



agriculture, land reform & rural development

Department:
Agriculture, Land Reform and Rural Development
REPUBLIC OF SOUTH AFRICA

GUIDELINES FOR THE EXPORTATION OF LIVE ANIMALS BY SEA

Version 01.

A handwritten signature in black ink, appearing to read 'M. Molefe', written over a dotted line.

Dr Mphahle Molefe

Director: Veterinary Public Health

Date: 31 March 2023

Contents

1. DEFINITIONS
2. INTRODUCTION
3. PURPOSE
4. REGULATORY FRAMEWORK
5. SCOPE OF APPLICATION
6. REQUIREMENTS FOR FACILITIES
7. PRE-JOURNEY PLANNING AND OPERATIONS
8. DAILY CARE AND MANAGEMENT OF ANIMALS ON BOARD
9. VETERINARY PROCEDURES
10. CONTINGENCY PLANNING FOR EMERGENCIES
11. RESPONSIBILITIES AND COMPETENCIES
12. INDEPENDENT MONITOR
13. DOCUMENTATION REQUIRED
14. REQUIREMENTS FOR THE MINIMUM SPACE AREA ACCORDING TO SPECIES
15. REFERENCES

1. DEFINITIONS

Ad libitum	means that food and water is always available with the quantity and frequency of consumption being the free choice of the animal.
Adverse weather	means weather and climatic conditions (such as rain, hail, snow, wind, humidity, heat, storms, cyclones, heatwaves and drought) that either individually or in combination, are likely to expose animals to stress, cause injury and/or result in other unfavourable animal health or welfare outcomes.
Animal	for the purpose of these guidelines, animal refers to sheep, goats and cattle. All other animals that may be transported by sea will be dealt with using the Animals Protection Act, 1962, general principles contained in these guidelines, and international best practice.
Animal handler	means a competent and trained person capable of looking after animals.
Animal welfare	means the physical and mental state of an animal in relation to the conditions in which it lives and dies.
Competent authority	means the Veterinary Authority or other Governmental Authority of a country having the responsibility and competence for ensuring or supervising the implementation of animal health and welfare measures in the whole territory. In relation to South Africa, the competent authority shall refer to the national veterinary service in the Department of Agriculture, Land Reform and Rural Development, hereafter interchangeably referred to as “national authority”.
Disembarkation	means the offloading of animals from a vessel at any port, and commences with the first until the last animal is offloaded.
Downer	means an animal that is lying down and is unable to stand up.
Embarkation	means the loading of animals onto a vessel at a seaport, and commences with the first until the last animal has been loaded.
Exporter	means any person who exports an animal in accordance with the provisions of this document. The exporter is regarded as the owner of the animal to be exported.

Euthanasia	means the act of inducing death of an animal in a humane manner that causes immediate loss of consciousness and then rapid death
Heat stress threshold	means the maximum ambient Wet Bulb Temperatures (WBT) at which heat balance of the deep body temperature can be controlled using available mechanisms of heat loss.
Holding facility	means a facility at which animals are held and processed before transportation to the vessel, to prepare them for the trip. Procedures undertaken at the facility include, inter alia, sorting, vaccination, internal and external parasites control, conditioning, etc.
Isolation pen	means a designated area reserved for the sole purpose of special care of weak, sick or injured animals.
Lairages	means pens, yards and other holding areas for animals.
Master of the ship	means the commander of a ship; a captain.
Monitoring	means the intermittent performance and analysis of routine measurements and observations, aimed at detecting changes in the environment or health and welfare status of a population.
Owner	In relation to animal, includes any person having the possession, charge, custody or control of that animal
Pre-journey period	means the period during which animals are identified/sourced, assembled and prepared/conditioned with the purpose of loading them onto a vessel and transporting them.
Stress	means conditions where the environmental demand exceeds the internal regulatory capacity of the animal, resulting in a set of physiological and behavioural changes.

2. INTRODUCTION

- 2.1. There is increasing awareness and recognition of animal welfare in the world today. The disregard of animal welfare can lead to unnecessary and avoidable animal suffering in the form of diseases, injuries or poor condition and distress. Diseased, injured or poorly conditioned animals, can result in poor quality and unsafe animal-based food products, with associated economic losses. Thus, animal welfare has direct and indirect public health, food safety and economic implications.

2.2. The basic principles for animal welfare have been captured into the five freedoms (FF) and five domains (FD). The FF and FD are complementary to one another. The FD offer a base to assess the impact of the nutrition, physical and social environment, health, and behavioural provisions on the mental (affective) state of a sentient animal. The FF are statuses / outcomes indicative of animals whose well-being is good. For the purpose of these guidelines the five domains of animal welfare shall be adopted as the standard. The five domains are as follows:

- a. **Nutrition:** Animals have access to clean water and enough food in a balanced diet. Available food is nutritious, appropriate for the species and individual animal and varied.
- b. **Environment:** Animals are comfortable and safe and provided with opportunities and choices to engage in natural and rewarding behaviour.
- c. **Health:** Animals are fit and healthy and injuries and illnesses are prevented or immediately and appropriately treated.
- d. **Behaviour:** Animals are able to express natural and rewarding behaviour and are able to engage in free movement and play and have positive contact with animals and people to form social bonds.
- e. **Mental or affective state:** Nutrition, environment, health, and opportunity for expression of natural behaviour all influence an animal's mental state. Each of these can provide positive and pleasurable experiences that enhance an animal's mental state.

2.3. When transporting live animals by sea, it is important to ensure and safeguard a high standard of animal welfare. This responsibility is not only a legal obligation, but can also have economic consequences if not adhered to.

2.4. The following main parties are involved in the exportation of animals by sea:

- a. Exporter
- b. Importing country competent authority
- c. South African competent authority
- d. Animal sellers
- e. Shipping company and Master of the Ship
- f. Animal handlers
- g. Veterinarians employed at holding facilities and on the vessel

The abovementioned parties are responsible and accountable for the health and welfare of the animals whilst under their care and supervision for the entire period of the transportation, which includes the pre-journey period, the embarkation, journey at sea, and disembarkation.

