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Information about this publication and further copies are available from:

Farm Animal Welfare Team
Office of the Chief Veterinary Office
Welsh Assembly Government

Government Buildings
Hill House
Carmarthen
SA31 3BS

Telephone 01267 225300

E-mail: livestockwelfare@wales.gsi.gov.uk

WELFARE OF ANIMALS DURING TRANSPORT - GUIDANCE NOTES

COUNCIL REGULATION (EC) No 1/2005 ON THE PROTECTION OF ANIMALS DURING TRANSPORT AND RELATED OPERATIONS AND THE WELFARE OF ANIMALS (TRANSPORT) (WALES) ORDER 2007

GUIDANCE FOR OPERATORS OF VESSELS AND VEHICLES TRANSPORTING LIVE ANIMAL SHIPMENTS ON RO-RO FERRIES

1 Introduction

1.1 This Guidance has been prepared to assist with uniform application of Council Regulation (EC) 1/2005 on the protection of animals during transport and related operations (The Regulation) as it applies to live animal shipments carried in vehicles on Roll-on Roll-off (RO-RO) vessels. Enforcement of the Regulation and other related provisions will be provided in the UK through: The Welfare of Animals (Transport) (England) Order 2006; The Welfare of Animals (Transport) (Wales) Order 2007; The Welfare of Animals (Transport) (Scotland) Order 2007; and The Welfare of Animals (Transport) (Northern Ireland) Order 2007.

1.2 Enforcement of the Regulation is the responsibility of Local Authorities (usually Trading Standards or Animal Health Officers) and the State Veterinary Service Agency.

1.3 The Regulation is directly applicable in all EU Member States with effect from 5 January 2007.

1.4 Technical Guidance for construction, operation and use of RO-RO vessels and vehicles transporting live animal shipments is given in order to consolidate relevant requirements into one place, and to assist with clarification of what WAG considers to be practical application and enforcement of the Regulation. However only a court of law will be able to give a definitive ruling concerning any matter in dispute between enforcers and transporters.

1.5 This Guidance focuses primarily on commercial RO-RO shipments of Farm Animals and Horses, but also covers transport of all other vertebrate species.

1.6 Requirements set out here and in Appendices 1 and 2 are, for clarity of meaning, sometimes a précis of the legal wording in the Regulation. Not every provision has been included. The text of the Regulation should always be consulted.

2 Application

2.1 The Regulation is directly applicable, in all EU Member States, with effect from 5 January 2007.

2.2 Regulation only applies to transport “in connection with an economic activity” (Article 1.5) (commercial transport). Examples are given in part 1 of this guidance to assist with determination of the meaning of “economic activity”.

2.3 Transport of animals outside the scope of the Regulation is also regulated by The Welfare of Animals (Transport) Order 2006. The general principles of this Guidance for RO-RO shipments should nevertheless be followed, as appropriate to the species and method of transport, in order to comply with the requirement to protect the welfare of these animals during transport.

3 Notes

3.1 The Regulation defines a ‘Means of Transport’ as road or rail vehicles, vessels and aircraft used for the transport of animals (Article 2 (n)).

3.2 RO-RO vessel is defined (Article 2 (v)) as “a sea-going vessel with facilities to enable road or rail vehicles to roll on and roll off the vessel”. However, a RO-RO vessel is excluded from the definition of a ‘Livestock vessel’ (Article 2 (l)).

3.3 RO-RO vessels, unlike Livestock vessels, do not require inspection and approval before they are used to carry animals. However, the Competent Authority (Enforcement Officers) may decide to carry out appropriate checks at any stage of a long journey (see 3.9) (Article 15.1 & Article 21(d)) in order to verify that the journey and the means of transport comply with the Regulation.

3.4 All ‘Means of Transport’, including RO-RO vessels when carrying vehicles with animals, must comply with the general provisions of the Regulation, as applicable, in Article 3 and Annex I Chapters II and III.

3.5 RO-RO vessels must also comply with the additional provisions of the Regulation in Annex I Chapter II 3.1 – see Appendix 1. The additional provisions of Annex I Chapter VI for certain journeys should be met by the vehicle.

