

S.I. No. 17/1996 — Diseases of Animals (Carriage of Cattle by Sea) Order, 1996.

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I, IVAN YATES, Minister for Agriculture, Food and Forestry, in exercise of the powers conferred on me by sections 3, 28 and 29 of the Diseases of Animals Act, 1966 (No. 6 of 1966), as adapted by the Agriculture and Food (Alteration of Name of Department and Title of Minister) Order, 1993 (S.I. No. 11 of 1993), hereby order as follows—

PART I PRELIMINARY

Citation and Commencement.

1. (1) This Order may be cited as the Disease of Animals (Carriage of Cattle by Sea) Order, 1996.

(2) This Order shall come into operation on the first day of February, 1996.

Interpretation.

2. (1) In this Order—

"approval", in relation to a vessel, means approval of a vessel for the purposes of this Order;

"approved", in relation to a vessel, means approved for the purposes of this Order;

"authorised officer" has the meaning assigned to it by Article 2 of the Principal Order;

"Classification certificate" means a certificate issued by a classification society which is a member of the International Association of Classification Societies;

"International Convention certificates" means certificates issued under the terms of any of the following international conventions: SOLAS Convention 1974/1978, Load Line Convention 1966 and the MARPOL Convention 1973/1978 and any subsequent amendments thereto;

"I.O.P.P." means International Oil Pollution Prevention;

"MARPOL Convention" means the International Convention for the Prevention of Pollution from Ships, 1973, as amended by the Protocol thereto, 1978;

"master" includes a person having charge or command of a vessel, other than a pilot;

"owner", in relation to a vessel, includes the operator or manager of the vessel;

"port" includes any place in the State from where vessels may depart;

"the Principal Order" means the Diseases of Animals (Protection of Animals during Transport) Order, 1995 (S.I. No. 98 of 1995);

"shipper" includes a person who is in charge of, supervising, or responsible for, the loading of cattle onto a vessel or the handling of cattle in preparation for such loading;

"SOLAS Convention" means the Safety of Life at Sea Convention 1974/1978;

"vessel" means any vessel which is used or intended to be used for the carriage of cattle other than a ferry used to carry road vehicles.

(2) In this Order—

(*a*) a reference to a Chapter or Article is to a Chapter or Article of this Order, unless it is indicated that reference to some other provision is intended;

(*b*) a reference to a Schedule is to a Schedule to this Order unless it is indicated that reference to some other provision is intended;

(*c*) a reference to a paragraph or subparagraph is to a paragraph or subparagraph of the provision in which the reference occurs, unless it is indicated that reference to some other provision is intended.

General Provisions and Exemptions.

3. (1) The provisions of this Order shall apply to the loading and carriage by sea of cattle on a vessel, excluding cattle carried in a road vehicle on board the vessel, from the State.

(2) With the exception of Article 28 paragraph (1), this Order is in addition to and not in substitution for the provisions of the Principal Order.

(3) The Provisions of this Order shall not apply to vessels arriving in the State carrying cattle from outside the State for discharge in the State or outside the State.

(4) Nothing in this Order shall be construed as purporting to create a criminal jurisdiction in relation to actions committed wholly outside the criminal jurisdiction of the State.

(5) Notwithstanding paragraph (4), where, whether within or outside the criminal jurisdiction of the State, any person fails to comply with any of the provisions of this Order, it shall be lawful for the Minister to have regard to such failure in relation to the granting, revocation or suspension of the approval of any vessel under this Order. However, where a person would, in complying with such provisions, contravene the criminal legislation of the state in which the failure occurred (proof of which shall lie on him), the provisions of this paragraph shall not apply.

PART II CONDITIONS FOR THE CARRIAGE OF CATTLE BY SEA

General Requirements.

4. (1) No person shall load cattle onto, or cause or permit the carriage of cattle by sea from the State on, a vessel where, in the opinion of the Minister, the proper carriage of cattle is insufficiently provided for.

(2) No person shall load cattle onto, or carry cattle by sea from the State on board, a vessel, or cause or permit cattle to be so loaded or so carried, unless such vessel has been approved for the time being by the Minister.

(3) No person shall load cattle onto, or carry cattle by sea from the State on, a vessel unless he has informed the Minister in advance of his intention to load the vessel in accordance with Article 15.

(4) No person shall load or cause or permit the loading of cattle onto a vessel unless such loading has been authorised in writing by an inspector.

(5) No person shall cause or permit the carriage of cattle by sea from the State on a vessel unless the cattle are fit for the intended voyage and an authorisation of loading and a certificate of fitness in relation to the cattle concerned have been issued by an inspector.

(6) A master shall ensure that his vessel does not leave the State carrying cattle where the vessel is not in compliance with the relevant Cattle Vessel Plan submitted in Accordance with Article 7.

Limitations as to the Carriage of Cattle.

5. The Minister may, where he is satisfied that it is necessary for the purposes of preventing injury or suffering to cattle, specify—

(a) categories of cattle which may, or may not, be carried by sea,

(b) destinations to which cattle may, or may not, be carried by sea, and

(c) types of vessels on which cattle may, or may not, be carried on specific voyages.

PART III APPROVAL OF VESSELS

Conditions for Approval.

6. (1) The Minister, provided he is satisfied that the provisions of this Order and the Principal Order are being complied with, may approve, for such period as may be specified by him, a vessel for the carriage of cattle from the State, where—

(a) he has received an application for approval from the owner of the vessel in accordance with Article 7;

(b) he has received a satisfactory report of an inspection of the vessel in accordance with Article 8;

(c) the vessel complies with the requirements of this Order and, in particular, the first Schedule, and

(d) he is satisfied that adequate arrangements have been made for the provision of a competent crew on the vessel for the care of cattle.

(2) An application for approval shall be made in such form as the Minister may specify.

Application for Approval.

7. (1) An owner applying for approval of a vessel shall furnish the Minister with such information as he may reasonably require for the purposes of his functions under this Order.

(2) An owner applying for approval of a vessel shall submit to the Minister three copies of a Cattle Vessel Plan in the format laid down in the Third Schedule with an equal number of relevant supporting drawings and documents.

(3) An owner applying for approval of a vessel shall provide, in addition to the Cattle Vessel Plan referred to in paragraph (2)—

(a) information on the history of the vessel in respect of the carriage of cattle;

(b) a profile of its crew, including their individual experience with cattle and, where a crew change is envisaged during the period for which approval is sought, the equivalent details of the new crew members, and

(c) the number of berths.

(4) An application for approval under this Article shall be accompanied by—

(a) copies of the vessel's International Convention certificates and Classification certificates certified to be true by the issuing authority, and

(b) an approved stability booklet containing the information required by the First Schedule and complying with the criteria in the Second Schedule.

(5) An application for approval shall be made at least three weeks prior to the date of inspection proposed by the applicant in accordance with Article 8.

Inspection of Vessels.

8. (1) An owner who has applied to have a vessel approved shall make the vessel available at a port specified by the Minister for inspection by such persons as may be required by the Minister at a time to be agreed between the Minister and the owner.

(2) An inspection under this Order may be cancelled by an inspector, where, in his opinion, the vessel has not been properly cleansed and disinfected.

(3) As part of an inspection under this Order, the Minister may require an inspector to travel on board a vessel during a voyage for the purpose of assessing the performance and suitability of the vessel for the carriage of livestock.

(4) The owner of a vessel shall bear the costs of inspections under this Order, including costs of the initial arrangements for an inspection where the inspection did not take place because of cancellation or other default by the owner or master or due to cancellation pursuant to paragraph (2).

(5) Where an inspector is required to travel on board the vessel in accordance with paragraph (3) the owner shall—

(a) provide suitable accommodation for the inspector on board the vessel for the duration of the voyage, and

(b) undertake to pay the costs of the inspection and expenses incurred by the inspector during the voyage and for the inspector's return to the State.

Approval of Vessels.

9. (1) Where, following an inspection in accordance with Article 8, the Minister is satisfied that the vessel complies with the provisions of this Order and of the Principal Order, he shall approve the vessel and inform the owner accordingly.

(2) The Minister may—

(a) attach conditions to an approval under this Article, and

(b) subsequently amend or revoke any such condition,

and shall notify, in writing, the owner concerned of any such condition, amendment or revocation.

(3) Where the Minister approves a vessel he shall issue to the owner a certificate of approval in which he shall specify—

(a) the period for which approval has been granted, and

(b) the conditions under which approval has been granted.

(4) A list of vessels approved under this Order shall be established and maintained by the Minister and may be held by him in a form that is not legible if such form is capable of being converted into legible form.