2.5. It is important that animals exported from South Africa are treated humanely in South Africa and at the country of destination. It is expected that animals exported from South Africa will be handled under similar conditions as they would be handled in South Africa and therefore the animal welfare requirements under the Animals Protection Act, 1962 (Act No. 71 of 1962) will be used as a benchmark to evaluate animal welfare requirements in the country of destination.

2.6. Whilst the ownership and control of the animals may no longer belong to South Africa, the exporter may be held accountable for any inhumane treatment of animals at country of destination.

- 2.7. The competent authority of South Africa may enter into bilateral agreements with the competent authorities of the receiving countries regarding the handling of animals at sea and at country of destination.
- 2.8. Animals exported from South Africa may only be offloaded at a country of destination as agreed to by the competent authority of South Africa. Any deviation from the agreed upon country of destination must be approved in writing by the competent authority of South Africa.
- 2.9. Export facilitation by the South African competent authority is dependent on the assurance that the animals are to be handled humanely at the country of destination.
- 2.10. The South African competent authority may conduct an inspection visit prior to the facilitation to ensure that the facilities and procedures for the handling of the animals comply with animal welfare prescripts and international best practice.
- 2.11. The South African competent authority may conduct, with permission from the competent authority of the importing country, inspections after delivery of the animals at the country of destination to ensure that the animals that have been exported from South Africa are handled in a humane manner. Refusal by the competent authority for permission to conduct inspections may affect future export facilitation by the South African competent authority.
- 2.12. These guidelines make reference in some areas to terms such as “sufficient”, “adequate” or other similar general terms without being prescriptive. Where these terms are used, the standard that is to be used will be based on international best practice, published refereed articles, or the terrestrial animal health code of the World Organisation for Animal Health (WOAH/OIE)

3. PURPOSE

- 3.1. To provide evidence-based animal welfare standards for transporting live animals by sea from South Africa.
- 3.2. To ensure that appropriate animal welfare standards as guided by research and international guidelines are maintained during all associated processes.
- 3.3. To ensure that all parties involved in the transport of animals by sea take full responsibility in ensuring that the standards as indicated in these guidelines and applicable legislation(s) are implemented and maintained throughout the export process, from the pre-journey period until offloading at final destination.
- 3.4. To provide guidelines to exporters on the standards to be met for the exportation of live animals from South Africa.
- 3.5. To provide guidelines to certifying official veterinarians to evaluate the export processes before issuing an export certification.

- 3.6. To provide guidelines to competent authorities involved in the importation of live animals from South Africa on the animal welfare requirements for the importation of animals from South Africa.

4. REGULATORY FRAMEWORK

- 4.1. Animal welfare is regulated under the Animals Protection Act, 1962 (Act No. 71 of 1962), as amended, and the Performing Animals Protection Act, 1935 (Act No. 24 of 1935, as amended). The legislation provides for offenses in respect of the ill-treatment of animals.
- 4.2. The World Organisation for Animal Health (WOAH/OIE) Terrestrial Animal Health Code provides the welfare guidelines for the transportation of animals by sea.

5. SCOPE OF APPLICATION

- 5.1. These guidelines apply to all transportation of animals by sea from South Africa to any destination that crosses the equator.
- 5.2. The guidelines apply to sheep, goats and cattle.
- 5.3. The guidelines cover the transportation of animals from the farm/feedlot of origin to the quarantine/holding facility, transportation from the quarantine facility to the harbour, the journey at sea, until the final destination in the importing country.

6. REQUIREMENTS FOR FACILITIES

6.1. General

- a. Transportation of animals requires careful planning; this is key to a successful outcome. This includes reducing or avoiding stress or harm to the animals, such as injuries or sudden physiological changes.
- b. The facilities to be used for the holding and transportation of the animals must comply with all provisions as contained in these guidelines and the Animals Protection Act, 1962.

6.2. Vehicle used in the transport of animals

- a. All vehicles and trailers used must be roadworthy and in good working order.
- b. The vehicles and trailers used must be designed or suited to the transportation of that specific type and/or class of animal.
- c. Materials used in the construction of partitions, side-rails, sidewalls, gates and ramps must be sturdy and not be liable to breakage, splintering or present any surfaces liable to cause injury or bruising to the animals.
- d. The vehicles and trailers must have the following provisions:
 - i. A suitable non-slip solid impervious floor, which must not impede the cleaning of the floor of the vehicle and allow for proper drainage. Hinged or removable battens or steel grids are permissible.

- ii. Adequate ventilation to meet variations in climate and the thermo-regulatory needs of the animal species being transported. The ventilation system (natural or mechanical) must be effective when the vehicle is stationary. The loading compartment must not be totally enclosed.
 - iii. Adequate protection from exhaust gasses.
 - iv. No projections from the floor, sides or roof unless they are adequately rounded and smoothed to prevent injury to animals.
 - v. Adequate provision for inspection of all the animals being transported at floor level.
 - vi. Sides and partitions high enough to prevent animals from escaping or falling out of the vehicle. The sides and partitions, when used in a vehicle to separate animals carried therein must be of a height not lower than the shoulder joint of the largest animal being transported.
 - vii. In multi-tier vehicles, heights between decks must be adequate, and in case of sheep/goats, not less than 1000mm, to enable the largest animals to stand naturally, freely and fully erect and to allow adequate space for the free flow of air above the animals.
 - viii. Sufficient portioning must be available to compartmentalize the animals in groups small enough to prevent injuries during transportation.
 - ix. Gates must be of a design and construction strong enough and suitable for the conveyance of the intended animals.
 - x. Gates must open and close freely and as well as partitions, must be able to be well secured.
 - xi. If feeding or watering while the vehicle is moving is required, adequate facilities on the vehicle must be available.
- e. To minimise the likelihood of the spread of infectious disease during transport, vehicles and containers must be designed to permit thorough cleaning and disinfection, and the containment of faeces and urine during transportation between properties and loads.