3.6 Vehicles carrying animals must comply with the general provisions of the Regulation in Annex I Chapters II and III – see Appendix 2; and when undertaking a long journey (see 3.9) the transport of domestic cattle sheep goats and pigs (Farm Animals) and domestic Equidae (Horses and Ponies etc.) must also be in compliance with the additional provisions in Annex I Chapter VI. All vehicles used on RO-RO vessels must, also comply with the appropriate provisions in Annex I Chapter II 3.2 - see Appendix 2.

3.7 In order to fully protect the welfare of all animals being transported in vehicles on RO-RO vessels additional precautions and guidance (based on practical experience) should be followed and has been included in the Appendices.

3.8 Journey is defined (Article 2 (j)) as including the entire transport of the animals between places of departure and destination. This includes transport to and from the port, the time the animals spend there, and the voyage.

3.9 Long Journey is defined (Article 2 (m)) as one that exceeds 8 hours from when the first animal is moved (i.e. loaded at the point of origin).

4 Responsibilities

4.1 Every person involved with the commercial transport of animals has a responsibility (Article 3) as appropriate to their role in planning, organising, and carrying out the journey, to comply with the Regulation and to protect the welfare of the animals, in particular not to cause them injury or undue suffering. In the case of RO-RO transport such responsibility may be broadly, but not exclusively, described as follows.

4.2 Animal shippers (i.e. those who arrange for animals to be transported from one place to another) – Must plan the journey and have contingency arrangements in place should any delay occur. Examples might be delayed departure caused by adverse weather, or ship breakdown at sea. They must ensure that the vehicle is suitable for carriage on the RO-RO vessel, that the ship operator is prepared to carry live animals, and that water feed and rest intervals for the animals can be complied with.

4.3 Shipowner/charterer/operator – Must ensure that the vessel has suitable facilities for transport of animals in vehicles, and that the Master is competent in and has specific instructions for RO-RO transport of animals.

4.4 Shipmaster, and loading officers and ships staff under his authority – Must ensure that the animal vehicle is suitable for RO-RO use (see Appendix 2), and is stowed and secured in a well ventilated position; that it is given sufficient protection from the weather, and the weather conditions anticipated for the voyage are such that animals will not be injured or caused undue suffering; and that, if necessary, appropriate access is provided to the vehicle for the driver or attendant. It is recommended that ship's staff carry out a visual check of animal vehicles from time to time during longer voyages.

4.5 Vehicle operators and drivers - Must ensure that the animal vehicle is suitable for RO-RO use (see Appendix 2), and that the driver or attendant understands the particular circumstances and needs of animal transport on a RO-RO vessel. The driver should ensure that the vehicle is allocated a suitable

position, and should adjust its ventilation as appropriate; and make arrangements, if necessary, for access and provide care to the animals during the voyage.

5 Authorisation of Transporters

5.1 All Transporters, defined as ‘any natural or legal person transporting animals on his own account, or for the account of a third party’ (Article 2(x)) must be authorised by the Competent Authority (Article 6.1) where the journey exceeds 65km (approx 35 nautical miles) (Article 6.7).

5.2 Authorisations are valid for not more than 5 years, and must be either for journeys up to 8 hours (‘Type 1’) (Article 10) or for long journeys (‘Type 2’) (Article 11). See section 3 in Part 1 of this guidance for detailed advice about authorisations.

5.3 In the case of RO-RO transport (which is assumed to form part of a long journey) the Shipowner/operator/charterer will require a ‘Type 2’ authorisation where the voyage is of more than 35 nautical miles, and the journey and the animals carried are within the scope of the Regulation.

5.4 The vehicle owner/operator will require a ‘Type 1’ or ‘Type 2’ authorisation, as appropriate, for any commercial journey of more than 65km (including the sea voyage) and the animals carried are within the scope of the Regulation.

6 Animal attendants – competence and training

6.1 Transporters (see 5.1) must ensure that an attendant (who may be the vehicle driver) accompanies the animals (Article 6.6). The only exception is when the animals are in certain containers (Article 6.6(a)).

6.2 Transporters must ensure that personnel responsible for animals during transport have received training in relevant parts of the Regulation’s Annexes I and II (Article 6.4). Training may be by any suitable method.

