineffective stunning	3.7.6.11.
	all	injection with barbiturates and other drugs	yes	non-lethal dose, pain associated with injection site	3.7.6.15.
Sheep and goats	all	free bullet	no	non-lethal wounding	3.7.6.6.
	all except neonates	captive bolt - penetrating, followed by pithing or bleeding	yes	ineffective stunning, regaining of consciousness before <del>killing</del> <u>death</u>	3.7.6.7.
	all except neonates	captive bolt - non-penetrating, followed by bleeding	yes	ineffective stunning, regaining of consciousness before <del>killing</del> <u>death</u>	3.7.6.8.
	neonates	captive bolt - non-penetrating	yes	non-lethal wounding	3.7.6.8.
	all	electrical, two stage application	yes	pain associated with cardiac arrest after ineffective stunning	3.7.6.10.
	all	electrical, single application (Method 1)	yes	ineffective stunning	3.7.6.11.
	neonates only	CO <sub>2</sub> / air mixture	yes	slow induction of unconsciousness, aversiveness of induction	3.7.6.12.



	neonates only	nitrogen and/or inert gas mixed with CO <sub>2</sub>	yes	slow induction of unconsciousness, aversiveness of induction	3.7.6.13.
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Species	Age range	Procedure	Restraint necessary	Animal welfare concerns with inappropriate application	Article reference
Sheep and goats (contd)	neonates only	nitrogen and/or inert gases	yes	slow induction of unconsciousness,	3.7.6.14.
	all	injection of barbiturates and other drugs	yes	non-lethal dose, pain associated with injection site	3.7.6.15.
Pigs	all	free bullet	no	non-lethal wounding	3.7.6.6.
	all except neonates	captive bolt - penetrating, followed by pithing or bleeding	yes	ineffective stunning, <u>regaining of consciousness before death</u>	3.7.6.7.
	neonates only	captive bolt - non-penetrating	yes	non-lethal wounding	3.7.6.8.
	all §	electrical, two stage application	yes	pain associated with cardiac arrest after ineffective stunning	3.7.6.10.
	all	electrical, single application (Method 1)	yes	ineffective stunning	3.7.6.11.
	neonates only	CO <sub>2</sub> / air mixture	yes	slow induction of unconsciousness, aversiveness of induction	3.7.6.12.
	neonates only	nitrogen and/or inert gas mixed with CO <sub>2</sub>	yes	slow induction of unconsciousness, aversiveness of induction	3.7.6.13.
	neonates only	nitrogen and/or inert gases	yes	slow induction of unconsciousness,	3.7.6.14.
	all	injection with barbiturates and other drugs	yes	non-lethal dose, pain associated with injection site	3.7.6.15.
Poultry	adults only	captive bolt - non-penetrating	yes	ineffective stunning	3.7.6.8.
	day-olds and eggs only	maceration	no	non-lethal wounding, non-immediacy;	3.7.6.9.
	adults only	electrical single application (Method 2)	yes	ineffective stunning	3.7.6.11.

	adults only	electrical single application, followed by killing (Method 3)	yes	ineffective stunning; regaining of consciousness before <del>killing</del> <u>death</u>	3.7.6.11.
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Species	Age range	Procedure	Restraint necessary	Animal welfare concerns with inappropriate application	Article reference
Poultry (contd)	all	CO <sub>2</sub> / air mixture Method 1 Method 2	yes no	slow induction of unconsciousness, aversiveness of induction	3.7.6.12.
	all	nitrogen and/or inert gas mixed with CO <sub>2</sub>	yes	slow induction of unconsciousness, aversiveness of induction	3.7.6.13.
	all	nitrogen and/or inert gases	yes	slow induction of unconsciousness	3.7.6.14.
	all	injection of barbiturates and other drugs	yes	non-lethal dose, pain associated with injection site	3.7.6.15.
	adults only	addition of anaesthetics to feed or water, followed by an appropriate killing method	no	ineffective or slow induction of unconsciousness	3.7.6.16.

\* The methods are described in the order of mechanical, electrical and gaseous, not in an order of desirability from an animal welfare viewpoint.

§ The only preclusion against the use of this method for neonates is the design of the stunning tongs that may not facilitate their application across such a small-sized head/body.

#### Article 3.7.6.6.

### 1. FREE BULLET

#### 2. 1. INTRODUCTION

- a) A free bullet is a projectile fired from a shotgun, rifle, handgun or purpose-made humane killer.
- b) The most commonly used firearms for close range use are:
  - i) humane killers (specially manufactured/adapted single-shot weapons);
  - ii) shotguns (12, 16, 20, 28 bore and .410);
  - iii) rifles (.22 rimfire);

- iv) handguns (various calibres from .32 to .45).
  - c) The most commonly used firearms for long range use are rifles (.22, .243, .270 and .308).
  - d) A free bullet used from long range should be aimed to penetrate the skull or soft tissue at the top of the neck of the animal, to cause irreversible concussion and death and should only be used by properly trained and competent marksmen.
3. 2. REQUIREMENTS FOR EFFECTIVE USE
- a) The marksman should take account of human safety in the area in which he/she is operating. Appropriate vision and hearing protective devices should be worn by all personnel involved.
  - b) The marksman should ensure that the animal is not moving and in the correct position to enable accurate targeting and the range should be as short as possible (5 –50 cm for a shotgun) but the barrel should not be in contact with the animal's head.
  - c) The correct cartridge, calibre and type of bullet for the different species age and size should be used. Ideally the ammunition should expand upon impact and dissipate its energy within the cranium.
  - d) Shot animals should be checked to ensure the absence of brain stem reflexes.