6.3. The vessel to be used

- a. The vessel to be used must be registered with the applicable regulatory authority and as may be determined by the South African Maritime Safety Authority.
- b. The vessels must be designed, constructed, and fitted in a manner that is appropriate for the species, size, and weight of the animals to be transported.
- c. Materials used in the construction of partitions, side-rails, sidewalls, gates and ramps must be sturdy and not be liable to breakage, splintering or present any surfaces liable to cause injury or bruising to the animals.
- d. Lairages must be designed to enable each animal to be observed during regular safety, health, and welfare checks.
- e. Fittings on the vessel must be smooth and rounded (free from sharp protrusions or loose objects that could cause injury).
- f. Floors and walkways must be according to section 6.4, where applicable.
- g. Floors must have proper drainage to prevent urine, faeces, and water build-up. Small ruminants' faecal matter may be left in the lairages to absorb moisture. The veterinarian in charge must continuously make decisions regarding this aspect during the voyage.

- h. Suitable clean and dust free bedding may be added to the flooring to assist with absorption of urine and faeces and provide a softer surface for the animals to lie on. If the bedding negatively affects the cleaning of the pens and the operations of discharge pumps, it must not be used.
- i. The design of the drainage system must allow for the efficient removal of waste materials without cross-contamination of lairages and risk of injury and disease transmission to the animals.
- j. The vessel must have sufficient isolation facilities where sick or injured animals can be placed and treated while on board. These must be located and constructed in a manner in which they do not pose any risk to health animals.
- k. Equipment must be available to move sick animals to the isolation facilities
- l. Equipment must be available to remove carcasses from lairages for disposal.
- m. Lairages for each individual species must be designed in such a way that they do not trap animals' limbs, horns, heads or any other body part in between rails nor allow animals to climb over or under rails.
- n. Sufficient lighting must be available in all places as needed –
 - i. Uniform indirect light must be provided at approaches to sorting pens, chutes, loading and offloading ramps, as well as entry into vessels and compartments within the vessel.
 - ii. Light intensity must be adequate for the specific operational area on the vessel.
 - iii. In case of failure of the main lighting system, back-up lighting must be available and immediately activated upon instruction of the on-board veterinarian.
 - iv. Light fittings must be placed in such a way that they cannot be damaged by the animals and must be waterproof.
 - v. Equipment such as portable lights or flashlights must be available for night inspections or whenever the area to be inspected has inadequate light.
- o. Adequate ventilation is required to meet variations in the climate and the thermo-regulatory needs of specific animal species to be transported. The ventilation must be available when the vessel is stationary. A secondary power supply, capable of supplying power for the entire duration of the journey, must be available in case of breakdowns. The following requirements must be met:
 - i. Ventilation during loading and the journey must be adequate to provide for fresh air, and the removal of excessive heat, humidity and noxious fumes.
 - ii. Ventilation systems must be checked regularly (at least once during the day and at night) at several points on the vessel where animals are kept to ascertain they function adequately.
 - iii. If animals are loaded on to enclosed decks, the ventilation system must run continuously from loading to offloading.
 - iv. Spare parts must be kept for the repair of mechanical ventilation systems when required.
 - v. A back-up power supply for the ventilation system must activate automatically if the main power supply fails.
 - vi. The vessel must be able to maintain relative humidity in the ranges of 40 – 80%.
- p. Lairages on exposed decks must be provided with adequate overhead protection from the weather, whilst allowing sufficient overhead clearance for animals.

- q. Automatic ambient wet bulb temperature readers / thermo-loggers must be installed on all decks and systems must be in place for accessing these records.
- r. The sides of the lairages on exposed decks must be fitted with durable, waterproof covers that can be closed when necessary, in the event of bad weather conditions and rolled for ventilation.
- s. Animals must not be housed close to the engine room bulkhead, boiler room or heated fuel tanks which cause an undesirable rise in temperature, unless the temperature in these areas is maintained within the heat stress threshold.
- t. Troughs must be designed in such a manner as to permit adequate access by all animals in the lairage to feed and water. The troughs must be appropriate for the species, size and weight of the animals in transport.
- u. Troughs must be designed or located to prevent urine and faecal contamination.
- v. The vessel must be equipped with all necessary firefighting equipment, which must be inspected and certified to be fully functional before each voyage is undertaken.
- w. Feed and bedding storage must be designed to avoid moisture build up to minimize the risk of mould growth.
- x. Clean feed and bedding must be kept in separate rooms, away from the animals and dirty bedding that has been removed.
- y. Electricity points must be waterproof.
- z. Each lairage must have a sign that states lairage number, what species is loaded, and how many animals are loaded in the lairage.

6.4. Holding facilities before loading

- a. Must allow for sufficient space to prevent overcrowding.
- b. Must have barriers which are designed to prevent animals from escaping and to prevent access by predators.
- c. Must allow for separation and grouping of animals according to categories such as species, age, size and sex.
- d. Must provide the animals with protection from severe weather.
- e. Must have enough potable water and feed for the duration of the holding period.
- f. Must allow animals to move and be handled with minimum stress.
- g. Must be easy to clean and disinfect.
- h. Must be maintained and designed to eliminate injuries or harm to the animals.
- i. The lairages must have non-slip, permanent, solid floors with adequate drainage and according to criteria set in Section 6.5, where applicable.
- j. Isolation facilities must be available for sick or injured animals.

6.5. Loading and offloading passageways

- a. The passageways / walkways must be free from distractions, dead-ends or darkness. They must be designed to allow, encourage and ensure safe and easy flow of movement of animals according to species requirements.
- b. There must not be any sharp objects and protrusions that could injure animals.
- f. Loading and offloading ramps must have solid side barriers which must be designed to prevent animals from escaping.