Renewal of Approval.

10. (1) An owner of an approved vessel seeking to have his vessel approved for a subsequent period shall send an application in writing to the Minister at least three weeks prior to the expiry date of the existing approval period.

(2) An owner applying to have a vessel approved under this Article, shall submit with his application—

(a) details of any changes to the vessel since the last Cattle Vessel Plan was submitted to the Minister;

(*b*) details of any major structural alterations made to the vessel since the date of issue of the last certificate of approval;

(*c*) an updated history of the vessel;

(*d*) details of maintenance records since the date of issue of the last certificate of approval;

(*e*) an updated profile of the crew including their individual experience with cattle and, where a crew change is envisaged during the period for which approval is sought the equivalent details of the new crew members;

(*f*) the date of validity and the date of the last annual survey of the vessel's International Convention certificates and Classification certificates, and

(*g*) such other information as the Minister may reasonably require for the purposes of his functions under this Order.

(3) An owner who has applied to have his vessel approved in accordance with this Article, shall make his vessel available for inspection in accordance with Article 8 and shall comply with the provisions of that Article.

(4) Where, following inspections, the Minister is satisfied that the vessel complies with the provisions of this Order and of the Principal Order he shall approve the vessel, and issue a certificate of approval, in accordance with Article 9.

Documents to be Retained on Vessel.

11. (1) The certificate of approval, referred to in article 9, shall be retained on board the vessel and made available for inspection on request by an inspector.

(2) Where a vessel has been approved, the master of the vessel shall ensure that a copy of the relevant Cattle Vessel Plan and any supporting drawings and documents submitted in accordance with Article 7 or Article 10 are retained on board and made available for inspection on the vessel if so required by an inspector.

Revocation, Suspension or Refusal of Approval.

12. (1) The Minister may, where he is satisfied that a vessel does not comply with the provisions of this Order or of the Principal Order or that the provisions of these Orders are not being complied with, or will not be complied with, by the owner or master of a vessel, revoke or suspend an approval or refuse to approve such vessel.

(2) Subject to the provisions of Paragraph (6), the Minister, where he proposes to revoke or suspend the approval of a vessel, or to refuse to approve a vessel, shall—

(*a*) notify the owner in writing of his proposal and the reasons thereof;

(*b*) notify the owner in writing that he, or a person acting on his behalf, may make

representations to the Minister, in relation to such proposal within 14 days of the issue by him of such notification; and

(*c*) consider any such representations duly made before deciding whether or not to proceed with such proposal.

(3) Where the Minister revokes or suspends an approval, he may issue a notice in writing requiring the owner to cease using the vessel for the carriage of cattle from the State from a date specified in that notice.

(4) Where the Minister revokes or suspends the approval of a vessel, no person shall load cattle onto, or carry cattle by sea from the State on such vessel subsequent to the date of such revocation or suspension, as the case may be, except with the approval of the Minister.

(5) The Minister may restore the approval of a vessel, where—

(*a*) the owner demonstrates to the satisfaction of the Minister that he and the master of his vessel shall comply with the requirements of this Order and of the Principal Order, and

(*b*) an inspection by such persons as may be required by the Minister confirms that the vessel and its operation are in accordance with the provisions of this Order and of the Principal Order.

(6) Notwithstanding the provisions of paragraph (2), the Minister may, where he is satisfied that there is a serious and immediate risk to the welfare of cattle, suspend the approval of a vessel, granted under this Order, without affording to the owner an opportunity of making representations in accordance with paragraph (2).

PART IV CONDITIONS IN RELATION TO WEATHER

Forecast of Adverse Weather.

13. (1) Subject to the provisions of paragraph (2), a master shall have in his possession, immediately prior to the intended time of sailing, the current 96 hour weather forecast from the Irish Meteorological Service covering both wind and sea conditions for those sea areas in which the vessel is intended to travel during the first 96 hours of the intended voyage.

(2) Notwithstanding the provisions of paragraph (1), a weather forecast shall not be required for any sea area in the Mediterranean Sea.

(3) A master shall make available to an inspector or authorised officer a copy of the forecast referred to in

paragraph (1).

(4) A master shall ensure that his vessel does not leave the State carrying cattle where—

(a) the forecast referred to in paragraph (1) predicts unfavourable sea and wind conditions relative to his vessel for any sea area in which the vessel is intended to travel during the first 96 hours of the intended voyage during the period or periods in which the vessel will travel in that sea area, or

(b) the forecast referred to in paragraph (1) predicts wind of force 8 or greater on the Beaufort scale for any sea area in which the vessel is intended to travel during the first 96 hours of the intended voyage during the period or periods in which the vessel will travel in that sea area, or

(c) in the case of vessels which are less than 90 metres in length overall, the forecast referred to in paragraph (1) predicts wind of force 6 or greater on the Beaufort scale for any sea area in which the vessel is intended to travel during the first 96 hours of the intended voyage during the period or periods in which the vessel will travel in that sea area.

(5) For the purposes of paragraphs (1) and (4), the master shall have regard to the vessel's estimated speed and consequent estimated position at any time during the aforesaid 96 hours.

Voyage Plan.

14. (1) A master shall ensure that cattle are not loaded on his vessel unless a voyage plan has been submitted to and approved by the Minister in respect of the intended voyage to be carried out by his vessel.

(2) The voyage plan referred to in paragraph (1) shall show the intended route of the vessel from the port of departure to the port of destination and shall include a list of ports or harbours of refuge capable of accommodating the vessel during its intended voyage and the distances between all of the aforesaid ports and harbours.

(3) Where a master intends to call at a port or ports during the intended voyage, he shall indicate such port or ports on the voyage plan.

(4) A master shall ensure that sufficient up-to-date charts and appropriate nautical publications are carried on board to ensure safe access to the ports and harbours referred to in paragraphs (2) and (3) and shall make such charts and publications available for inspection, if so requested by an inspector.

(5) Where, while in the course of a voyage, a master receives a forecast or indication of adverse weather conditions, which, in his opinion, would be likely to cause injury or suffering to, or loss of life among, the cattle, he shall take all necessary action to prevent such injury or suffering or loss of life, including the taking of shelter, until conditions become favourable.

(6) A master shall take such action as is necessary during the course of a voyage to ensure compliance with the requirements of paragraph 27 of the First Schedule.

PART V LOADING AND CARE OF CATTLE ON BOARD

Pre-Loading Inspection.

15. (1) An owner or his authorised agent shall give five working days advance notice in writing to the Minister on each occasion on which it is proposed to load a vessel with cattle in the State.

(2) The advance notice referred to in paragraph (1) shall specify:

(*a*) the name of the vessel;

(*b*) the intended port and berth at, and period during, which the vessel will be available for inspection;

(*c*) the type, number and estimated average weight of the cattle which it is intended to load;
and

(*d*) the intended port of discharge.

(3) Where any change of crew members has occurred during the period of approval of a vessel the master shall present to an inspector or authorised officer details of the new crew members and their experience with cattle.

(4) A master shall, if so requested by an inspector, make available for inspection the stability specified in the First Schedule.

(5) Where he considers it necessary to do so, an inspector may carry out an inspection of a vessel.

(6) Where, during the course of an inspection, or otherwise, an inspector is of the opinion that an approved vessel does not comply with the details outlined in the Cattle Vessel Plan relating to the vessel, he may direct by a notice in writing served on the owner or master of the vessel that—

(*a*) the loading of cattle shall not commence or continue, or

(*b*) cattle shall be carried only in such parts of the vessel as may be specified by the inspector in the notice,

until such time as he is satisfied that the provisions of this Order and the Cattle Vessel Plan are being

complied with.

(7) Where a defect is noted or in the opinion of an inspector, other conditions require it at the time of loading, an inspector may direct the master to alter the number of cattle to be contained in any part of the vessel or to provide additional fittings, as he considers necessary for the intended voyage, in which case the master shall ensure that his vessel does not leave the State carrying cattle until he has complied with such direction.

Loading Requirements.

16. (1) A shipper shall ensure that the handling of cattle in the port of loading and the loading of cattle onto a vessel is undertaken by competent persons and that all reasonable care is taken during such handling and loading to avoid accidents and injuries to persons or cattle.

(2) A master shall ensure that the loading and handling of cattle on his vessel is undertaken by competent persons and that all reasonable care is taken during such loading or handling to avoid accidents and injuries to persons or cattle.

(3) A shipper shall ensure that records are kept of the progressive totals of the weight and number of cattle loaded on a vessel and shall make available such records for examination, if so requested, by an inspector or authorised officer.