6.3 The master, officers, and crew of a RO-RO vessel must be trained in and be competent to perform their duties with respect to carriage of animals as appropriate to their individual role in the operation. There is no requirement for any certificate of competence, but evidence of training may help the transporter to be sure that Article 6 has been fulfilled.

6.4 The vehicle driver or animal attendant must be trained in and be competent to perform their duties with respect to carriage of animals as appropriate to their individual role in the operation. There is a requirement (Article 6.5) for those transporting Horses and Ponies, Farm Animals and Poultry to hold

a Certificate of Competence (Article 17.2). Evidence of training for drivers/attendants of other species may help the transporter to be sure that Article 6 has been fulfilled.

6.5 See section 4 of Part 1 of this guidance for detailed advice about competence and training.

REQUIREMENTS FOR RO-RO VESSELS AND GUIDANCE

1 General

1.1 The vessel and its fittings must be designed, constructed, maintained and operated so as to avoid injury and suffering and ensure the safety of the animals (Ch .II, 1.1(a)).

1.2 An enclosed deck used for animal vehicles must be fitted with a forced ventilation system, which has an alarm and an emergency power source (Ch. II, 3.1(a)) (See paragraph 3).

1.3 An open deck used for animal vehicles must provide protection from sea water (Ch. II, 3.1(b)) (See paragraph 3).

1.4 The animal vehicle must be suitable for RO-RO use. See Appendix 2 for requirements and guidance concerning the construction of animal vehicles. Different styles of vehicle and species of animal will involve different considerations.

1.5 The animals must be fit for the intended journey (Ch. I, 1). See section 2.3 of Part 1 of this guidance for detailed advice about animal fitness for transport.

2 Weather conditions and ambient temperature

2.1 Animals should not be shipped when the effects of weather conditions anticipated for the voyage are likely to cause them injury or suffering (Ch.II, 1.1(b)). Several factors, including forecast wind direction and strength, state of the sea, and whether or not the vessel is stabilized will need to be considered when making this judgement.

2.2 Ambient temperature is also a factor which needs to be considered because this may result in conditions during the voyage which are unsuitable for some animals. The design and ventilation arrangements of the vehicle are significant factors, and these are discussed in detail in paragraph 7 below.

2.3 If shipment of animals is likely to be refused on account of anticipated weather conditions (or for any other reason), the shipper or agent should be advised as early as possible. This will enable the animals to be held at the premises of origin, or another suitable place, and could avoid unnecessary loading and unloading of the animals and the stress which this might cause.

2.4 Horses and ponies, because of their nervous nature, are most at risk of

injury during rough weather from sudden or excessive ship movement, and can be startled by loud noises.

2.5 Cattle, when standing and moving about, can easily cause trampling injury to others which are lying down within the pen.

2.6 Sheep and goats normally stand, and if fairly tightly stocked give each other support against ship movement. But there is the danger that individual recumbent animals could be suffocated.

2.7 Pigs, once settled, tend to lie down quite close together. They are most at risk from high temperature.

3 Before loading

3.1 Before loading a vehicle carrying animals the master must be satisfied that the following criteria are met.

3.2 If it is to be stowed in an enclosed deck this must have an appropriate ventilation system fitted with a failure alarm and an adequate secondary power source (Ch. II, 3.1(a)). The air-change capacity should not normally be less than 20 times per hour. Greater capacity is recommended when it is intended to fully load a deck with farm animal transporters. However, a minimum of 10 changes per hour may be sufficient when only a small number (5 or less) of animal vehicles are carried.

3.3 If it is to be stowed on an open deck there is adequate protection from the sea (Ch. II, 3.1(b)), and from adverse effects of other elements (Ch. II, 1.1(b)).

3.4 The loading officer should, so far as possible, check that the vehicle is of a suitable design, that it can be properly secured, and the animal compartment can be adequately ventilated.

4 Loading and stowage, and unloading

4.1 The vehicle should be loaded in a way that it can be positioned in a suitable position to best ensure the safety of the animals. Determining factors which need to be considered include the type of vehicle and the animals, ventilation, protection from adverse weather, and access during the voyage.

4.2 The most favourable position will vary from one vessel to another, and is likely to be a compromise. But adequate ventilation is critical (Ch. II, 1.1(e)).