- g. Materials used in the construction of partitions, side-rails, sidewalls, gates and ramps must be sturdy and not be liable to breakage, splintering or present any surfaces liable to cause injury or bruising to the animals.
- c. Ramps must be height and angle adjustable to assist with the loading of animals.
- d. Gates must be appropriately designed and positioned, with secure latches.
- e. Passageways must have easy-to-clean and disinfect, non-slippery, solid floors with drainage.
- f. Loading and offloading passageways must be constructed to ensure that there are no gaps on the floors that could injure the animals or force the animals to jump over.

7. PRE-JOURNEY PLANNING AND OPERATIONS

7.1. General

- a. Except where the vessel can regulate the on-board temperature and humidity requirements to ensure the animals are comfortable and do not experience heat stress or welfare compromise, the period between Mid-May and the end of August must be avoided when transporting animals by sea to the Middle East and any other country which experiences very high summer temperatures, or a journey that passes through areas which experience very high temperatures.
- b. A species appropriate diet like that used on the vessel must be used to condition / accustom the animals during the pre-loading time prior to the voyage.
- c. Animals must be given a minimum of 7 days, during the pre-journey waiting period, to get accustomed to the feed as well as the feeding or water provisioning methods used during the voyage.
- d. Animals must be identified in terms of the Animal Identification Act, 1962 (Act No. 71 of 1962).
- e. The competent authority of South Africa may require the competent authority of the importing country to implement specific measures related to animal welfare at and after disembarkation at destination. Animals exported from South Africa for direct slaughter may not be diverted for a different purpose without prior written consent of the competent authority of South Africa.
- f. The country of destination must be informed prior to loading of any disease outbreak that may result in the animals being refused disembarkation. This is critical to ensure that animals are not stuck at sea.

7.2. Minimum equipment and medication inventory

- a. Sufficient equipment needed for various operations on board must be readily available and be easily accessible for use when needed.
- b. Equipment for veterinary care and post-mortems must be available and accessible when needed.
- c. A well-maintained captive bolt with sufficient cartridges, suitable to the species of animal on the vessel must be available. A stand-by, well-maintained captive bolt must be available in case the one captive bolt malfunctions. Suitably trained on-board veterinarian(s) or animal handlers must use the captive bolt to humanely

euthanise any animal(s) which according to the on-board veterinarian, require to be put down.

- d. On-board veterinary medicines must be stored in locations under the control of, and accessible only to the on-board veterinarian and Master of the Ship.
- e. An inventory of all the scheduled medicines must be kept.
- f. Carcass handling and storage equipment must be provided on-board for use when needed. Carcass disposal must be described through a Standard Operational Procedure (SOP) in line with applicable international and local legislations and approved by the on-board veterinarian.

7.3. Feed and water stocking

- a. Adequate amounts of feed and potable water must be stocked for the journey for all the animals being transported, with reserves enough for at least an additional 5 days for unforeseen circumstances. If the ship does not have sufficient potable water storage capacity, it must have an adequate and functional desalination system.
- b. Contingency plans must be prepared in advance for instances where additional feed and water beyond what is available on-board is needed.
- c. Feed must be kept fresh, dry and mould-free, and in a specifically allocated room. Spoilt or contaminated feed must be detected and discarded in a suitable manner, in line with applicable international and local legislations.
- d. Water hoses must be checked before departure and recorded that they are in working condition.
- e. Feed and water supply systems must be checked daily during the day and night to ensure they are functional.
- f. Where automated systems are used, back-up plans must be available in case of a malfunction of the automatic feeding or watering systems.

7.4. Selection of animals at farm/feedlot of origin and during loading

- a. The health statuses and records, which are not older than 1 month, of the animals must be kept and made available to the certifying veterinarian prior to introduction into the holding facilities.
- b. The records to be kept must include:
 - i. Animal identification
 - ii. Pregnancy statuses
 - iii. Vaccination records
 - iv. Endoparasites control records
 - v. Ectoparasites control records
- c. Animals must be sorted into appropriate compatible groups based on species, farm/feedlot of origin, horned or de-horned, age, size and sex.
- d. Sheep with wool longer than 25mm need to be shorn at least 10 days before being loaded onto a vessel.
- e. Animals must be examined by a veterinarian before being selected to determine if they are healthy, well-nourished and fit for transportation.
- f. Animals must be in healthy condition which includes but not limited to:
 - i. Bright, alert and responsive;
 - ii. A shiny and dry coat for cattle;
 - iii. Body condition score of 3 on the 5-point scale;

- iv. Eating and drinking well;
- v. Walking comfortably, distributing weight evenly on all four limbs and showing no signs of pain and lameness;
- vi. Showing no ocular pathological or infectious abnormalities that may affect their welfare;
- vii. Not showing any signs of fever. Temperature recorded within a week prior to departure must be within the following ranges:
 - Adult cattle: 36.7 – 39.1 °C;
 - Calves: 38.6 – 39.6 °C;
 - Sheep and goats: 38.3 – 39.9 °C;
- viii. Not coughing, panting (without being exposed to physical exertion such as running around) or excessive sneezing. Respiratory rates at rest must be:
 - Sheep / goats: between 15 - 30 breaths/min;
 - Cattle: between 25 - 50 breaths/min;
- ix. No visible evidence of parasites;
- x. Not exhibiting any nervous signs;
- xi. No nasal, buccal, lingual and feet lesions;
- xii. No pathological or infectious skin abnormalities;
- xiii. No palpable enlarged superficial lymph nodes.
- g. Animals under the following classification must not be loaded onto the vessel:
 - i. Younger than four months or above 8 years of age;
 - ii. Unweaned;
 - iii. Horns that are sharp or protrude beyond the widest part of the animal;
 - iv. Excitable, wild or aggressive;
 - v. Shy feeders;
 - vi. Known pregnant animals or heavily lactating dam with offspring;
 - vii. With unhealed wounds from recent treatment procedures, branding, dehorning or injuries;
 - viii. Those with diarrhoea;
 - ix. Bilateral blindness;
 - x. Body condition score below 3 on the 5-point scale;
 - xi. Showing clinical signs of diseases which may not be successfully treated immediately and may negatively affect the animal during the voyage;
- g. Animals must be vaccinated in accordance with the requirements of South Africa and the importing country.
- h. No animals must be sourced from a controlled disease area in contravention of the requirements of both South Africa and the importing country.