(4) Where, in the opinion of an inspector, the fodder or water supplied to, or loaded on, the vessel is not of suitable quality or sufficient quantity for the intended voyage, he may direct by a notice in writing to the owner or master of the vessel that—

(a) loading of cattle shall not commence or continue, or

(b) the vessel shall not leave the State carrying cattle,

until such time that he is satisfied that a sufficient quantity of fodder and water of suitable quality shall be, or has been, supplied to the vessel.

(5) A master shall ensure that his vessel does not leave the State carrying cattle unless—

(a) he is satisfied that it shall comply at all stages of the voyage with the stability requirements laid down in the First Schedule; and

(b) he has presented to an inspector or authorised officer the stability calculations for the vessel for the intended voyage in accordance with the Second Schedule.

Penning of Cattle.

17. (1) A master shall ensure that all cattle on board his vessel are contained in pens and not carried in more than one tier on any one deck.

(2) A master shall ensure that the maximum number of cattle that is carried in any pen on the vessel shall be the number obtained by dividing the pen area available in square metres, by the minimum permissible floor area per head, in accordance with Article 28.

(3) Where competitive, combative or otherwise undesirable behaviour is likely to arise among the cattle, the master shall ensure that they are segregated and grouped, according to size, sex, age, breed or other characteristic, so as to avoid such behaviour.

(4) Where cattle are carried individually, the construction of the stalls, boxes or other containers shall provide an area for the animal which is in accordance with Article 28.

Care of Cattle on Board.

18. (1) A master shall ensure that there is a sufficient number of crew members who are competent in the care and management of cattle on board and are capable of providing satisfactory tending, feeding and watering of cattle at all times during the voyage.

(2) A master shall ensure that his crew carry out their duties with respect to the tending and caring of cattle while on board and that they—

(*a*) distribute the proper daily supply of food and water to the animals in accordance with Articles 20 and 21,

(*b*) ensure that a satisfactory level of hygiene is maintained in each pen,

(*c*) observe the cattle and report any cases of distressed, injured or diseased animals to the master,

(*d*) remove and dispose of dead animals,

(*e*) regularly monitor the temperature in those parts of the vessel in which cattle are kept, and

(*f*) report any deterioration in the ventilation system or fittings which have been provided for the care of the animals.

(3) A master shall ensure that an adequate method for restraining distressed animals for treatment is provided on board.

(4) A master shall ensure that provision is made for isolating ill or injured animals during the voyage and that first-aid treatment is given to such animals, where necessary.

Avoiding Obstructions on Board.

19. A master shall ensure that cattle are not loaded on nor carried in any part of a vessel where the cattle, fittings, equipment or carrying arrangements would interfere with or obstruct—

- (a) access to any accommodation space, working space necessary for the safe running of the vessel, or the means of egress from any hold or underdeck space, or
- (b) a hatchway, unless the hatchway is protected against consequent damage and the hatchway covers are secured against movement, or
- (c) the life-saving and fire-fighting appliances, or
- (d) the provisions made for the sounding of tanks or bilges, or
- (e) the operation of closing appliances provided on the vessel, or
- (f) the operation of freeing ports provided on the vessel, or
- (g) the lighting and ventilation systems of the vessel, or
- (h) the proper navigation of the vessel.

Provision and Stowage of Fodder.

20. (1) The master of a vessel carrying cattle shall ensure that there is sufficient fodder of suitable quality available on board—

- (a) for the expected duration of the voyage, and
- (b) to provide a reserve of a further 25 per cent or 3 days requirements, whichever is the lesser.

(2) Where the master has been provided with fodder which, in his opinion, is not of suitable quality or sufficient quantity for the duration of the voyage, he shall inform an inspector.

(3) The master shall ensure that fodder stowed on board is maintained in good condition and that—

- (a) it is kept in a dry state and protected from the weather and the sea;
- (b) fodder, in the form of pelletised food, is loaded and stored in such a manner so as to ensure that the moisture content of pellets is not affected; and
- (c) the stowage of fodder does not interfere with ventilation, lighting, drainage systems, passageways or the proper navigation of the vessel.

(4) The master shall ensure that the minimum daily quantity of fodder fed to each head of cattle is—

- (a) 2 per cent of live body weight of hay of good quality, or
- (b) 1.6 per cent of live body weight of fodder in pelleted or other concentrated form provided the fodder contains a minimum of 10 per cent fibre and has a nutritional value or not less than good quality hay of the same weight.

(5) The master shall ensure that cattle on board his vessel are fed twice daily.

(6) (*a*) Subject to the provisions of subparagraph (*b*) fodder shall not be placed on the floor of a pen containing cattle.

(*b*) Notwithstanding the requirements of subparagraph (*a*), until 31 December 2005, the Minister may permit feeding of hay in pens on vessels which have carried, to his satisfaction, cattle from the State prior to the coming into force of this Order.

Provision and Maintenance of Water Supplies.

21. (1) The master of a vessel carrying cattle shall ensure that there is sufficient potable water available on board or the capability of producing sufficient potable water on board—

(*a*) to provide at least 45 litres of water per day to each head of cattle for the expected duration of the voyage to its destination or to an intermediate port at which sufficient potable water can be taken on board, and

(*b*) to provide a reserve of a further 25 per cent of the requirement for the voyage to such destination or intermediate port, or 3 days requirement, whichever is the lesser.

(2) The master shall ensure that each part of his vessel has a potable fresh water service and that each animal on board has reasonable access to potable fresh water at all times.

(3) The master shall ensure that—

(*a*) tanks used for the stowage of drinking water for cattle are maintained sufficiently to ensure that such water does not become contaminated, and

(*b*) equipment, including pumping equipment, used for the provision of a supply of drinking water to cattle is maintained in proper working order.

(4) The master shall supply, as required by the Minister, a report, from a laboratory acceptable to the Minister, showing the physical, chemical and bacteriological analysis of the water in any tank or tanks on his vessel.

PART VI OTHER DUTIES OF THE MASTER

Patrols.

22. (1) The master shall operate patrols to ensure the safety of his vessel and welfare of the cattle throughout the period during which cattle are on board.

(2) The scope and frequency of the patrols shall be determined by the master, having regard, in particular, to the use of automatic surveillance devices and alarms.

Master's Report.

23. (1) In respect of each voyage, the master shall submit a master's report to the Minister accompanied by a log abstract for such voyage which shall include a daily record of the vessel's position, course and speed, and wind and sea conditions.

(2) The report referred to in paragraph (1) shall be furnished to the Minister in the format laid down in the Fourth Schedule.

(3) Subject to paragraph (4), the report referred to in paragraph (1) shall be submitted to the Minister, after the completion of discharge of the cattle at destination—

(a) (i) within seven days thereof, or

(ii) on a date prior to the return of the vessel to the State whichever is the sooner; or

(b) at any other time if requested by the Minister.

(4) Notwithstanding paragraph (3), where, mortalities have occurred during the voyage or at discharge, the report referred to in paragraph (1) shall be furnished to the Minister, immediately after completion of discharge of the cattle at destination, by the most expedient means of communication available, providing details of the number of cattle that died or were killed and the factors that led to their deaths.

(5) Where, in the opinion of the Minister, the report contains an unacceptable number of injuries or mortalities—

(a) an owner shall submit a copy of the deck log for the relevant voyage, if so requested by the Minister, and

(b) the Minister may suspend or revoke the approval of the vessel for the carriage of cattle in accordance with Article 12 until an investigation has been carried out.

Disposal of Dead Cattle at Sea.

24. (1) The master shall ensure that a dead animal is not disposed of at sea within 12 nautical miles of any land.

(2) The master shall ensure that a dead animal is not disposed of at sea unless the carcase has been slit to the extent that both the thoracic and abdominal cavities are opened.

Stowage of Tools and Equipment.

25. The master shall ensure that tools used for feeding and other equipment are stowed so as not to obstruct passageways.

Storage of Drugs and Medicines

26. The master shall maintain the safe custody of drugs and medicines and ensure that they are kept under lock and key.

PART VII MISCELLANEOUS PROVISIONS

Powers of Authorised Officers.

27. (1) An authorised officer may, for the purposes of this Order exercise all or any of the powers conferred on him by Article 17 of the Principal Order.

(2) The Minister may delegate such powers as he thinks fit to an authorised officer and such an authorised officer when exercising any powers conferred on him by this Order or the Principal Order, and if so requested by any person affected, shall produce evidence, in writing, of his appointment as an authorised officer under Article 17 of the Principal Order or as an inspector under the Act.