4.3 Vehicle exhaust fumes entering the animal compartment, particularly during loading and unloading, will quickly have an adverse and possibly lethal effect on the animals (Ch. II, 1.1(e)).

5 Securing

5.1 Animal vehicles must be suitably secured to prevent displacement before the voyage commences (Ch. II, 3.2). It may be necessary, depending on anticipated ship motion, to 'chock-off' small vehicles and trailers or cars containing animals which would not normally be secured.

5.2 Multi-tier vehicles, particularly those carrying two tiers of adult cattle, have a higher than normal centre of gravity and, because of the semi-mobile nature of their load, may become unstable more easily than some other freight units. It is recommended that vehicles carrying adult cattle on two tiers are only carried on vessels with an effective stabilisation system.

6 Ventilation, temperature and relative humidity

6.1 It is vital that animals confined within a vehicle receive adequate ventilation. Airflow around and through the vehicle's animal compartment must be sufficient to ensure that a suitable environment is maintained within the vehicle (Ch. II, 1.1(e)). The animal's ventilation requirements will depend upon the species and age of animal, the stocking density, the ambient temperature and the relative humidity. Animals, even when recumbent and at rest, generate a lot of heat and moisture which needs to be removed from the vehicle to avoid conditions quickly becoming unsuitable and prejudicial to their welfare.

6.2 A combination of high temperature and high humidity within the animal compartment can quickly cause distress or even death. As a guide for the majority of animal species, conditions within the animal compartment are likely to be acceptable until the following combinations are reached:-

Temperature	24°C	26°C	28°C	31°C	35°C
Humidity	100% Rh	75% Rh	50% Rh	25% Rh	0% Rh

Should conditions within the livestock compartment approach these combinations every effort should be made to increase the rate of ventilation.

6.3 Farm animal transporters are normally ventilated through apertures in their side panelling, and those engaged on long journeys should also be fitted with mechanical fan ventilation. A free space at least 0.75m wide is recommended to each side of a livestock vehicle to assist with airflow.

6.4 Multi-tier farm animal transporters can differ considerably in design, particularly with respect to tier height (and thus headroom and free space for airflow above the animals) and ventilation arrangements. The following guidance applies to vehicles without effective mechanical fan ventilation.

- Four-tier vehicles are not considered suitable for RO-RO use, because of their

very restricted ventilation and headroom within the livestock tiers. However, there may be exceptional circumstances, for example where the animals are small in relation to the available headroom, and where the ambient temperature is low, and where the vehicle is carried on a fully open part of the deck, where RO-RO carriage of a four-tier vehicle may not place the animals' welfare at risk. Advice should be sought on a case by case basis from Agriculture Departments, to ensure that any proposed use of a four-tier vehicle is not likely to place the animal's welfare at risk.

- Three-tier vehicles because of their limited ventilation and headroom should only be stowed in totally enclosed vehicle decks when the ambient temperature in the vehicle deck is below 20° C. Because a decision about whether or not to carry a three-tier vehicle in an enclosed deck will need to be taken some time in advance of loading it is recommended that when the ambient shade temperature on the dockside is 20° C or above, three-tier vehicles should only be stowed on open or semi-open vehicle decks, where the livestock will have the benefit of natural ventilation.

- Two-tier and single-deck vehicles which have adequate ventilation and height may be stowed on any suitably ventilated vehicle deck.

6.5 Horse transporters and trailers may need to have side or end loading doors partially open during the voyage to enable adequate ventilation of the interior. Stowage arrangements should allow for this when necessary.

6.6 Vehicles carrying 'day-old' poultry are normally totally enclosed and environment controlled.

6.7 Other animal vehicles and trailers must have sufficient windows or doors left open for ventilation.

6.8 Vehicles stowed on open decks will generally benefit from better airflow than those in enclosed decks. But conversely they are more at risk of overheating if located in strong sunlight, particularly when little air is moving across the deck. And strong very cold winds could have an adverse effect, particularly on young animals.

6.9 The vehicle driver or attendant must ensure that ventilation apertures and fans (where fitted) are properly adjusted and operated for the conditions of the voyage as soon as the vehicle has been stowed (Ch.III, 2.6).