7.5. Loading and transportation between farm/feedlot of origin, holding facilities and the vessel.

- a. Loading must be carefully planned as it has potential to cause poor welfare in transported animals.
- b. The distance / duration of the journey and description of the route taken must be planned and provided before the start of the journey.
- c. Loading densities for vehicles and containers must be calculated according to available floor space and animals to avoid overcrowding.
The floor space per animal must be as follows:
 - i. 1,4 square metres per each adult cattle;

- ii. 0,3 square metres per small calf;
 - iii. 0,4 square metres per sheep and goat.
- d. Loading and offloading of animals must be conducted by trained personnel and assistants in a humane manner conducive to the species' natural behaviour of movement.
- e. No goads must be used on animals. Prodders may only be used on cattle only if absolutely necessary and not excessively, such prodders must not be placed on any sensitive part of the animal. Fleece pulling, tail twisting, dragging by horns, pulling sheep by one leg, genital twisting and use of ears in sheep is prohibited.
- f. Special attention must be paid to avoid injury to animals using secure smooth fittings free from sharp protrusions. The avoidance of injury while carrying out their responsibilities must be emphasized to drivers and animal handlers.
- g. Suitable bedding material of sufficient density and thickness to prevent slipping and sliding is permissible.
- h. Animals must not be transported for periods more than 18 hours between source farm/feedlot and the holding facilities. If the trip is longer than 18 hours, a recess must be provided where the animals must be off-loaded and provided with suitable feed, potable water and shelter.
- i. A trip between the holding facilities and the vessel must not take longer than 5 hours.
- j. Animals may only be transported between the farm(s)/feedlot(s) of origin, the holding facilities and the vessel under cover of a veterinary movement permit issued by a state veterinarian.
- k. No livestock shall be loaded or off-loaded by lifting by head, fleece, skin, ears, tails, or legs.
- l. The trip must commence as soon as possible after the animals have been loaded and offloading must be carried out promptly after arrival at destination.
- m. Unless adequate provision has been made for effective separation, different or antagonistic species of animals must not be loaded and transported in the same vehicle.
- n. Animal moving aids that does not cause any injury or pain to the animals, such as plastic paddles, moving boards, plastic bag on a stick, may be used. Electric prodders are prohibited for use except for adult cattle and must be used sparingly.
- o. The driver of a vehicle transporting animals must have knowledge of the natural behaviour and the humane handling of the animals being transported and must have competence to assess any distress to the animals and take the necessary measures to alleviate or resolve the situation.
- p. The driver must handle a vehicle in a manner that does not cause the animals transported therein to slip, fall, be injured, or subjected to undue stress or discomfort.
- q. Animals must not be transported under extreme weather conditions.
- r. The driver must inspect the animals being transported as frequently as circumstances may permit, but within intervals of not more than 2 hours to any animal(s) in obvious distress;
- s. Records of number and percentage of deaths or removals from the holding facilities, and the reasons thereof, must be provided to the on-board veterinarian before loading of the animals onto the vessel is completed.

- t. Animals that have already been loaded must be inspected throughout the loading process and those that are not fit to continue with the journey must be removed.

8. DAILY CARE AND MANAGEMENT OF ANIMALS ON BOARD

- 8.1. Animal handlers under direct supervision of the on-board veterinarian must conduct adequate health and welfare inspections on all the animals at least twice during a 24-hour period. A checklist endorsed by the certifying official veterinarian must be used during the inspection. Health and welfare monitoring should be on a continual basis. The inspections must be increased whenever there are incidences that require for more frequent inspections, such as a rough sea passage or adverse weather.
- 8.2. Monitoring of the temperatures and humidity in the decks where animals are kept must be conducted during the inspections as indicated in 8.1.
- 8.3. The on-board veterinarian must inspect all animals on board at least once a day. The frequency must be increased in case there are events that require more frequent attention by a veterinarian, such as illnesses, and weather / environmental changes.
- 8.4. Sick and injured animals must be reported to the on-board veterinarian for immediate medical and / or surgical attention, including euthanasia where necessary.
- 8.5. If any animal becomes severely ill or in the judgement of the on-board veterinarian, is unduly suffering, it must be immediately and humanely euthanised by the veterinarian or trained and competent stockman.
- 8.6. The animals must be provided with adequate clean feed and potable water on an ad-lib basis.
- 8.7. The on-board veterinarian, a representative of the animal handlers and master or first officer of the ship must meet daily to discuss the health and welfare of the animals and any corrective actions that may be required. The IM on the vessel must be allowed to attend the meetings, however, they may not issue any instructions at such meetings.
- 8.8. Lairages must be kept as dry as possible by renewing and / or supplementing bedding as needed.
- 8.9. Lairages must be cleaned as required and liquefied and / or semi-solid dung and old fodder in pens must be removed on a regular basis or as needed to prevent build-up of noxious gasses.
- 8.10. Pressurised water used must not cause injury, discomfort and / or pain to animals, but must be sufficient to clean effectively.
- 8.11. Hosepipes must be permanently attached at, or as close as possible to the lairages and they must be long enough to easily reach all lairages.
- 8.12. Animal handlers must monitor the animals for bullying which prevent other animals accessing the feed and water and take appropriate action.
- 8.13. Stocking densities of lairages must be checked and adjusted as required.
- 8.14. There must be Standard Operating Procedures (SOPs) for each animal care task conducted on the vessel. These must describe precise protocols for all the tasks and include who is responsible for each task and when. The SOPs must be updated continuously when there are changes in the set systems or deficiencies encountered.
- 8.15. Data loggers for continuous recording of wet bulb temperature and relative humidity (every hour) must be kept and made available when required by the on-board veterinarian, independent monitor or competent authority.