Cattle Loading Densities.

28. (1) Notwithstanding the provisions of paragraph (2) of Article 3, Chapter VI of the First Schedule to the Principal Order is hereby amended by the substitution in Part C (Bovine Animals) for the Table entitled "Transport by Sea" by the following:

"Transport by Sea"

TABLE

Live weight in kilogrammes	Square metres per animal
200	0.81
300	1.0575
400	1.305
500	1.5525
600	1.80
700 or more	2.70

The minimum space allowed for animals between the weight figures shown in the above Table shall be calculated by linear interpolation using a maximum of four figures after the decimal point."

(2) Notwithstanding the provisions of paragraph (1), in the case of a voyage intended to extend into the Red Sea or any other voyage intended to be of a duration exceeding 12 days or intended to extend south of latitude 25 degrees north, the minimum space to be allowed for cattle shall be in accordance with the following Table:

TABLE

Live weight in kilogrammes	Square metres per animal
200	0.900
300	1.175
400	1.450
500	1.725
600	2.000
700 or more	3.000

The minimum space allowed for animals between the weight figures shown in the above Table shall be calculated by linear interpolation using a maximum of four figures after the decimal point.

FIRST SCHEDULE

SPECIFICATIONS AND EQUIPMENT FOR VESSELS

CHAPTER I

Stability Requirements

1. The stability requirements of a vessel to be met throughout a voyage, taking into account the effects of shift of cattle and fodder and, if the vessel has a pen structure on or above the uppermost continuous deck, the effect of wind, shall be as follows:

(a) the area under the righting lever curve shall be not less than 3.15 metre-degrees (0.055 metre-radians) up to 30 degrees angle of heel and not less than 5.16 metre-degrees (0.09 metre-radians) up to 40 degrees angle of heel, or the angle of flooding if this angle is less than 40 degrees;

(b) the area under the righting lever curve between the angles of heel of 30 degrees and 40 degrees, or between 30 degrees and the angle of flooding if this angle is less than 40 degrees, shall be not less than 1.72 metre-degrees (0.03 metre-radians);

- (c) the righting lever shall be not less than 0.20 metre at an angle of heel equal to, or greater than 30 degrees;
- (d) the maximum righting lever shall occur at an angle of heel not less than 25 degrees;
- (e) the initial metacentric height shall be not less than 0.15 metre
- (f) the area under the righting lever, curve up to 40 degrees or the angle of flooding, whichever is less, in excess of the area under the heeling lever curve to the same limiting angle, shall be not less than 1.03 metre-degrees (0.018 metre-radians) plus 20 per cent of the area of the righting lever curve to the same limiting angle;
- (g) the angle of heel due to wind shall be not more than 10 degrees;
- (h) the minimum roll period shall be not less than 15 seconds.

2. For the purposes of paragraph 1—

- (a) the heeling curve is that curve taking into account the effects of shift of cattle and fodder and, if acceptable, the effect of wind; and
- (b) the angle of flooding is that angle of heel at which openings in the hull, superstructures or deckhouses, that cannot be closed watertight, immerse. Small openings through which progressive flooding cannot take place may be ignored in determining the angle of flooding.

3. Where the vessel is carrying other cargo in addition to cattle, the stability requirements for the carriage of such cargo shall be taken into account in addition to the criteria specified in paragraph 1.

CHAPTER II

Fittings — General Requirements

4. Vessels shall have fittings which are sufficiently durable to protect cattle from injury and exposure to weather and sea.

5. All fittings, fixtures and objects in a vessel that are likely to come into contact with cattle shall be so manufactured, assembled or positioned as to prevent injury to cattle.

6. (a) Subject to the provisions of subparagraph (b), all constructions and fitments in the cattle decks and handling areas shall be of metal or other impermeable material such as may be readily cleansed and disinfected; timber and timber products shall not be considered suitable materials except where such timber or timber products are—

- (i) so treated that their surface is impermeable;
- (ii) so situated that they are unlikely to be damaged either by cattle or any other cause, and
- (iii) not in direct contact with cattle.

(b) Without prejudice to subparagraph (a), until 31 December, 2000, in vessels which have carried cattle from the State prior to the coming into force of this Order, timber or timber products may be used in cattle decks and handling areas at the discretion of the Minister where, in his opinion, no risk of animal disease could thereby be caused.

7. (a) Where the casing, tanktop or bulkhead of an engine room, boiler room or heated fuel tank, forms a boundary or part of a boundary of a space in which cattle are to be carried, that casing, tanktop or bulkhead shall be effectively insulated to minimise the conduction of heat.

(b) Where any part of the uppermost continuous deck forming the boundary of an underlying cattle space is not overshadowed by an overlying structure such part shall be treated or insulated to minimise the absorption and conduction of solar heat.

8. Where a hatchway is located in a pen or stall used to hold cattle, it shall be protected against consequent damage and the hatchway covers shall be secured against movement.

CHAPTER III

Design of Pens, Stalls and Passageways

9. Subject to the provisions of paragraph 10, the construction of pens and stalls for cattle and of adjacent passageways shall comply with the specifications shown in Table 1

Table 1:

Detail of design	Dimensions
Maximum distance between rails aligned fore and aft	4.5 metres
Minimum distance between rails aligned fore and aft	2.1 metres
Minimum distance between rails aligned athwartships	2.3 metres
Maximum clear floor area with pen	21.0 sq. metres
Height of bottom edge of lowest rail of a partition above pen floor	0.25 metres
Maximum height of top edge of lowest rail of a partition above pen floor	0.6 metres
Minimum clear height within pen	2.13 metres
Minimum clear height within deck outside pens	1.8 metres
Minimum width of adjacent pasageway clear of receptacles and any other obstructions	0.9 metres

The height of the rails of a pen may be varied, with the approval of the Minister, to the extent of 75 millimetres either way from those specified above.

An identifying number shall be displayed on each pen; such numbers shall correspond to individual pen numbers on the drawings submitted with the Cattle Vessel Plan.

10. Without prejudice to paragraph 9, until 31 December, 2005, the minimum clear height within pens shall not be less than 1.8 metres in respect of vessels which have carried cattle, to the satisfaction of the Minister, from the State prior to the coming into force of this Order.

11. Without prejudice to paragraph 19, there shall be a maximum clear space of 300 millimetres between the rails of a pen or between a rail and the overhead structure of the vessel except that a rail need not be placed at a height of more than 1.40 metres.

12. Where a water or food receptacle is fitted to the outside of a pen or where fodder is distributed on the floor outside a pen, a clear verticle space of not more than 500 millimetres, for the purpose of watering or feeding cattle in the pen, may be provided between adjacent stanchions on the side of the pen adjoining the passageway.

13. The clear floor area within a pen shall be the area of the floor of the pen exclusive of any receptacle or other object or structure occupying any part of the area of the pen.

14. The sides of pens, passageways, ramps and any areas where cattle are kept or through which they pass shall be verticle. However, where a sloping portion of the vessel forms the boundary of any such pen, pasageway, ramp or area and the angle of declination of that boundary exceeds 14 degrees from the verticle then that sloping portion shall be railed off from the cattle by a verticle barrier.

CHAPTER IV

Strength of Pens Stalls and Passageways

15. Without prejudice to paragraph 19, rails and stanchions forming a fore and aft boundary of a cattle pen or stall shall be capable of withstanding a load per metre length by the application of Formula 1, below, uniformly distributed up to the height of the top of the uppermost rail, the centre of which is at a height of not more than 1.40 metres above the pen floor.

Formula 1

$F = 3336 B (0.574 + 0.0252 Z)$ newtons per metre length

where: F= Load per metre length of boundary;

B = maximum breadth of pen in metres; and

Z = the vertical distance from a point 0.75 metres above the pen floor to the vessel's waterline corresponding to the anticipated lightest load, in metres.

16. Rails and stanchions forming a boundary of a cattle pen or stall, other than a fore and aft boundary referred to in paragraph 15, shall be, where possible, of the same method of construction and of the same scantlings as determined by the application of Formula 1 above, for the fore and aft boundaries.

17. Without prejudice to paragraph 19, the floor and floor supports of a cattle pen or stall shall be capable of withstanding a load determined by the application of Formula 2, below, uniformly distributed over any two-thirds of the area of the floor of the pen or stall.

Formula 2

$F = 5,000 [1 + 1/d ((0.0940 - 0.00035 L) y + (7.4 - 0.016 L))]$ Newton's
per square metre,

where: F = floor load per square metre,

d = draught of the vessel corresponding to the anticipated lightest
loaded water-line, in metres,

y = longitudinal distance from the midpoint of the pen to
amidships, in metres, and

L = length between perpendiculars of the vessel in metres.