7 Lighting

7.1 The level of lighting at the loading point (Ch. III, 1.6), and in the vehicle deck (Ch. II, 1.1(i)), must be sufficient for inspection and care of the animals. Lighting within the vehicle should be part of its fittings, or could be portable.

8 Access and attendants

8.1 The driver or animal attendant must be able to have access to the animals at appropriate intervals during the voyage in order to check and care for them (Ch.II, 1.1(f)).

8.2 It is recommended that ship's staff pay particular attention to animal vehicles whilst making routine inspections of the vehicle deck. They should know how to contact the driver or attendant if necessary.

9 Emergency treatment or slaughter of sick and injured animals

9.1 The requirement concerning animals which fall ill or are injured during transport is that they must be separated from the other animals and receive first aid treatment as soon as possible, be given appropriate veterinary treatment and if necessary undergo emergency slaughter or killing in a way which does not cause them unnecessary suffering (Ch. I, 4.).

9.2 The circumstances of each case including the condition and species of the animal, and the time remaining until the vessel reaches port, should be considered when determining what action needs to be taken.

9.3 It is recommended that the master has a procedure to enable advice to be obtained from a veterinarian, and consults the driver or attendant, about appropriate action to take.

9.4 Humane methods of emergency slaughter vary between species.

9.5 If safety regulations permit, a vessel carrying animals on a voyage which will exceed 3 hours must have a suitable means of emergency slaughter on board (Ch. II, 1.6). This should be made available, when needed, to a person competent in its use who could be the driver, attendant or another.

10 Journey times and water, feed and rest intervals

10.1 Maximum journey times and intervals between watering feeding and resting animals are complex, and vary between species and age of animals. The shipper of the animals and the driver or attendant of the vehicle, have a responsibility to ensure that these are complied with.

10.2 See sections 2.5 – 2.7 of Part 1 of this guidance for detailed advice about the requirements.

11 Minimum space allowances (stocking density)

11.1 Correct stocking of the animals according to species and age is the responsibility of the driver or attendant on the road vehicle and should have been

arranged before the vehicle arrived at the port. Minimum space allowances for horses and ponies, cattle, sheep and goats, pigs, and poultry are set in the Regulation (Annex I Ch.VII) but are reproduced here for information.

Horses

Adult horses	1,75 m ² (07 x 2,5 m)
Young horses (6-24 months) (for journeys of up to 48 hrs)	1,2 m ² (0,6 x 2m)
Young horses (6-24 months) (for journeys over 48 hrs)	2,4 m ² (1,2 x 2m)
Ponies (under 144 cm)	1 m ² (0,6 x 1,8 m)
Foals (0-6 months)	1,4 m ² (1 x 1,4 m)

NB: During long journeys, foals and young horses must be able to lie down.

These figures may vary by a maximum of 10% for adult horses and ponies and by a maximum of 20% for young horses and foals, depending not only on the horses' weight and size but also on their physical condition, the meteorological conditions and the likely journey time.

Cattle

Category	Approximate weight (in kg)	Area in M2 per animal
Small Calves	55	0,30 to 0,40
Medium-sized calves	110	0,40 to 0,70
Heavy calves	200	0,70 to 0,95
Medium-sized cattle	325	0,95 to 1,30
Heavy cattle	550	1,30 to 1,60
Very heavy cattle	>700	(>1,60)

These figures may vary, depending not only on the animals' weight and size but also on their physical condition, the meteorological conditions and the likely journey time.

Sheep and goats

Category	Weight in kg	Area in m ² per animal
Shorn sheep and lambs of 26 kg and over	<55	0,20 to 0,30
	>55	>0,30
Unshorn sheep	<55	0,30 to 0,40
	>55	>0,40
Heavily pregnant ewes	<55	0,40 to 0,50
	>55	>0,50
Goats	<35	0,20 to 0,30
	35 to 55	0,30 to 0,40
	>55	0,40 to 0,75
Heavily pregnant goats	<55	0,40 to 0,50
	>55	>0,50

The surface area indicated above may vary depending on the breed, the size, the physical condition and the length of fleece of the animals, as well as on the meteorological conditions and the journey time. As an indication: for small lambs, an area of under 0,2 m² per animal may be provided.