- 8.16. Ammonia levels must be measured at least 3 times a day at several points on all decks. A maximum ammonia concentration in all decks during loading, transportation and offloading may not exceed 25 parts per million (ppm).

9. VETERINARY AND ASSOCIATED PROCEDURES

- 9.1. The holding facilities and vessel must be provided with the necessary medicines to take care of the animals until completion of the journey. The storage and usage of medicines must comply with the following requirements:
- a. The expiry dates on all medicines on the vessel must be at least beyond 2 weeks of the expected arrival date at final destination;
 - b. All medicines must, where applicable, comply with the requirements of the Medicines and Related Substances Act, 1965 (Act No. 101 of 1965) as amended and/or the Fertilizers, Farm Feeds, Agricultural Remedies and Stock Remedies Act, 1947 (Act No. 36 of 1947) as amended;
 - c. Access, usage and control of medicines must be in line with the applicable legislation;
 - d. All medicines and veterinary products must be used in accordance with recommendations from a veterinarian and in accordance with the manufacturer's instructions, including the observation of the withdrawal periods.
- 9.2. Sick and injured animals must be presented to the on-board veterinarian for attention.
- 9.3. Downer animals must be euthanised immediately after discovery.
- 9.4. Provision must be made on the vessel for:
- a. handling emergencies, such as isolation / hospital pens and slaughter;
 - b. prompt segregation of sick or injured animals from other animals;
 - c. appropriate treatment or euthanasia of sick or injured animals. The decision on the fate of a sick and injured animal is solely by the on-board veterinarian and may not be overruled by the Master of the Ship; and
 - d. sufficient on-board personnel, including the veterinarian or trained animal handlers.
- 9.5. A SOP must be provided for the stunning and euthanasia of distressed animals on board, which must include, inter alia, the following:
- a. How a captive bolt works
 - b. How to maintain a captive bolt in a working state
 - c. How to test for penetration quality
 - d. Where to place the captive bolt on the head
 - e. Signs of a properly or improperly stunned animal
 - f. Timelines between stunning and bleeding or euthanasia to prevent the animal from regaining consciousness
 - g. How and where to cut to bleed the animal
 - h. Measures to take in case of improperly stunned animals
- 9.6. Pithing must be carried out on all animals that are stunned using a captive bolt and not medically euthanised immediately thereafter.
- 9.7. Carcasses must be removed from the lairages as soon as possible to avoid decomposition and affecting other animals.

10. CONTINGENCY PLANNING FOR EMERGENCIES

- 10.1. Contingency plans and emergency response procedures that identify potential adverse events and unexpected delays that could be encountered during the journey must be prepared and reviewed and signed off by the Master of the Ship prior to every shipment. These plans must be reviewed and endorsed by the official export veterinarian before commencement of the journey.
- 10.2. The contingency plans must address, inter alia, the following possibilities:
- a. Mechanical breakdown at sea.
 - b. Refusal of passage.
 - c. Fire on board.
 - d. On-board veterinarian and/or animal handlers becoming indisposed.
 - e. Shortage of feed, water and medication.
 - f. Unexpected delays at any point prior, during the voyage and at disembarkation.
 - g. Refusals of entry at final destination.
 - h. Diseases outbreaks.

11. RESPONSIBILITIES AND COMPETENCIES

11.1. Exporter

- a. The exporter has the overall responsibility and accountability for the entire journey, including where a third party is subcontracted by the exporter for any aspect of the export process.
- b. The accountability of the exporter extend from the planning of the journey, the implementation thereof until offloading at final destination.
- c. The exporter must provide the provincial veterinary authority where the exportation is to take place from with a copy of a veterinary import permit and any other relevant information regarding the planned journey.
- d. The exporter must ensure that all processes comply with the requirements of the importing country and applicable local legislations.
- e. Ensure that the animals intended for the journey are in good condition and healthy to be able to travel the intended distances by sea.
- f. The exporter must ensure that the animals' health and welfare needs are attended to throughout the process.
- g. The exporter must ensure the loading and offloading processes are carried out with the utmost care to avoid unnecessary stress and injuries to the animals.
- h. It is the responsibility of the exporter to provide all the required personnel, equipment, veterinary medicines and products, feed, water, etc.
- i. The exporter must provide suitable facilities for the assembly, loading, unloading and holding of the animals at the start of the journey and also for emergency situations.
- j. The exporter must ensure that contingency plans to address emergencies throughout the export process are available, up to date and implementable.
- k. The exporter must ensure that animals are inspected regularly during the journey.
- l. The exporter must make sure that animal handlers have proper training and competency in handling of the specific animal species.

11.2. Competent authority of the importing country

- a. Establishes minimum requirements for animal health and welfare for animals to be imported into the country.
- b. Allows import procedures to be completed without unnecessary delays so that the welfare of animals is not compromised.
- c. Supervises the offloading process and ensure that it is conducted by competent animal handlers.
- d. In case of an animal disease outbreak on board, makes available suitable facilities to allow the offloading of animals from a vessel and their secure holding as may be required and permissible and depending on the outbreak.
- e. If the animals are required to remain on the vessel, allows provisioning of the vessel with potable water and feed as necessary.
- f. Ensures that the provisions of these guidelines are implemented within their territory.
- g. Implements international standards and bilateral agreements with the South African competent authority within their territory.

11.3. South African Competent Authority (“National Authority”)

- a. Sets policies, legislation and minimum standards for animal health and welfare for the export and transportation of animals by sea.
- b. Negotiates the veterinary and animal welfare requirements for the exportation of animals with the competent authority of the importing country.
- c. Monitors the implementation of the set guidelines / policies with regards to inspections, approving of facilities, vehicles and vessels and keeping all records.
- d. The South African competent authority reserves the right to have its own officials or any other party accompanying the shipment until the final destination for the following purposes:
 - i. Monitoring the operations related to the care of the animals during the voyage;
 - ii. Monitoring the performance of animals during the voyage; and
 - iii. Conducting investigations that will enable a better understanding of the exportation of animals by sea;
- e. The South African competent authority reserves the right to join the vessel at the port of destination to observe the conditions of the animals and the handling during disembarkation.
- f. The South African competent authority may assign any of its responsibilities as contained in these guidelines to an independent and impartial third party.