18. A floor support of a cattle pen that also forms a boundary of a pen on a lower deck, shall comply with paragraphs 15, 16 and 17.

19. In respect of a cattle pen structure above the uppermost continuous deck, the requirements of paragraphs 15 and 17 may be dispensed with if the owner of the vessel obtains the approval of the Minister to calculations showing that the rails and stanchions of the pens and the pen floor and floor supports of those pens in that structure are capable of withstanding appropriate design forces using the criteria specified by the survey authority or other classification society responsible for the design of the structure.

20. The maximum stresses permissible for materials used in the construction of the boundaries and floors of a pen must not exceed the values specified in Table 2, when under the loads determined in accordance with paragraphs 15, 17 or 19, as appropriate.

Table 2

Material	Maximum permissible tensile stress	Maximum permissible shear stress
Steel:	0.75 x minimum yield stress	50 per cent of maximum permissible tensile stress
Aluminium:	0.75 x 0.2 per cent proof stress	50 per cent of maximum permissible tensile stress
Other:	as specified by the Minister	

CHAPTER V

Arrangement of Pens and Stalls

21. A passageway shall be provided—

- (a) on at least one longitudinal side of each pen used to hold cattle, and
- (b) at the head of each stall used to hold cattle.

22. Stalls used to carry cattle shall be so arranged that access is provided to the rear of each stall.

23. The means of closing a cattle access to a pen or stall shall be a gate or portable rails capable of maintaining continuity of the strength and alignment of the adjoining boundary and of being secured against accidental lifting or removal or opening.

24. A pen floor or stall floor shall have a surface that provides a satisfactory non-slip foothold for cattle.

25. Where cattle are to be moved between decks, a ramp shall be provided that shall—

- (a) have a clear width between 750 millimetres and 900 millimetres, and
 - (b) have sides that:
 - (i) are free from protrusions,
 - (ii) extend to a height of not less than 1.40 metres perpendicular to the ramp floor, and
 - (iii) are panelled or sheltered to a height of not less than 1.20 metres perpendicular to the ramp floor;
 - (c) be fitted with foot battens that are—
 - (i) of a minimum height of 50 millimetres and a minimum breadth of 25 millimetres with edges well rounded,
 - (ii) spaced at regular intervals of not more than 300 millimetres, each end batten being not more than 200 millimetres from the end of the ramp;
- and
- (d) have a gradient not exceeding 1 in 2.

CHAPTER VI

Unenclosed Decks

26. The carriage of cattle on unenclosed decks shall be permitted subject to the following provisions—

(a) The pens or stalls shall be fitted with a waterproof roof that is treated or insulated to minimise the absorption and conduction of solar heat and that extends not less than 450 millimetres beyond the deck area occupied by the pens or stalls.

(b) The said deck shall be screened on the forward end of the deck by permanently fitted panelling which provides 100 per cent protection from sea, spray and weather, and shall have the facility to be screened—

(i) on the windward side of the vessel by portable panels which provide 100 per cent protection from sea, spray and weather; and

(ii) on the leeward side of the vessel by portable panels which provide at least 80 per cent protection from sea, spray and weather.

(c) The feeding and watering arrangements for pens and stalls situated on unenclosed decks shall be screened effectively from sea, spray and weather.

27. The freeboard of any unenclosed deck shall be such as to ensure that seas cannot encroach onto such deck.

CHAPTER VII

Spare Pens and Stalls

28. Spare pens shall be provided on each deck on which cattle are carried, having a minimum capacity determined in accordance with Table 3.

Table 3

Number of cattle carried on deck	Capacity of spare pens
Not more than 10	Nil
More than 10 but not more than 100	Sufficient for one animal
More than 100	sufficient for one animal for each 100 or part thereof

CHAPTER VIII

Portable Equipment

29. For the purposes of this Chapter, portable equipment includes boxes, platforms and containers.

30. Only portable equipment which has been approved by the Minister shall be used for the carriage of

cattle.

31. Portable equipment containing cattle shall—

(a) be stowed in a position—

(i) that enables the cattle to be suitably protected from the weather and not subject to machinery exhausts, and

(ii) that ensures suitable access to the equipment and cattle;

(b) be secured to prevent movement;

(c) be adequately lit and ventilated; and

(d) have adequate provision for feeding and watering and for cleaning and drainage.

32. Access to the said portable equipment shall be not less than 1.2 metres along the length of the equipment and there shall be a minimum of 1.0 metre end clearance, when the equipment is end loaded.

CHAPTER IX

Means of Access for Cattle

33. Vessels shall be equipped with a ramp or other suitable means of access for the loading or unloading of cattle.

34. The said means of access shall be so erected as to prevent any gap occurring between the vessel and the means of access and shall be set at a gradient not exceeding 1 in 2.

35. The said means of access shall—

(a) comply with the provisions of paragraph 25; and

(b) have a closing arrangement at the point of entry to the vessel.

36. A means of access that is part of a vessel's equipment shall be designed to support a uniformly distributed load over the walking surface of not less than 4,700 Newtons per square metre.

37. The maximum permissible tensile stress for material used in the construction of the said means of access shall not exceed the values specified in Table 4, under the applicable load specified in paragraph 36.

Table 4

Material	Maximum permissible tensile strength
Steel	0.5 x minimum yield stress
Aluminium	0.5 x 0.2% proof stress
Other	as specified by the Minister

38. Where it is necessary for persons to be on the means of access referred to in paragraph 33 during the movement of cattle, such means of access shall be provided with a passage for such persons of not less than 550 millimetres width that shall be—

(a) fenced to a height of not less than one metre and with an intermediate horizontal rail approximately 550 millimetres above the walking surface, and

(b) fitted with treads at suitable stepping distances.

CHAPTER X

Means of Access and Egress for Persons

39. Each space in which cattle are carried shall have a minimum of two means of egress widely separated and giving unimpeded access for persons to an open deck. Such means of egress shall be clearly marked.

40. Access to a cattle area for persons shall be safe and, where combined with a ramp used for moving cattle between decks, be separated from the cattle ramp by the side sheathing of such ramp.

41. Each pen, stall or similar fitting shall be provided with a means of access for persons having a secure closing arrangement of a structural strength equivalent to the strength of the adjoining parts of the pen, stall or fitting.

42. Where access is required between a vessel's side and a pen, stall or similar fitting for the purpose of the safe and proper operation of the vessel, a passageway shall be provided that has a clear width of not less than 550 millimetres between the vessel's rail or bulwark and the rails or receptacles of the pen, stall or fitting.

CHAPTER XI

Ventilation

43. (a) Subject to the provisions of subparagraph (b) and paragraph 45, each enclosed space for the carriage of cattle shall have a mechanical ventilation system which provides efficient air circulation in all parts of that space and which is of sufficient capacity to change the entire volume of air in that space—

(i) where the minimum clear height in the space is 2.13 metres or less, at a rate of not less than 40 times every hour,

(ii) where the minimum clear height in the space is 3.20 metres or more, at a rate of not less than 26 times every hour, and

(iii) where the minimum clear height in the space is between 2.13 metres and 3.20 metres, at a rate proportional to those specified in subparagraphs (i) and (ii).

(b) Without prejudice to subparagraph (a), until 31 December, 2005, the respective rates of air changes specified in subparagraph (a) shall be—

(i) not less than 35 per hour, where the minimum clear height in the space is 2.13 metres or less,

(ii) not less than 23 times per hour, where the minimum clear height in the space is 3.20 metres or more, and

(iii) where the minimum clear height in the space is between 2.13 metres and 3.20 metres, at a rate proportional to those specified in subparagraphs (i) and (ii),

in the case of vessels which, in the opinion of the Minister, have a satisfactory record in the carriage of cattle from the State prior to the coming into force of this Order.

44. (a) Subject to the provisions of subparagraph (b) and paragraph 45, each unenclosed space for the carriage of cattle shall have a mechanical ventilation system of sufficient capacity to change the entire volume of air in that space at a rate of 75 per cent of the rates specified in paragraph 43 (a), where—

(i) the minimum clear height in the space is 2.3 metres or less, or

(ii) because of a partial enclosure of the space, the natural ventilation is restricted.

(b) Without prejudice to subparagraph (a), until 31 December, 2005, a rate of 60 per cent of the rates specified in paragraph 43 (a) may apply, in the case of vessels which, in the opinion of the Minister, have a satisfactory record in the carriage of cattle from the State prior to the coming into force of this Order.