**Written Community comments:**

**A frontal view and a lateral view should be available for all species mentioned here.**

**Justification: This would provide more comprehensive and clear information on the recommended locations for appropriate stunning.**

**Pictures are in particular available from the Humane Slaughter Association or in the EFSA Scientific report of the Scientific Panel for Animal Health and Welfare on welfare aspects of animal stunning and killing methods -**

**[http://www.efsa.eu.int/science/ahaw/ahaw\\_opinions/495\\_en.html](http://www.efsa.eu.int/science/ahaw/ahaw_opinions/495_en.html)**

**Written Community comments:**

**It should be mentioned that in adult cattle for example the optimal shooting position for mechanical stunning methods is often up to 2cm paramedian from the midline.**

**Justification**

**This has been shown by scientific papers (e.g. Ilgert 1985, Kaegi 1988) and long-standing practical experience in the field. A reason for such paramedian placement is that in the actual midline the bone thickness of the sinus frontalis is several cms thick, which leads to a reduced speed of the captive bolt and thus less effective stunning.**

**Ilgert, H. (1985). Effizienz der Bolzenschussbetäubung beim Rind mit Berücksichtigung der Einschussstelle und der Eindringtiefe des Bolzens unter Praxisbedingungen. Vet.med.Diss. Freie Universität Berlin.**

**Kaegi, B. (1988) Untersuchungen zur Bolzenschussbetäubung beim Rind. Vet.med.Diss. Universität Zurich**

**Written Community comments:**

For sheep the optimal stunning position should be clarified by adding the words “with the shot aiming at the angle of the jaw”.

**Justification**

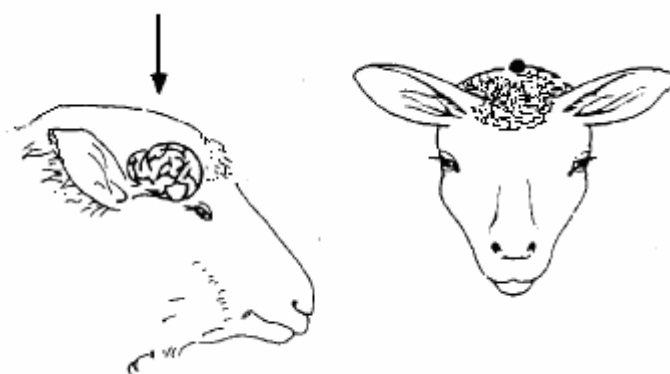
See EFSA Scientific report of the Scientific Panel for Animal Health and Welfare on welfare aspects of animal stunning and killing methods -

[http://www.efsa.eu.int/science/ahaw/ahaw\\_opinions/495\\_en.html](http://www.efsa.eu.int/science/ahaw/ahaw_opinions/495_en.html)

**Figure 1.** The optimum shooting position for cattle is at the intersection of two imaginary lines drawn from the rear of the eyes to the opposite horn buds.



**Figure 2.** The optimum position for hornless sheep and goats is on the midline just above the eye level, and directing the shot down the line of the spinal cord.



**Figure 3.** The optimum shooting position for heavily horned sheep and horned goats is behind the poll aiming towards the angle of the jaw.



**Figure 4.** The optimum shooting position for pigs is just above ~~the eyes~~ level, with and directing the shot directed down the line of the spinal cord.

4.



5. 3. ADVANTAGES

- a) Used properly, a free bullet provides a quick and effective method for killing.
- b) It requires minimal or no restraint and can be use to kill from a distance.
- c) It is suitable for killing agitated animals in open spaces.

6. 4. DISADVANTAGES

- a) The method is potentially dangerous to humans and other animals in the area.
- b) It has the potential for non-lethal wounding.
- c) Destruction of brain tissue may preclude diagnosis of some diseases.
- d) Leakage of bodily fluids may present a biosecurity risk.
- e) Legal requirements may preclude or restrict use.
- f) There is a limited availability of competent personnel.

7. 4. CONCLUSIONS

The method is suitable for cattle, sheep, goats and pigs, including large animals in open spaces.

Article 3.7.6.7.

8. **PENETRATING CAPTIVE BOLT**9. 1. INTRODUCTION

A penetrating captive bolt is fired from a gun powered by either compressed air or a blank cartridge. There is no free projectile.

The captive bolt should be aimed on the skull in a position to penetrate the cortex and mid-brain of the animal. The impact of the bolt on the skull produces unconsciousness. Physical damage to the brain caused by penetration of the bolt may result in death, however pithing or bleeding should be performed as soon as possible after the shot to ensure the death of the animal.