11.4. Provincial Veterinary Authority

- a. Provides regulatory facilitation for the exportation of animals.
- b. Confirms that the applicable legislative prescripts of South Africa and all requirements of the importing country have been complied with by the exporter and all other responsible parties.
- c. Inspects, registers and / or approves facilities to be used for the exportation.
- d. Inspects the vehicles and vessel used for the transportation of the animals for fitness of purpose.

- e. Inspects the vessel prior and during the loading to ensure compliance to animal health and welfare requirements.
- f. Inspects the documents necessary to confirm compliance to the requirements.
- g. Issues a veterinary health certificate upon satisfaction that all the requirements for the exportation have been complied with.

11.5. Master of the Ship

- a. Ensures that the vessel and crew comply with the applicable maritime regulations.
- b. Assumes responsibility for the management and care of the animals from when the animals are loaded onto the vessel until off-loading from the vessel is completed.
- c. Prepares and updates contingency plans for emergencies at loading, at sea and offloading at country of destination.
- d. Provides the necessary environment for the independent monitor accompanying the vessel to perform his/her responsibilities independently and unhindered.
- e. Provide tools to enable the independent monitor to prepare and transmit reports to the national authority and applicable provincial veterinary authority.

11.6. On-board veterinarians

- a. Each voyage of animals transported by sea must be accompanied by a veterinarian with at least 5 years of veterinary experience dealing with the type of animals being transported.
- b. The veterinarian must be in possession of a veterinary qualification recognised by the veterinary statutory body within which it was obtained.
- c. The veterinarian must be registered and in good standing in at least one country with a veterinary statutory body that controls the registration and conduct of veterinarians. The South African competent authority may decide not to accept registration with a specific veterinary statutory body if deemed necessary.
- d. The veterinarian must be able to issue instructions directly to the animal handlers in relation to the care of the animals.
- e. The veterinarian is responsible for the following:
 - i. Provide care and treat the animals throughout the exportation process.
 - ii. Handle, in the most appropriate manner, any veterinary medical emergency.
 - iii. Euthanise animals.
 - iv. Meet daily with the Master of the Ship or First Officer and a representative of the animal-handlers to share up-to-date information on animal health and welfare status and travel conditions.
 - v. Prepare and submit an independent report to the provincial veterinary authority from which the animals were exported. The report must be submitted within one week after completion of the journey. The National Authority must draft a template to be utilised for the reporting.
 - vi. Perform post-mortems on all dead animals for animal diseases control and animal welfare on the vessel for the importing and / or exporting countries.
- h. The veterinarian must remain with the animals until completion of the offloading at final destination.

11.7. Animal handlers

- a. The number of on-board animal handlers must be sufficient for the number of animals all the time for the duration of the voyage.
- b. Animal handlers must be trained in basic animal handling and welfare and the applicable South African legislation and international animal welfare standards.
- c. Provision must be made for animal handlers to monitor the animals at night and report to the Master of the Ship and / or veterinarian on issues that need attention.
- d. Animal handlers must handle humanely animals at all times during any part of the journey including the preparation and the offloading at the final destination.
- e. The animal handlers are responsible for the following:
 - i. Check the animals immediately before departure to ensure that they have been loaded in accordance with the loading plan.
 - ii. Inspect each lairage at least twice a day or more frequently if necessary for normal behaviour, health and welfare, and the correct operation of ventilation, watering and feeding systems.
 - iii. Carry out any task necessary for the care of the animals, including provision of feed, water, removal of waste material, carcass disposal, etc.

12. INDEPENDENT MONITOR

- 12.1. Every export consignment of live animals by sea must be accompanied by an Independent Monitor (IM) who is either a veterinarian or an animal health technician registered with the South African Veterinary Council (SAVC).
- 12.2. An IM must perform their responsibilities independently and must have no relationship with any party listed under section 2.4 other than to perform the responsibilities as outlined in this section, with the exception of the South African competent authority.
- 12.3. The allocation of IMs to export consignments is the prerogative of the South African competent authority.
- 12.4. The cost for the services of the IM is to be borne by the exporter and paid to the account of the South African competent authority prior to the commencement of the export facilitation.
- 12.5. The South African competent authority must pay the cost of service of the IM upon receipt of a claim after the conclusion of the export process.
- 12.6. The South African competent authority must determine the fee to be paid by an exporter for the services of an IM.
- 12.7. The South African competent authority must keep and maintain a register of IMs to accompany consignments..
- 12.8. The South African competent authority must develop criteria for the registration of IMs, which may include a competency assessment related to animal health and welfare.
- 12.9. The person indicated in 12.1 must have at least 5 years of experience working with the species of animals to be exported.
- 12.10. The IM must monitor the care of the animals on-board and the performance of the animals before and during the voyage, and during disembarkation at the port of destination. The national authority must prepare a standard monitoring and reporting template to be utilised by the IMs.

- 12.11. The IM will be held to ethical standards and honesty and any breaches will be reported by the South African competent authority to the SAVC for appropriate action.
- 12.12. The IM must submit an end of journey report to the national authority within one week after the final offloading at the destination country. The report must include the following, in addition to any other observation of importance:
- a. General appraisal on the care of the animals by the on-board crew.
 - b. Number of animals attended to by the on-board veterinarian
 - c. Number of animals that have died throughout the journey.
 - d. Any animal welfare non-compliances during the journey and at offloading.
 - e. Confirmation of the temperature and ammonia levels records.
 - f. Any observed deviations from the set standards and procedures that have an impact on animal health and welfare.
- 12.13. The IM must have access to any part of the vessel that affects the health and welfare of the animals.
- 12.14. An IM may take pictures and video footage of operations and facilities on the vessel in compliance with the Protection of Personal Information Act and any other applicable legislation. The pictures and videos captured by the monitor are to be used for the preparation and attached to the end of journey report. The monitor may not distribute the pictures and footage to any party other than the national authority, the relevant provincial veterinary authority and the exporter.
- 12.15. All relevant legislations related to access to information apply.
- 12.16. Provision must be made on the vessel for private accommodation and facilities to work. Internet connection must also be made available to the IM.
- 12.17. The IM may not accept any gifts and/or donations from the exporter, the Master of the Ship or anyone associated with the shipment.
- 12.18. The South African competent authority reserves the right to have its own official to accompany the shipment until the final destination.