45. For the purposes of paragraphs 43 and 44, the total volume of the enclosed space shall include all the space contained between the vessel's side plating, bulkheads, tank top or decks enclosing the space, less the volume of any tank or trunk that is airtight within the space and no deduction shall be made in respect of the space occupied by cattle, pens or other cattle fittings.

46. Air intakes shall be so sited that air supplied to the cattle spaces is as clean and fresh as practicable and shall be effectively protected against blockage. Air exhaust outlets shall be sited as high as practicable and clear of accommodation structures.

47. The height of coamings for air intakes and exhausts above the freeboard deck shall be in accordance with the condition of assignment of load line required by the International Convention of Loadlines 1966.

48. Spare parts including, from each type of fan, one set of bearings, one rotor or impeller and one complete motor, sufficient to facilitate the repair or replacement of fans or fan motors, shall be carried on board.

CHAPTER XII

Electrical Power Sources

49. A vessel shall have two sources of power, a primary and a secondary source, each of which is sufficient to operate the mechanical ventilation systems independently.

50. The primary source of power shall be sufficient to supply continuous power for all parts of the voyage during which cattle are on board without interfering with the normal operation of the vessel.

51. The secondary source of power shall—

(*a*) be located in a space, no boundary of which is contiguous to a boundary of any space containing the primary source of power;

(*b*) be maintained in good working order and be capable of being readily started;

(*c*) be capable of simultaneously operating the mechanical ventilation systems at full capacity, and providing fresh water and drainage to all cattle areas for a continuous period of three days; and

(*d*) in the event of fire or other hazard adversely affecting the operation of the primary source of power, remain capable of complying with the requirements of subparagraphs (*b*) and (*c*).

52. A fan system failure alarm shall be fitted at a manned control position.

CHAPTER XIII

Lighting

53. A vessel shall be equipped with fixed lamps providing illumination of not less than 20 lux, in the areas where cattle are carried, in the passageways between pens and between compartments, and in the routes leading from those areas to the open deck.

54. A vessel shall be equipped with fixed or portable lamps providing illumination of not less than 110 lux, powered by the vessel's electrical system, in any pen in which cattle are carried, to facilitate the close inspection of cattle.

55. A vessel shall be equipped with an emergency lighting system in each enclosed space containing cattle, which shall be automatically activated on the failure of the main electrical power sources of the vessel.

56. The emergency lighting system referred to in paragraph 55, shall provide a level of illumination of not less than 8 lux in passageways and access routes for a continuous period of not less than 15 minutes.

57. The lamps at paragraphs 53, 54 and 55 shall be waterproof, of sufficient strength to resist damage by cattle and located in positions that are out of reach of the cattle.

58. Where lighting is provided in a space designed to carry fodder in bulk, the lamp fixtures shall be of an explosion proof type. These lamps shall be controlled by switches situated on the navigating bridge or the fodder handling machinery control point and visual means shall be provided to indicate when the lamps are on.

59. A lighting failure alarm shall be fitted at a control position.

CHAPTER XIV

Drainage

60. Each pen used to carry cattle shall have a system for draining fluids effectively from the pen.

61. Drainage pipes or channels shall be in place to carry fluids drained from a pen as far as practicable clear of other pens.

62. Drainage tanks or wells shall be drained by a pump or eductor which shall be capable of handling semi-solid matter and shall evacuate the tank or well by lines other than the vessel's bilge lines.

63. Essential drainage tanks, wells and the top of drainage pipes in a vessel shall be accessible from outside cattle pens to facilitate inspection and cleaning.

64. A drainage channel and the top of a drainage pipe shall be covered by a strainer plate if, by being uncovered, it could cause injury to an animal or person.

65. The strainer plate referred to in paragraph 64 shall be of such design and so secured as not to cause a hazard to an animal or person.

66. Scupperways shall be provided in enclosed spaces to lead excess fluid clear of the fittings.

67. The scupperways referred to in paragraph 66 shall lead directly to drainage wells, or to scupper pipes which shall lead overboard or to drainage wells.

68. A high level alarm shall be fitted in all drainage wells.

CHAPTER XV

Fire Fighting Appliances

69. Fire hydrants shall be provided so that at least two jets of water from separate hydrants can be simultaneously directed to any part of an area or deck where cattle are located and so that one of these jets of water is provided by a single length of hose.

70. The fire hydrants referred to in paragraph 69 shall be connected to the fire main provided on the vessel.

71. A fire hose, together with the necessary connections and a nozzle capable of directing water in a form of a spray jet, shall be provided—

(a) in an enclosed space, for each hydrant referred to in paragraph 69, or

(b) in any other space or on a deck, for each 50 metres length, or part thereof, of space or deck.

72. Each fire hose referred to in paragraph 71, shall be capable of being connected to any hydrant and to any other hose, other than hydrants and hoses within the engine room or accommodation areas.

73. Each fire hose, with its connections and nozzle, referred to in subparagraph 71 (a) shall be kept in a conspicuous position near the hydrant with which it is intended to be used.

74. Each fire hose, with its connections and nozzle, referred to in subparagraph 71 (b) shall be kept in a conspicuous position close to the entrances or stairways leading to the said space or deck.

75. Where hay or straw is carried or used in a space where cattle are located, there shall be provided—

(a) a portable fire extinguisher that uses water as the extinguishing medium, for every 18 metres or part thereof of the space, one of which shall be placed adjacent to an entrance to the space, or

(b) a fixed fire-fighting installation that uses water as an extinguishing medium in a suitable location.

76. Where electrical equipment, other than lighting, is situated in an enclosed cattle space, an adequate number of portable compatible fire extinguishers, or fixed fire-fighting installations suitable for use with electrical equipment, shall be provided in that space.

77. Where hay, straw, other foodstuff or bedding of a flammable nature is used or carried, notices shall be prominently posted prohibiting smoking or the use of naked lights in a space in which any such substance is located.

78. Vessels shall have a programme of inspection and testing of fire extinguishers on the livestock decks which is in accordance with SOLAS regulations.

79. A spare charge in respect of each fire-extinguisher shall be carried on board.

CHAPTER XVI

Loading of Bulk Fodder

80. Where bulk fodder is to be loaded, the following conditions shall be complied with—

- (a) 'NO SMOKING' signs shall be posted adjacent to pipe delivery outlets,
- (b) lighting installed in the fodder space shall be suitable for use in a dust-laden atmosphere or, alternatively, the lighting circuits shall be electrically isolated during loading,
- (c) portable lighting in a fodder storage space shall be suitable for use in a dust-laden atmosphere,
- (d) electric motors and associated electrical equipment required to be used in the fodder storage space shall be suitable for use in a dust-laden atmosphere.
- (e) electrical motors and lighting circuits close to pipe delivery outlets shall be suitable for use in a dust-laden atmosphere or alternatively, electrically isolated during loading, and
- (f) the loading operation shall be supervised by a ship's officer instructed by the master.

81. Where fodder is loaded by means of portable piping, the following conditions shall be complied with—

- (a) a bulk fodder truck shall be effectively earthed to a suitable part of the wharf or quay and, if a separate blower trailer is used, both truck and trailer shall be earthed,
- (b) the piping shall be arranged that it is electrically continuous or, where this is not the case, a bare wire strong enough to withstand normal handling shall be wound round the full length of the pipe in spiral fashion with a pitch of not more than 500 millimetres,
- (c) the piping shall be effectively earthed to the vessel and all earth connections shall be secured with clips of a type which will ensure that there is no interruption or disconnection during the handling or manoeuvring of the piping,
- (d) where more than one pipe length is used, they shall not, if practicable, be insulated from one another,
- (e) where pipe connections depend on heavy duty seals that are not electrically conductive, each individual pipe length shall be earthed to the adjoining length by metal straps or shall be earthed separately, and
- (f) a conductive sleeve of at least 500 millimetres long shall be fitted at the discharge end of the pipe and shall be electrically continuous with the pipe or, if fitted, the bare spiralled wire referred to in subparagraph (b).

CHAPTER XVII

Stowage of Bulk Fodder

82. (*a*) Subject to the provisions of subparagraph (*b*), a vessel shall have the facility of stowing fodder other than hay in not less than two separate spaces which are protected from the weather, the sea and sea spray.