10. 2. REQUIREMENTS FOR EFFECTIVE USE

- a) For cartridge powered and compressed air guns, the bolt velocity and the length of the bolt should be appropriate to the species and type of animal, in accordance with the manufacturer's recommendations.
- b) Captive bolt guns should be frequently cleaned and maintained in good working condition.
- c) More than one gun may be necessary to avoid overheating and a back-up gun should be available in the event of an ineffective shot.
- d) Animals should be restrained; at a minimum they should be penned for cartridge powered guns and in a race for compressed air guns.
- e) The operator should ensure that the animal's head is accessible.

**Written Community comment:**

**In the interests of consistency it would be preferable to also refer to figure 2 in f) and transfer the comment on hornless sheep accordingly. The current text seems to apply to horned sheep and not to hornless sheep (see comment of figure 3).**

**Justification: To ensure better clarity in the text and facilitate proper interpretation of the provisions.**



- f) The operator should fire the captive bolt at right angles to the skull in the optimal position (see figures 1, 3 & 4. The optimum shooting position for hornless sheep is on the highest point of the head, on the midline and aim towards the angle of the jaw).
- g) To ensure the death of the animal, pithing or bleeding should be performed as soon as possible after stunning.
- h) Animals should be monitored continuously after stunning until death to ensure the absence of brain stem reflexes.

11. 3. ADVANTAGES

- a) Mobility of cartridge powered equipment reduces the need to move animals.
- b) The method induces an immediate onset of a sustained period of unconsciousness.

12. 4. DISADVANTAGES

- a) Poor gun maintenance and misfiring, and inaccurate gun positioning and orientation may result in poor animal welfare.
- b) Post stun convulsions may make pithing difficult and hazardous.
- c) The method is difficult to apply in agitated animals.
- d) Repeated use of a cartridge powered gun may result in over-heating.
- e) Leakage of bodily fluids may present a biosecurity risk.
- f) Destruction of brain tissue may preclude diagnosis of some diseases.

13. 5. CONCLUSIONS

The method is suitable for cattle, sheep, goats and pigs (except neonates), when followed by pithing or bleeding.

Article 3.7.6.8.

**Captive bolt - non-penetrating**

**Written Community comments:**

**The following text should be added at the beginning of the section:**

**"As this method is not reliable for cattle and adult sheep, it should only be used for those animals when alternative methods are not available."**

**Justification: According to the EFSA opinion (Opinion of the Scientific Panel on Animal Health and Welfare on welfare aspects of the main systems of stunning and killing the main commercial species of animals, *The EFSA Journal* (2004), 45, 1-29) the use of non-penetrating captive bolt is unreliable and should not be used for cattle (p. 9). In addition there is no available investigation for its use on adult sheep (p. 10) that would prove that it is suitable for them. Consequently other methods should be used.**

14. 1. INTRODUCTION

A non-penetrating captive bolt is fired from a gun powered by either compressed air or a blank cartridge. There is no free projectile.

The gun should be placed on the front of the skull to deliver a percussive blow which produces unconsciousness in cattle (adults only), sheep, goats and pigs, and death in poultry and neonate sheep, goats and pigs. ~~In mammals~~, Bleeding should be performed as soon as possible after the blow to ensure the death of the animal.

15. 2. REQUIREMENTS FOR EFFECTIVE USE

- a) For cartridge powered and compressed air guns, the bolt velocity should be appropriate to the species and type of animal, in accordance with the manufacturer's recommendations.
- b) Captive bolt guns should be frequently cleaned and maintained in good working condition.
- c) More than one gun may be necessary to avoid overheating and a back-up gun should be available in the event of an ineffective shot.
- d) Animals should be restrained; at a minimum mammals should be penned for cartridge powered guns and in a race for compressed air guns; birds should be restrained in cones, shackles, crushes or by hand.
- e) The operator should ensure that the animal's head is accessible.
- f) The operator should fire the captive bolt at right angles to the skull in the optimal position (figures 1-4).
- g) To ensure death in non-neonate mammals, bleeding should be performed as soon as possible after stunning.
- h) Animals should be monitored continuously after stunning until death to ensure the absence of brain stem reflexes.

16. 3. ADVANTAGES

**Written Community comments:**

**In a) "Neonates" should be replaced by a more specific wording such as "neonatal sheep, goats and pigs for example".**

**Justification: For clarity, proper interpretation and in line with the scientific basis outlined in the EFSA report.**

- a) The method induces an immediate onset of unconsciousness, and death in birds and neonates.
- b) Mobility of equipment reduces the need to move animals

17. 4. DISADVANTAGES

- a) As consciousness can be regained quickly in non-neonate mammals, they should be bled as soon as possible after stunning.
- b) Laying hens in cages have to be removed from their cages and most birds have to be restrained.
- c) Poor gun maintenance and misfiring, and inaccurate gun positioning and orientation may result in poor animal welfare.
- d) Post stun convulsions may make bleeding difficult and hazardous.
- e) Difficult to apply in agitated animals; such animals may be sedated in advance of the killing procedure.

- f) Repeated use of a cartridge powered gun may result in over-heating.
- g) Bleeding may present a biosecurity risk.

18. 5. CONCLUSIONS

- a) The method is suitable for poultry, and neonate sheep, goats and pigs.
- b) If bleeding does not present a biosecurity issue, this is a suitable method for cattle (adults only), and non-neonate sheep, goats and pigs when followed by bleeding.

Article 3.7.6.9.