Pigs

All pigs must at least be able to lie down and stand up in their natural position. In order to comply with these minimum requirements, the loading density for pigs of around 100 kg should not exceed 235 kg/m²

The breed, size and physical condition of the pigs may mean that the minimum required surface area given above has to be increased: a maximum increase of 20% may also be required depending on the meteorological conditions and the journey time.

Poultry in containers

Category	Space
Day-old chicks	21-25 cm ² per chick
Poultry weighing less than 1,6 kg	180 to 200 cm ² /kg
Poultry weighing 1,6 kg and over but less than 3 kg	160 cm ² /kg
Poultry weighing 3 kg and over but less than 5 kg	115 cm ² /kg
Poultry weighing 5 kg and over	105 cm ² /kg

These figures may vary depending not only on the weight and size of the birds but also on their physical condition, the meteorological conditions and the likely journey time.

REQUIREMENTS AND GUIDANCE FOR VEHICLES CARRYING ANIMALS ON A RO-RO VESSEL.

1 General

1.1 The vehicle and its fittings must be designed, constructed, maintained and operated so as to avoid injury and suffering and ensure the safety of the animals (Ch. II, 1.1(a)).

1.2 It must be able to withstand the stresses caused by movement of the vessel at sea (Ch. II, 1.1(d)) and the centre of gravity of the loaded vehicle should be as low as possible.

1.3 The Regulation only distinguishes between requirements for vehicles used on the road and those which are also carried on a RO-RO vessel in two respects. The vehicle must have sufficient and appropriate securing points to enable it to be adequately and effectively secured to the vessel (see paragraph 2); and it must be secured to the vessel before the voyage starts (Ch. II, 3.2).

1.4 However, there are other matters which should be considered, in order to fully protect the welfare of animals, in the special circumstances of transport of a vehicle carrying animals on a vessel. Guidance to these is given below.

2 Securing

2.1 The animal container must be securely attached to the vehicle. The container and vehicle must be capable of being adequately secured to the vessel. Generally, one securing point should be fitted close to each corner of the container, and others at intervals of not more than 3.0 m along each side of the vehicle.

2.2 Securing points must be of adequate strength, and should be of appropriate dimensions and designed to accept the vessel's securing devices. They must be fitted to sufficiently strong parts of the vehicle or container's structure. The HMSO publication "Roll-on Roll-off Ships - Stowage and Securing of Vehicles - Code of Practice" (ISBN 0-11-550995-X) gives detailed advice and guidance.

2.3 Portable animal containers must be properly secured within or on the carrying vehicle as appropriate to the circumstances.

3 Farm animal vehicle containers

3.1 Design of the vehicle's livestock container, particularly the height available

for animals and the ventilation which can be provided for them, is critical in determining its suitability for transport on a vessel. Experience and research has shown that the environment within a livestock container which is inadequately ventilated and has insufficient space for airflow above the animals, quickly becomes hot and humid to a point likely to be detrimental to the animal's welfare. This adverse effect is likely to be worse when a livestock vehicle is carried in an enclosed or partially enclosed deck of a RO-RO vessel.

3.2 Four-tier vehicles without fan-assisted ventilation are not considered generally suitable for RO-RO use, because of the very restricted ventilation to and headroom within the livestock tiers. However, there may be exceptional circumstances, for example where the animals are small in relation to the available headroom, and where the ambient temperature is low and the vehicle is carried on a fully open part of the deck, where RO-RO carriage of a four-tier vehicle may not place the animals' welfare at risk. Advice should be sought on a case by case basis from Agriculture Departments.

3.3 Three-tier vehicles without fan-assisted ventilation, because of their limited ventilation and headroom, should only be stowed in a totally enclosed vehicle deck when the ambient temperature in that deck is below 20° C. Because a decision about whether or not to carry a three-tier vehicle in an enclosed deck will need to be taken some time in advance of loading it is recommended that when the ambient shade temperature on the dockside just prior to loading is 20° C or above, a three-tier vehicle should only be stowed on an open or semi-open vehicle deck where the livestock will have the benefit of natural ventilation.

3.4 Two-tier and single-deck vehicles which have the ventilation and height recommended in paragraphs 4.3 and 5.3 may safely be stowed on any suitably ventilated vehicle deck.