(*b*) Until 31st December, 2005, the provisions of subparagraph (*a*) shall not apply in the case of vessels which, in the opinion of the Minister have a satisfactory record in the carriage of cattle prior to the coming into force of this Order,

CHAPTER XVIII

Food and Water Receptacles

83. Without prejudice to paragraph 85, a pen, stall or similar fitting shall be equipped with receptacles for the feeding and watering of cattle and where the fodder or water is provided by a system other than an automatic system, the receptacles shall be capable of containing a minimum of 33 per cent of the daily allowance of fodder and water for the number of animals contained in the pen, stall or fitting,

84. A receptacle, provided in accordance with paragraph 83, shall be—

(*a*) suitable for the cattle carried,

(*b*) readily accessible to the cattle,

(*c*) capable of being serviced from outside the pen, stall or other fitting,

(*d*) so installed as not to impede ventilation,

(*e*) so constructed and positioned, so that fodder dust is not to be disturbed by the flow of ventilation, and

(*f*) so positioned as not to be readily fouled by faeces.

85. A feeding receptacle is not required for a pen containing cattle—

(*a*) where the pen adjoins a passageway and the cattle can conveniently consume fodder distributed on the floor of the passageway, and

(*b*) where urine, faeces or water used in washing any pen are prevented from fouling the passageways.

86. Where hay is to be presented to cattle other than on the floor, the top edge of the rack or other receptacle used for such presentation shall be no more than 0.5 metres higher than the floor of the pen or stall served by such rack or receptacle.

CHAPTER XIX

Fresh Water Services

87. A vessel shall be equipped with a fresh water service in each of the areas where cattle are carried.

88. (*a*) Subject to the provisions of subparagraph (*b*) the watering system for cattle on board shall be automatic.

(*b*) Until 31 December 2005, the Minister may permit a manual watering system for cattle on vessels which, in his opinion, have a satisfactory record in the carriage of cattle from the State prior to the coming into force of this Order.

89. Where an automatic system is installed, it shall be so constructed as to—

(*a*) minimise by control of the level of water, any spillage from a receptacle, and

(*b*) prevent the return of water from a receptacle to the freshwater tank.

90. A vessel shall be equipped with pumps which are capable of continuously supplying fresh water to cattle.

91. Where the said pumps are situated in a space occupied by the primary source of power of the vessel, or are powered by the primary source or power, either—

(*a*) a portable pump, or

(*b*) a fixed pump, located outside the space occupied by the primary source of power and powered by the secondary source of power, shall be provided and shall be capable of being used with not less than one fresh water tank on the vessel and such tank or tanks shall contain a quantity of water sufficient for the number of cattle on board for a minimum of three days.

CHAPTER XX

Veterinary Equipment

92. Vessels shall carry veterinary equipment, including a humane killing device, medicines, instruments and stores, appropriate to the number and type of cattle on board.

CHAPTER XXI

Maintenance

93. Vessels shall carry spare parts sufficient to facilitate the repair of faults in the power, lighting and pumping equipment.

94. Vessels shall be subject to a planned maintenance programme for cattle fittings and equipment and contain a record of maintenance checks and repairs on board.

SECOND SCHEDULE

STABILITY CRITERIA FOR VESSELS

A. Effects of Shift and Wind

1. The effect of the shift of cattle should be taken into account in the following manner:

(a) The heeling lever due to the shift of cattle at 0° is to be given by:



where:

(i) average mass of cattle carried means the average mass of cattle to be carried on the intended voyage;

(ii) floor area required per head of cattle means the floor area required per head of average mass of the cattle to be carried on the intended voyage; and

(iii) cattle shift constant is:

$$1/6 \Sigma [\text{length of each pen} \times (\text{breadth of each pen})^2].$$

Note 1: For vessels with uniform breadth of pens the cattle shift constant becomes:

$$1/6 [\text{breadth of pen} \times \text{total floor area of pens}]^2.$$

Note 2: For vessels with varying breadths of pen, the largest breadth may be used and the cattle shift constant becomes:

$$1/6 [\text{maximum breadth of pen} \times \text{total floor area of pens}].$$

(b) The heeling lever due to the shift of cattle at 40° is to be given by:

$$0.8 (\text{heeling lever due to the shift of cattle at } 0^\circ).$$

(c) The heeling lever curve is to be taken as a straight line joining the heeling lever at 0° and the heeling lever at 40° .

2. The effect of the shift of fodder should be taken into account in the following manner:

(a) The heeling lever due to the shift of fodder in pellet form carried in bulk at 0° is to be given by:



where total shift moment means the sum of the shift moment of each compartment which is to be given by $0.044 lb^3$ where

- (i) l is the maximum length of the compartment; and
- (ii) b is the maximum breadth of the compartment.

Note: The use of volumetric shift moments for the fodder, where the surface is assumed to take up an angle of repose of 15 degrees to the horizontal for full compartments and 25 degree to the horizontal for partly filled compartments, is an acceptable alternative method to obtain the total shift moment of fodder.

(b) The heeling lever due to the shift of fodder in pellet form carried in bulk at 40° is to be given by:

0.8 (heeling lever due to the shift of fodder at 0°).

(c) The heeling level curve is to be taken as a straight line joining the heeling lever at 0° and the heeling lever at 40° .

3. The effect of wind should be taken into account in the following manner:

(a) The heeling lever due, to the effect of wind at 0° is to be given by:



where:

- (i) P (wind pressure) is 0.05 tonnes/m^2
- (ii) A is the lateral area of the vessel above the waterline in square metres; and
- (iii) H is the vertical distance between the control of the lateral area of the vessel above the waterline and the centroid of the vessel's underwater lateral area.

Note: For both subparagraphs (ii) and (iii) the lateral area and height of baled hay carried on deck must be taken into account.

Note: For many vessels the vertical position of the centroid of the underwater lateral area may be taken at half the draft to the underside of the keel at amidships.

(b) The heeling lever due to the effect of wind at 40° is to be given by:

0.8 (heeling lever due to the effect of wind at 0°).

(c) The heeling lever curve is to be taken as a straight line joining the heeling lever at 0° and the heeling lever at 40° .

ILLUSTRATION OF STABILITY REQUIREMENTS



(metres) Angle of heel Angle of flooding or 40° — whichever is least

where:

- (i) OW is the heeling lever at 0° due to wind;
- (ii) WW1 is the heeling lever curve due to wind;
- (iii) WL is the heeling lever at 0° due to the shift of cattle;
- (iv) LL1 is the heeling lever curve due to the combined effects of the wind and the shift of cattle;
- (v) LF is the heeling lever at 0° due to the effect of shift of fodder;
- (vi) FF1 is the heeling lever curve due to the combined effects of wind and the shift of cattle and fodder; and
- (vii) ϵ is the angle of heel due to wind.

Note: If fodder is not pellet feed carried in bulk, the heeling lever due to shift of fodder will be zero.

B. Information to be Provided on Vessel

The following stability information should be provided on the vessel:

(a) Cattle shift constant;

The cattle shift constant is to be determined for all conditions of pen utilization that may arise in practice unless the maximum value is used for all calculations.

(b) Heeling Moment for Fodder:

The heeling moment for each compartment is to be determined separately unless the greatest heeling moment for all compartments added together is provided: that is, the total heeling moment for the worst condition of stability.

(b) Wind effect:

The values of A and H will vary with the draft of the vessel. Values therefore are to be provided for the range of drafts that may occur in practice or alternatively the wind effect



may be given in tabular or graphical form.

C. Method of Calculations

1. The following method of calculation may be used to demonstrate compliance. (Other methods may be used).

(a) Information required:

Cattle shift constant	= C (from vessel's information)
Average Mass of cattle per animal	= m (from shipper's declaration)
Floor area per animal	= f (from table in Article 28)
Fodder heeling moment	= F (from vessel's information)
Stowage factor of fodder	= S (from master)
Lateral area of vessel above waterline	= A (from vessel's information)
Verticle separation of centroids	= H (from vessel's information)
Wind pressure	= P (0.05 tonnes/square metre)
Displacement	= D (from vessel's information)
GM	= GM (from vessel's information)
Moulded breadth	= B (from vessel's information)

(b) Calculation:

(i) Cattle:

Heeling lever at 0° = 

(ii) Fodder:

Heeling lever at 0° = 

(iii) Wind:

Heeling lever at 0° =

(iv) Angle of heel due to wind:

Angle of heel =

(v) roll period:

2. In calculating the stability of the vessel, the use of fuel oil, fresh water and fodder, the movement of ballast and the build up of waste material shall be taken into account.