**Maceration**

18.1. 1. Introduction

Maceration, utilising a mechanical apparatus with rotating blades or projections, causes immediate fragmentation and death in day-old poultry and embryonated eggs.

18.2. 2. Requirements

- a) Maceration requires specialised equipment which should be kept in excellent working order.
- b) The rate of introducing the birds should not allow the equipment to jam, birds to rebound from the blades or the birds to suffocate before they are macerated.

18.3. 3. Advantages

- a) Procedure results in immediate death.
- b) Large numbers can be killed quickly.

18.4. 4. Disadvantages

- a) Specialised equipment is required.
- b) Macerated tissues may present a biosecurity issue.

18.5. 5. Conclusion

The method is suitable for killing day-old poultry and embryonated eggs.

Article 3.7.6.10.

**Electrical – two stage application**

18.6. 1. Introduction

A two stage application of electric current comprises firstly an application of current to the head by scissor-type tongs, immediately followed by an application of the tongs across the chest in a position that spans the heart.

The application of sufficient electric current to the head will induce ‘tonic/clonic’ epilepsy and unconsciousness. Once the animal is unconscious, the second stage will induce ventricular fibrillation (cardiac arrest) resulting



Figure 6. Scissor-type stunning

in death. The second stage (the application of low frequency current across the chest) should only be applied to unconscious animals to prevent unacceptable levels of pain.

18.7. 2. *Requirements for effective use*

**Written Community comments:**

**Line (a) should be replaced by the following text:**

**"a) The stunner control device should generate a low frequency (AC sine wave 50 Hz) current with a minimum voltage and current as set out in the following table:**

<b>Animal</b>	<b>Minimum voltage (V)</b>	<b>Minimum current (A)</b>
<b>Cattle</b>	<b>220</b>	<b>1.5</b>
<b>Sheep</b>	<b>220</b>	<b>1.0</b>
<b>Pigs &gt; 6 weeks</b>	<b>220</b>	<b>1.3</b>
<b>Pigs &lt; 6 weeks</b>	<b>125</b>	<b>0.5</b>

**Justification: The EFSA scientists provided the following figures as regards the killing of animals for disease control situations. They always refer to a frequency AC sine wave 50 Hz.**

**See p. 198 EFSA – AHAW/04-027 "Welfare aspects of stunning and killing methods" Scientific report of the Scientific Panel for Animal Health and Welfare on welfare aspects of animal stunning and killing methods -**

**[http://www.efsa.eu.int/science/ahaw/ahaw\\_opinions/495\\_en.html](http://www.efsa.eu.int/science/ahaw/ahaw_opinions/495_en.html)**

- a) The stunner control device should generate a low frequency (30 – 60 Hz) current with a minimum voltage of 250 volts true RMS under load.
- b) Appropriate protective clothing (including rubber gloves and boots) should be worn.
- c) Animals should be restrained, at a minimum free-standing in a pen, close to an electrical supply.
- d) Two team members are required, the first to apply the electrodes and the second to manipulate the position of the animal to allow the second application to be made.

**Written Community comments:**

**Paragraph (e) should be replaced by the following text:**

**"e) A stunning current should be applied via scissor-type stunning tongs in a position that spans the brain for a minimum of 10 seconds; immediately following the application to the head, the electrodes should be transferred to a position that spans the heart and the electrodes applied for a minimum of 10 seconds."**

**Justification: Duration of exposure should be extended here as disease control situation is usually not followed by another method of killing and monitoring the effectiveness of the killing may be neglected because of the large number of animals to be killed. A margin of security should therefore be provided in order to ascertain that the killing is ensured for all animals. . In some cases a 10 second head-to-head stun is followed by a 45 second duration of application of electrodes spanning the heart in order to ensure the optimal outcome and the best safeguards for effective killing of all animals.**

- e) A stunning current should be applied via scissor-type stunning tongs in a position that spans the brain for a minimum of 3 seconds; immediately following the application to the head, the

electrodes should be transferred to a position that spans the heart and the electrodes applied for a minimum of 3 seconds.

- f) Electrodes should be cleaned regularly and after use, to enable optimum electrical contact to be maintained.
- g) Animals should be monitored continuously after stunning until death to ensure the absence of brain stem reflexes.

**Written Community comments:**

**The following point should be added:**

**"h) Electrodes should be applied firmly for the intended duration of time and pressure not released until the stun is complete"**

**Justification: This is important to ensure the welfare of the animals**

18.8. 3. Advantages

- a) The application of the second stage minimises post-stun convulsions and therefore the method is particularly effective with pigs.
- b) Non-invasive technique minimises biosecurity risk.

18.9. 4. Disadvantages

- a) The method requires a reliable supply of electricity.
- b) The electrodes must be applied and maintained in the correct positions to produce an effective stun and kill.
- c) Most stunner control devices utilise low voltage impedance sensing as an electronic switch prior to the application of high voltages; in unshorn sheep, contact impedance may be too high to switch on the required high voltage (especially during stage two).
- d) The procedure may be physically demanding, leading to operator fatigue and poor electrode placement.

18.10. 5. Conclusion

The method is suitable for calves, sheep and goats, and especially for pigs (over one week of age).

Article 3.7.6.11.