4. Ventilation of animal compartment

4.1 Adequate ventilation of the interior of the vehicle's animal compartment is essential. Airflow around the vehicle may be restricted, particularly when stowed in a fully or partially enclosed RO-RO deck, and by adjacent vehicles. Air movement within the animal compartment will be largely dependent upon convection currents unless mechanical ventilation is fitted. There must be sufficient space above the animals for air movement to take place.

4.2 Where mechanical ventilation is provided - either alone or as a supplement to apertures, the system should be capable of operation when the vehicle's engine is not running, and should incorporate adequate safeguards in the event of breakdown or power failure. Where operation of a mechanical system is dependent, when on a vessel, upon an external power supply the vehicle should be provided with equipment compatible with and capable of connection to the ship's supply.

4.3 The following guidance is based on research and experience of vehicles which are not equipped with any mechanical system of ventilation.

- Three-tier vehicle containers There should be continuous (so far as is practicable) longitudinal apertures in each side close to the top of each tier - of a minimum depth of 25 cm, but 30 cm or more is recommended.

- Two-tier vehicle containers There should be apertures in each side equal in area to 20% of the total stock floor area of the container (i.e. 20% per side). These apertures should, so far as is practicable, be evenly distributed between and close to the top of the tiers and along the vehicle length (i.e. 49 cm deep apertures in each side of each tier, for a standard width vehicle). However, an arrangement which can be shown to provide equivalent ventilation, but with a smaller aperture area (e.g. two well separated horizontal apertures per tier), may also be suitable.

- Single-deck vehicle containers Where the deck height is similar to the minimum recommended for a two-tier container there should be a comparable arrangement of ventilation apertures. Where the deck height is significantly more than the minimum and there is a greater volume of free air space above the animals, or where small single-deck vehicles and trailers are used to carry individual or very small groups of animals, apertures of a smaller total area may provide adequate ventilation.

- Specialist horse transporters It will normally be necessary to provide more ventilation than that which is needed for travel on the road, for example by mechanical means. Arrangements should be made for sufficient space to be left around the vehicle in stow on the vessel if it is necessary to open end or side loading doors to obtain adequate ventilation.

- Vans, trailers, passenger vehicles and crates containing animals Adequate ventilation is essential. Each case will need to be assessed according to the type of vehicle, the number of animals and the species, and how the animals are confined.

5 Height of animal compartment

5.1 There must be sufficient space above the animals, when standing in a natural position, to permit adequate ventilation and airflow through the vehicle's animal compartment (Ch. II, 1.2).

5.2 It is recommended that there should be a minimum clear space of 10 cm above small animals (e.g. calves, sheep, pigs, and goats), and 20 cm above large animals (e.g. cattle) for ventilation and airflow through a livestock vehicle whilst on a RO-RO vessel.

5.3 As a guide, but depending on the actual size of animals being carried, the following tier heights are likely to be suitable.

- Three-tier containers Within each tier a minimum clear height of 80 cm from the floor to the lowest part of the roof structure above. However, a minimum height of 90 cm is recommended.
- Two-tier containers Within each tier a minimum clear height from the floor to the lowest part of the roof structure above of:
 - 1.53 m for cattle over 150 kg;
 - 1.22 m for cattle of 150 kg or less, and for pigs over 50 kg, and for sheep and goats;
 - 1.07 m for pigs of 50 kg or less.

6 Access to animals for inspection and care

6.1 Access must be provided to the animals to permit inspection and care of them as necessary (Ch. II, 1.1(f)). Sufficient lighting, which may be portable, must be available for this purpose (Ch. II, 1.1(i)).

6.2 Farm Animals The access needed into each part of the livestock container will vary according to circumstances. The provision of direct access into each pen space is recommended - either by a suitable doorway, or through an openable section of ventilator grill, or via an internal passageway, where the animals have to be fed and watered during the voyage. However, it is recognised that it may not be appropriate or safe for an attendant to enter a pen containing adult cattle or adult pigs, except in an emergency situation.

6.3 Horses The attendant should be able to gain easy access to the head of each horse for the purpose of tending, feeding and watering it whilst on the vessel.

6.4 Other animals There must be appropriate arrangements for the species.