13. TRAINING

All persons involved in the handling of animals from the holding facilities until dispatch at the country of destination must be trained on the handling and welfare of animals, either inherent through their professional qualification(s) or through a training programme approved by the on-board veterinarian. The South African competent authority may stipulate the details and content of the training if deemed necessary.

14. DOCUMENTATION REQUIRED

- 14.1. The correct documentation must be in order and available on file (i.e., veterinary certificates, export permits and vaccinations history, etc.), and must be made available to the IM and South African competent authority when required. An electronic record keeping system must be implemented.
- 14.2. The following records must be kept by the exporter and be made available for inspection to the veterinary authority of South Africa as and when required:

- a. Records of continuous recording of the environmental temperatures and humidity by an automated recording system at all levels / decks on the ship where animals are kept.
- b. Records of continuous recording of the ammonia levels by using an ammonia gas meter at least twice a day. Additional automatic monitors must be fitted at fixed positions where they will trigger an alarm signal when ammonia levels rise above the stipulated limits.
- c. Duration of the journey from South Africa to every ports of disembarkation.
- d. Number and type of animals loaded at port of exit (including breed, sex, etc.).
- e. Feed specification at the holding facilities and at sea.
- f. SOP for feeding of the animals which must include the feeding intervals as well as the assigned responsibilities
- g. Water quality monitoring record.
- h. Loading and offloading plans and the expected duration.
- i. Design drawing to indicate vessel layout with lairage sizes, location of ventilation chutes and location of water and feed troughs with specific parameters.
- j. Qualification certificate of the on-board veterinarian and proof of registration with a veterinary statutory body.
- k. Records of training of animal handlers
- l. List of veterinary medicines, products and equipment to be used on board.
- m. Contingency plans for disease outbreak and adverse events during the journey.
- n. Waste disposal plans and methods at sea in line with international maritime laws.
- o. Vaccination and treatment records from the farms/feedlots of origin and holding facilities.
- p. Record for all treatments administered on-board.
- q. Number of deaths as well as causes of deaths in the holding facilities prior to loading onto the vessel, during the voyage and during disembarkation at the port of destination.
- r. Diagnoses made on sick animals.
- s. SOP for administering of medication to sick animals and the assignment of responsibilities.
- t. Medical record of personnel on vessel working directly with the animals confirming that they are fit and health.
- u. Records of daily checks of fire-extinguishers, water and feeding troughs, drains and lights.
- v. Standard operating procedure for cleaning and sanitising of the vessel before loading and after loading.
- w. Communication log for daily meetings with the on-board veterinarian and master of the ship.

14.3 The following standard operating procedures must be developed and maintained:

- a. Administering of medication to sick or injured animals and the assignment of responsibilities.
- b. Humane killing of animals.
- c. Maintenance of the captive bolt.
- d. Sanitation and cleaning of the lairages and the vessel before loading, during transport at sea and at offloading at importing country.
- e. Disposal of dead and euthanised animals.
- f. Disposal of faeces, urine and used bedding.

- g. Control of ventilation, temperature, ammonia and humidity levels.
- h. Feeding of animals at the holding facilities and on the vessel.
- i. Water desalination.

15. REQUIREMENTS FOR THE MINIMUM SPACE AREA ACCORDING TO SPECIES

Cattle

Cattle grouped into age/weight	Mean weight (kg)	Minimum surface area (m ²) per animal unit
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	Over 700	Over 1.60

Table 1: Cattle – minimum surface area needed

Sheep and goats

Live weight (Kg)	Minimum surface area (m ²) per animal unit
20	0.27
30	0.36
40	0.43
50	0.50
60	0.57
70	0.63
80	0.69

Table 2: Sheep – minimum surface area needed

16. General consideration

Where any aspect of the transportation of animals by sea has not been adequately covered in these guidelines and applicable local and international legislation, the standards to be applied must be based on published and peer reviewed data available.

17. REFERENCES

- Webster J. Animal welfare: Freedoms, dominions and “A life worth living”. Animals 2016.
- <https://qric.qld.gov.au/wp-content/uploads/2019/11/190924-The-5-Domains-of-Animal-Welfare-V1.pdf>
- World Organisation for Animal Health (OIE): 2017, Guidelines for the transport of animals by sea. In: *Manual of Terrestrial Animal Health Code*, 26th Ed. Volume 1, Chapter 7.2.
- OIE - Terrestrial Animal Health Code - 28/06/2019 Transport of Animals by Land.
- Animals Protection Act, 1962 (Act No. 71 of 1962).
- Norris R T 2005 Transport of animals by sea. *Rev.sci.tech. Off.int.Epiz.*,24. 673-681.
- Consortium of the Animal transport guides project (2017-rev1). Revision May 2018. ‘Guide to good practices for the transport of cattle’ PP
- Consortium of the Animal transport guides project (2017-rev1). Revision May 2018. ‘Guide to good practices for the transport of sheep’ PP

9. Technical Advisory Committee. 2019 Review of the Australian Standards for the Export of Livestock: Air Transport. Draft report. PP
10. Australian Standards for the Export of Livestock
<https://www.agriculture.gov.au/sites/default/files/documents/asel-v3.0-a4.pdf>
Accessed 02 March 2021.
11. LWCC national standard for road transportation of livestock