**19. ELECTRICAL – SINGLE APPLICATION**

1. Method 1

Method 1 comprises the single application of sufficient electrical current to the head and back, to simultaneously stun the animal and fibrillate the heart. Provided sufficient current is applied in a position that spans both the brain and heart, the animal will not recover consciousness.

19.1.a) Requirements for effective use

- i) The stunner control device should generate a low frequency (30 – 60 Hz) current with a minimum voltage of 250 volts true RMS under load.
- ii) Appropriate protective clothing (including rubber gloves and boots) should be worn.

- iii) Animals should be individually and mechanically restrained close to an electrical supply as the maintenance of physical contact between the stunning electrodes and the animal is necessary for effective use.
- iv) The rear electrode should be applied to the back, above or behind the heart, and then the front electrode in a position that is forward of the eyes, with current applied for a minimum of 3 seconds.
- v) Electrodes should be cleaned regularly between animals and after use, to enable optimum electrical contact to be maintained.
- vi) Water or saline may be necessary to improve electrical contact with sheep.
- vii) An effective stun and kill should be verified by the absence of brain stem reflexes.

19.2.b) *Advantages*

- i) Method 1 stuns and kills simultaneously.
- ii) It minimises post-stun convulsions and therefore is particularly effective with pigs.
- iii) A single team member only is required for the application.
- iv) Non-invasive technique minimises biosecurity risk.

19.3.c) *Disadvantages*

- i) Method 1 requires individual mechanical animal restraint.
- ii) The electrodes must be applied and maintained in the correct positions to produce an effective stun and kill.
- iii) Method 1 requires a reliable supply of electricity.

19.4.d) *Conclusion*

Method 1 is suitable for calves, sheep, goats, and pigs (over 1 week of age).

2. Method 2

Method 2 stuns and kills by drawing inverted and shackled poultry through an electrified waterbath stunner. Electrical contact is made between the 'live' water and earthed shackle and, when sufficient current is applied, poultry will be simultaneously stunned and killed.

19.5.a) *Requirements for effective use*

- i) A mobile waterbath stunner and a short loop of processing line are required.

**Written Community comments:**

**The text of (ii) should be replaced as follows:**

**"ii) A low frequency (50-60 Hz) current applied for a minimum of 10 seconds is necessary to stun and kill the birds."**

**Justification: According to scientists of the EFSA minimum figures to be applied in this case should be 50-60 Hz and 10 seconds. See p. 199 of the report EFSA – AHAW/04-027 "Welfare aspects of stunning and killing**

**methods" Scientific report of the Scientific Panel for Animal Health and Welfare on welfare aspects of animal stunning and killing methods - [http://www.efsa.eu.int/science/ahaw/ahaw\\_opinions/495\\_en.html](http://www.efsa.eu.int/science/ahaw/ahaw_opinions/495_en.html))**

- ii) A low frequency (30-60 Hz) current applied for a minimum of 3 seconds is necessary to stun and kill the birds.
- iii) Poultry need to be manually removed from their cage, house or yard, inverted and shackled onto a line which conveys them through a waterbath stunner with their heads fully immersed.
- iv) The required minimum currents to stun and kill dry birds are:
  - Quail - 100 mA/bird
  - Chickens – 160 mA/bird
  - Ducks & Geese – 200 mA/bird
  - Turkeys – 250 mA/bird.

A higher current is required for wet birds.
- v) An effective stun and kill should be verified by the absence of brain stem reflexes.

19.6. b) *Advantages*

- i) Method 2 stuns and kills simultaneously.
- ii) It is capable of processing large numbers of birds reliably and effectively.
- iii) This non-invasive technique minimises biosecurity risk.

19.7. c) *Disadvantages*

- i) Method 2 requires a reliable supply of electricity.
- ii) Handling, inversion and shackling of birds are required.

19.8. d) *Conclusion*

Method 2 is suitable for large numbers of poultry.

3. Method 3

Method 3 comprises the single application of sufficient electrical current to the head of poultry in a position that spans the brain, causing unconsciousness; this is followed by a killing method (Article 17).

19.9. a) *Requirements for effective use*

**Written Community comments:**

**The following sentence should be replaced as follows:**

**"i) The stunner control device should generate sufficient current to stun.**

**For constant voltage a minimum RMS or average currents of 240 and 400 mA should be applied for a minimum of 7 seconds to chickens and turkeys respectively (110 V RMS 50 Hz). Killing should be performed within 15 seconds from the end of the stun.**

**For constant current stunner the following minimum currents are recommended:**

Since wave AC (Hz)	Minimum RMS current (mA)
50	100
400	150
1500	200"

**Justification: See EFSA report**

- i) The stunner control device should generate sufficient current (more than 300 mA/bird) to stun.
- ii) Appropriate protective clothing (including rubber gloves and boots) should be worn.
- iii) Birds should be restrained, at a minimum manually, close to an electrical supply.

**Written Community comments:**

**The following text (iv) should be deleted if the previous Community proposed amendment is accepted.**

**Justification: Covered by previous suggested amendment.**

- iv) A stunning current should be applied in a position that spans the brain for a minimum of 3 seconds; immediately following this application, the birds should be killed (Article 17).
- v) Electrodes should be cleaned regularly and after use, to enable optimum electrical contact to be maintained.
- vi) Birds should be monitored continuously after stunning until death to ensure the absence of brain stem reflexes.

19.10. *b) Advantages*

Non-invasive technique (when combined with ~~neck~~ cervical dislocation) minimises biosecurity risk.

19.11. *c) Disadvantages*

**Written Community comments:**

**The following text should be replaced by:**

**"i) Method 3 requires a reliable supply of electricity and is not suitable for large-scale operations."**

**Justification: According to the EFSA scientists this method is not suitable for large-scale operations (see p. 123-124 of the report).**

- i) Method 3 requires a reliable supply of electricity.
- ii) The electrodes must be applied and maintained in the correct position to produce an effective stun.



- iii) Birds must be individually restrained.
- iv) It must be followed by a killing method.

19.12. d) *Conclusion*

Method 3 is suitable for small numbers of poultry.

**Written Community comments:**

**The following text should be retained as being “under study” until further information is available.**

**Justification: Ongoing important scientific advances in this area make the proposed text premature. Accumulating scientific evidence needs to be further analysed by the OIE ad hoc group experts before firm conclusions can be drawn on this matter, gas concentrations to be recommended etc. Under field concentrations a concentration of carbon dioxide such as 90% would be extremely difficult to achieve.**

Article 3.7.6.12.  
(under study)

20. CO<sub>2</sub> / AIR MIXTURE

21. 1. INTRODUCTION

Controlled atmosphere killing is performed by exposing animals to a predetermined gas mixture, either by placing them in a gas-filled container or apparatus (Method 1) or by the gas being introduced into a poultry house (Method 2).

Inhalation of carbon dioxide (CO<sub>2</sub>) induces respiratory and metabolic acidosis and hence reduces the pH of cerebrospinal fluid (CSF) and neurones thereby causing unconsciousness and, after prolonged exposure, death.

22. 2. METHOD 1

The animals are placed in a gas-filled container or apparatus.

23. A) REQUIREMENTS FOR EFFECTIVE USE IN A CONTAINER OR APPARATUS

- i) Containers or apparatus should allow the required gas concentration to be maintained and accurately measured.
- ii) When animals are exposed to the gas individually or in small groups in a container or apparatus, the equipment used should be designed, constructed, and maintained in such a way as to avoid injury to the animals and allow them to be observed.
- iii) Animals should be introduced into the container or apparatus after it has been filled with the required CO<sub>2</sub> concentration, and held in this atmosphere until death is confirmed.
- iv) Team members should ensure that there is sufficient time allowed for each batch of animals to die before subsequent ones are introduced into the container or apparatus.
- v) Containers or apparatus should not be overcrowded and measures are needed to avoid animals suffocating by climbing on top of each other.

## 24. B) ADVANTAGES

- i) CO<sub>2</sub> is readily available.
- ii) Application methods are simple.

## 25. C) DISADVANTAGES

- i) The need for properly designed container or apparatus ~~special equipment~~
- ii) The aversive nature of high CO<sub>2</sub> concentrations
- iii) No immediate loss of consciousness
- iv) The risk of suffocation due to overcrowding
- v) Difficulty in verifying death while the animals are in the container or apparatus.

## 26. D) CONCLUSION

Method 1 is suitable for use in poultry and neonatal sheep, goats and pigs.

27. 3. METHOD 2

The gas is introduced into a poultry house.

## 28. A) REQUIREMENTS FOR EFFECTIVE USE IN A POULTRY HOUSE

- i) Prior to introduction of the CO<sub>2</sub>, the poultry house should be appropriately sealed to allow control over the gas concentration.
- ii) The house should be gradually filled with CO<sub>2</sub> so that all birds are exposed to a concentration of >40% until they are dead; a vaporiser may be required to prevent freezing.
- iii) Devices should be used to accurately measure the gas concentration at the ~~highest level~~ maximum height accommodation of birds.

## 29. B) ADVANTAGES

- i) Applying gas to birds *in situ* eliminates the need to manually remove live birds.
- ii) CO<sub>2</sub> is readily available.
- iii) Gradual raising of CO<sub>2</sub> concentration minimises the aversiveness of the induction of unconsciousness.

## 30. C) DISADVANTAGES

- i) It is difficult to determine volume of gas required to achieve adequate concentrations of CO<sub>2</sub> in some poultry houses.
- ii) It is difficult to verify death while the birds are in the poultry house.

## 31. D) CONCLUSION

Method 2 is suitable for use in poultry in closed-environment sheds

Article 3.7.6.13.

### **Nitrogen and/or inert gas mixed with CO<sub>2</sub>**

#### 1. Introduction

CO<sub>2</sub> may be mixed in various proportions with nitrogen or an inert gas eg argon, and the inhalation of such mixtures leads to hypercapnic-hypoxia and death when the oxygen concentration by volume is  $\leq 2\%$ . This method involves the introduction of animals into a container or apparatus containing the gases. Such mixtures do not induce immediate loss of consciousness, therefore the aversiveness of various gas mixtures containing high concentrations of CO<sub>2</sub> and the respiratory distress occurring during the induction phase, are important animal welfare considerations.

Pigs and poultry appear not to find low concentrations of CO<sub>2</sub> strongly aversive, and a mixture of nitrogen or argon with  $\leq 30\%$  CO<sub>2</sub> by volume and  $\leq 2\%$  O<sub>2</sub> by volume can be used for killing poultry and neonatal sheep, goats and pigs.

#### 2. Requirements for effective use

- a) Containers or apparatus should allow the required gas concentrations to be maintained, and the O<sub>2</sub> and CO<sub>2</sub> concentrations accurately measured during the killing procedure.
- b) When animals are exposed to the gases individually or in small groups in a container or apparatus, the equipment used should be designed, constructed, and maintained in such a way as to avoid injury to the animals and allow them to be observed.
- c) Animals should be introduced into the container or apparatus after it has been filled with the required gas concentrations (with  $\leq 2\%$  O<sub>2</sub>), and held in this atmosphere until death is confirmed.
- d) Team members should ensure that there is sufficient time allowed for each batch of animals to die before subsequent ones are introduced into the container or apparatus.
- e) Containers or apparatus should not be overcrowded and measures are needed to avoid animals suffocating by climbing on top of each other.

#### 3. Advantages

Low concentrations of CO<sub>2</sub> cause little aversiveness and, in combination with nitrogen or an inert gas, produces a fast induction of unconsciousness.

#### 4. Disadvantages

- a) A properly designed container or apparatus is needed.
- b) It is difficult to verify death while the animals are in the container or apparatus.
- c) There is no immediate loss of consciousness.
- d) Exposure times required to kill are considerable.

## 5. Conclusion

The method is suitable for poultry and neonatal sheep, goats and pigs.

Article 3.7.6.14.

## **Nitrogen and/or inert gasses**

### 1. Introduction

This method involves the introduction of animals into a container or apparatus containing nitrogen or an inert gas such as argon. The controlled atmosphere produced leads to unconsciousness and death from hypoxia.

Research has shown that hypoxia is not aversive to pigs and poultry, and it doesn't induce any signs of respiratory distress prior to loss of consciousness.

### 2. Requirements for effective use

- a) Containers or apparatus should allow the required gas concentrations to be maintained, and the O<sub>2</sub> concentration accurately measured.
- b) When animals are exposed to the gases individually or in small groups in a container or apparatus, the equipment used should be designed, constructed, and maintained in such a way as to avoid injury to the animals and allow them to be observed.
- c) Animals should be introduced into the container or apparatus after it has been filled with the required gas concentrations (with  $\leq 2\%$  O<sub>2</sub>), and held in this atmosphere until death is confirmed.
- d) Team members should ensure that there is sufficient time allowed for each batch of animals to die before subsequent ones are introduced into the container or apparatus.
- e) Containers or apparatus should not be overcrowded and measures are needed to avoid animals suffocating by climbing on top of each other.

### 3. Advantages

Animals are unable to detect nitrogen or inert gases, and the induction of hypoxia by this method is not aversive to animals.

### 4. Disadvantages

- a) A properly designed container or apparatus is needed.
- b) It is difficult to verify death while the animals are in the container or apparatus.
- c) There is no immediate loss of consciousness.
- d) Exposure times required to kill are considerable.

## 5. Conclusion

The method is suitable for poultry and neonatal sheep, goats and pigs.

Article 3.7.6.15.

## **Lethal injection**

### 1. Introduction

A lethal injection using high doses of anaesthetic and sedative drugs causes CNS depression, unconsciousness and death. In practice, barbiturates in combination with other drugs are commonly used.

### 2. Requirements for effective use

- a) Doses and routes of administration that cause rapid loss of consciousness followed by death should be used.
- b) Prior sedation may be necessary for some animals.
- c) Intravenous administration is preferred, but intraperitoneal or intramuscular administration may be appropriate, especially if the agent is non-irritating.
- d) Animals should be restrained to allow effective administration.
- e) Animals should be monitored to ensure the absence of brain stem reflexes.

### 3. Advantages

- a) The method can be used in all species.
- b) Death can be induced smoothly.

### 4. Disadvantages

- a) Restraint and/or sedation may be necessary prior to injection.
- b) Some combinations of drug type and route of administration may be painful, and should only be used in unconscious animals.
- c) Legal requirements may restrict use to veterinarians.
- d) Contaminated carcasses may present a risk to other wild or domestic animals.

### 5. Conclusion

The method is suitable for killing small numbers of cattle, sheep, goats, pigs and poultry.

Article 3.7.6.16.

## **Addition of anaesthetics to feed or water**

### 1. Introduction

An anaesthetic agent which can be mixed with poultry feed or water may be used to kill poultry in houses. Poultry which are only anaesthetised need to be killed by another method such as cervical dislocation.

### 2. Requirements for effective use

- a) Sufficient quantities of anaesthetic need to be ingested rapidly for effective response.
- b) Intake of sufficient quantities is facilitated if the birds are fasted or water is withheld.

- c) Must be followed by killing (see Article 3.7.6.17) if birds are anaesthetised only.

### 3. Advantages

- a) Handling is not required until birds are anaesthetised.
- b) There may be biosecurity advantages in the case of large numbers of diseased birds.

### 4. Disadvantages

- a) Non-target animals may accidentally access the medicated feed or water when provided in an open environment.
- b) Dose taken is unable to be regulated and variable results may be obtained.
- c) Animals may reject adulterated feed or water due to illness or adverse flavour.
- d) The method may need to be followed by killing.
- e) Care is essential in the preparation and provision of treated feed or water, and in the disposal of uneaten treated feed/water and contaminated carcasses.

### 5. Conclusion

The method is suitable for killing large numbers of poultry in houses.

Article 3.7.6.17.

#### **Written Community comments:**

**The heading for this article should be clarified.**

#### **Justification**

**The title “Killing methods in unconscious animals” is open to possible mis-interpretation. It should be clarified whether the intended meaning is that the killing methods described in this article should only be applied to animals which have already been rendered unconscious (for example by the prior application of an effective stunning method, in line with the principles described in the preceding text of these OIE guidelines concerning the application of such stunning methods).**

**Regarding cervical dislocation it should be considered that this can be an effective killing method and is often used by farmers to cull birds as well as being used in certain circumstances in disease control situations. It is a killing method which can be readily used under conditions where more elaborate killing equipment is not available.**

### **Killing methods in unconscious animals**

1. Method 1: Cervical dislocation (manual and mechanical)

31.1.a) *Introduction*

Poultry may be killed by either manual cervical dislocation (stretching) or mechanical neck crushing with a pair of pliers. Both methods result in death from asphyxiation and/or cerebral anoxia.

**Written Community comments:**

**The following text should be added here:**

**"Conscious birds of less than 250 grams may be killed using cervical dislocation in such a way that the blood vessels of the neck are severed and death is instantaneous"**

**Justification: Cervical dislocation is an effective method of killing without prior stunning if used by skilled operators on small birds and for a limited number of animals as to prevent operators' fatigue. See EFSA report for further considerations.**

31.2.b) *Requirements for effective use*

- i) Killing should be performed either by manually or mechanically stretching the neck to sever the spinal cord or by using mechanical pliers to crush the cervical vertebrae with consequent major damage to the spinal cord.
- ii) Consistent results require strength and skill so team members should be rested regularly to ensure consistently reliable results.
- iii) Birds should be monitored continuously until death to ensure the absence of brain stem reflexes.

31.3.c) *Advantages*

- i) It is a non-invasive killing method.
- ii) It can be performed manually on small birds.

31.4.d) *Disadvantages*

- i) Operator fatigue.

**Written Community comments:**

**Paragraph ii) should be replaced by the following text:**

**"ii) The method is more difficult in larger birds and its use should be avoided in any case for birds over 3 kg of live weight".**

**Justification: The method should be avoided on birds weighing more than 3 kg as the physical efforts required to properly perform it increase with the size of the birds. See EFSA report for scientific basis.**

- ii) The method is more difficult in larger birds.

31.5.e) *Conclusion*

This method is suitable for killing unconscious poultry.

2. Method 2: Decapitation

31.6.a) *Introduction*

Decapitation results in death by cerebral ischaemia using a guillotine or knife.

31.7.b) *Requirements for effective use*

The required equipment should be kept in good working order.

31.8.c) *Advantages*

The technique is effective and does not require monitoring.

31.9.d) *Disadvantages*

The working area is contaminated with body fluids.

**31.10.** e) *Conclusion*

This method is suitable for killing unconscious poultry.

3. Method 3: Pithing

31.11. a) *Introduction*

Pithing is a method of killing animals which have been stunned by a penetrating captive bolt, without immediate death. Pithing results in the physical destruction of the brain and upper regions of the spinal cord, through the insertion of a rod or cane through the bolt hole.

31.12. b) *Requirements for effective use*

- i) Pithing cane or rod is required.
- ii) An access to the head of the animal and to the brain through the skull is required.
- iii) Animals should be monitored continuously until death to ensure the absence of brain stem reflexes.

31.13. c) *Advantages*

The technique is effective in producing immediate death.

31.14. d) *Disadvantages*

- i) A delayed and/or ineffective pithing due to convulsions may occur.
- ii) The working area is contaminated with body fluids.

**31.15.** e) *Conclusion*

This method is suitable for killing unconscious animals which have been stunned by a penetrating captive bolt.

4. Method 4: Bleeding

31.16. a) *Introduction*

**Written Community comments:  
Add the following sentence to the end of the next paragraph:**



**"Bleeding out should be completed and any incision made should ensure the complete severance of both carotid arteries, or the vessels from which they arise (e.g. chest stick)."**

**Justification: See EFSA report for scientific elaboration on this point.**

Bleeding is a method of killing animals through the severance of the major blood vessels in the neck or chest that results in a rapid fall in blood pressure, leading to cerebral ischaemia and death.

31.17. *b) Requirements for effective use*

- i) A sharp knife is required.
- ii) An access to the neck or chest of the animal is required.
- iii) Animals should be monitored continuously until death to ensure the absence of brain stem reflexes.

31.18. *c) Advantages*

The technique is effective in producing death after an effective stunning method which does not permit pithing.

31.19. *d) Disadvantages*

- a) A delayed and/or ineffective bleeding due to convulsions may occur.
- b) The working area is contaminated with body fluids.

31.20. *e) Conclusion*

This method is suitable for killing unconscious animals.

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