THIRD SCHEDULE

DISEASES OF ANIMALS (CARRIAGE OF CATTLE BY SEA) ORDER, 1996

CATTLE VESSEL PLAN

A. Details of Vessel

1. Name of Vessel:..... United Nations Number:.....

2. Previous Name(s) of Vessel:

3. Port of Registry:..... Official Number:.....

4. Place of Build:..... Date:.....

5. Place of Conversion:..... Date:.....

6. Name of Classification Society:.....

7. Class Status:.....

8. Outstanding Items:

9. Recommendations:

10. Condition of Class:

11. Name of Authority approving Stability Book:

(An approved stability booklet should be kept on board in a language understandable to the master)

12. Gross Registered Tonnage:

13. Net Registered Tonnage:

14. Dimensions: Length Overall:

Length between Perpendiculars:

Moulded Breadth:

Moulded Depth:

15. Summer Draft:
.....

16. Loaded Wind Draft:

17. Speed:

18. Name of Owner/Manager:

.....
.....

Certification:

19. Cargo Ship Safety Equipment— Date of Expiry:
.....

20. Cargo Ship Safety Radio— Date of Expiry:
.....

21. Cargo Ship Safety Construction Date of Expiry:
.....

Date of Last Annual Survey:

.....

22. International Load Line—

Date of Expiry:

.....

Date of Last Annual Survey:

.....

23. I.O.PP.—.....

Date of Expiry:

Date of Last Annual

Survey:.....

24. Name of Issuing Authority on behalf of the Flag State:

.....

.....

Cattle Decks Description:

Deck Enclosed/Unenclosed No. of Pens Total Pen Area (Sq. m.) Hospital Pen No.

25.

.....

26.

.....

27.

.....

28.

.....

29.

.....

30.

.....

31.

.....

32.
.....

33.
.....

34.
.....

35.
.....

36. Number of Cattle Attendants:

B. General Description of Pens

1. Details Appear on Drawing(s) No:

2. Deck Covering:

3. Pen Construction:

4. General Description of Pens:

.....

.....

.....

C. Ventilation

1. Details Appear on Drawing No:

2. General Description:.....

.....
.....
.....
.....

Fans

Position	Manufacturer	Type/Size	Cycles	Diameter	Speed	Air Velocity	Air Quantity Delivered	Reversible Yes/No	Variable Speed Yes/No
----------	--------------	-----------	--------	----------	-------	--------------	------------------------	-------------------	-----------------------

.....
.....
.....
.....
.....

3. Tests Carried out by (company name):..... Date:

4. Initial Testing Procedure:

.....
.....

5. Date of Certificate of Air Changes (attach Original Certificate):

6. Spare Components on Board:.....

.....
.....

7. Failure Alarms (Description and Location):

8. Back Up system:

D. Vessel's Generating Capacity

1. Generators available for Vessel's Auxiliary and Domestic Services only:

Number	Type	Kw	Consumption per day (full load)
--------	------	----	---------------------------------

2. Generators available for Vessel's Auxiliary and Domestic Services and Cattle Services:

Number	Type	Kw	Consumption per day (full load)
--------	------	----	---------------------------------

3. Generators available for Cattle Services only:

Number	Type	Kw	Consumption per day (full load)
--------	------	----	---------------------------------

4. Secondary source of Power:

Number	Type	Kw	Consumption per day (full load)	Fuel Tank Capacity	Location
--------	------	----	---------------------------------	--------------------	----------

5. Total Capacity of Fuel Tanks available for Generators (excluding Secondary Source of Power):

6. Total Capacity of Fuel Tanks available for Secondary Source of Power:

7. Normal Maximum Load, Auxiliary and Domestic Services:

- (a) at
Sea.....
- (b) in Port
.....

8. Normal Load, Cattle Services, continuous running:

- (c) Ventilation:
.....
- (d) Lighting:
.....
- (e) Other:
.....

9. Spares for Generators:

.....

.....

.....

.....

10. Spares for Secondary Source of Power

.....

.....

E. Drainage

1. Details Appear on Drawing(s) No:

2. General Description (including floor gradient, camber and sheer):

.....
.....

3. Position and Capacity of Drain Wells:

.....
.....

4. Number of Pumps:

5. Types of Pumps:

6. Location of Pumps:

7. Are all Pumps permanently connected to a Dedicated Drainage System?

8. Capacity of each Pump:

9. Sewerage Retention Facilities:.....Capacity:

10. Are facilities adequate for intending trade of vessel and permanently isolated from cattle and crew accommodation? (Yes/No)

11. Emergency Pump Arrangement:

12. Type of Alarm System:

F. Fire Fighting Appliances (Cattle Spaces Only)

1. Deals Appear on Drawing(s) No.:

2. Type of Hydrants and Hoses:

3. Type of fire extinguishers:

4. Type of Fixed Fire-Fighting Installation:

(a) in Enclosed Cattle Spaces:

.....

(b) in Silos:

.....

G. Fodder

1. Details Appear on Drawing(s) No:

2. — Silo Capacity
Fodder: Type:.....

...

—Other Stowage:
.....

3. Type of Transfer Arrangements to Pens:

.....

.....

4. Pen Feeding Arrangements:

5. Alternative Arrangement in the event of power failure to Transfer System:.....

H. Water

1. Details Appear on Drawing(s) No:

2. Tank Location (by frame No.) and Capacities:

.....

.....

3. Total:

4. Details of (a) Portable Pump or (b) fixed Pump, located outside the space occupied by the primary source of power and powered by the secondary source of power (if required in accordance with paragraph 91 of the First Schedule):

5. Fresh Water Generation —Type
.....
—Capacity.....
.....

6. Fresh Water Pumps —Type
.....
—Capacity.....
.....

7. Emergency Fresh Water Pumps —Type
.....
—Capacity.....
.....
—Location.....
.....

8. Description of Water Distribution System

.....
.....

I. Lighting

1. Type of Lighting in Passageways:

2. Level of Illumination:

3. Type of Lighting in Pens:

4. Level of Illumination at Floor Level (if fixed):

5. Type of Emergency Lighting:

6. Level of Illumination: Automatic switchover (yes/no)

7. Duration of Blackout Period:

8. Type of Cattle Space Light Failure Alarm:

(Note: "Level of illumination means illumination in the horizontal plane measured at a height of one metre above the walking surface. Minimum and maximum levels are to be included)

J. Summary of Equipment

Compartment Number or Deck	Type of Lighting	Emergency Lighting	No. Fire Extinguishers	F.W Connections	S.W. Connections
	Lamps				

K. Cattle Space

1. Details Appear on Drawing(s) No.:

2. Compartment or Deck:.....

3. Headroom Generally Available:

4. Total Volume of Space:..... Number of Air Changes:.....

Pen No.	Area	Pen No.	Area	Pen No.	Area	Pen No.	Area
---------	------	---------	------	---------	------	---------	------

5. Total Area:.....

(Note: Complete a separate sheet for each Cattle Space)

L. List of Supporting Information and Drawings

Title	Plan No.	Date
-------	----------	------

M. Signature of Owner/Manager

Signed:.....
.....

Title:.....
.....Date:.....

FOURTH SCHEDULE

DISEASES OF ANIMALS (CARRIAGE OF CATTLE BY SEA) ORDER, 1996

MASTER'S CONFIDENTIAL REPORT

Name of Vessel:
.....

Port of Registry: Official Number:

Name and Address of Owner/Manager of Vessel:

.....
.....

Loading Port(s): Date(s) of Loading of Cattle:

Discharge Port(s): Date(s) of Discharge of Cattle:.....

Amount of Fodder and Water Loaded/on Board on Departure—

Fodder:
.....

Water:
.....

Daily Amount of Water Produced on Board:

Amount of Water taken on Board at Intermediate Ports (attach documentary evidence):

Brief comments on fodder quality and quantity:

.....

Brief Report on Voyage (attach Log Abstract):.....

.....
.....

Weather conditions:.....

.....
.....

Breakdowns:.....
.....

Expected Date of Return of Vessel to Ireland:

Voyage Journal

Day	Daily mortality		Environment in Decks		Wind	Course	Remarks of Vessel
	Unenclosed Decks	Enclosed Decks	Total	Temperature			
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							

Day
19
Day
20
Day
21

NOTES: Temperature and Humidity should be recorded within each cattle deck at noon. If a reading is taken which is significantly greater than the noon reading, it should be recorded in the "Remarks" column. Wind speed and direction and vessel's course should be recorded at noon.

Mortalities

Deck No.	Total Number of Cattle Loaded	Total Number of Mortalities	Mortalities During Loading	Mortalities During Voyage	Mortalities During Discharge
----------	-------------------------------	-----------------------------	----------------------------	---------------------------	------------------------------

Totals:

NOTE: "During Loading" means between arrival on board at the first port of loading and departure at first port of loading.

"During Voyage" means the period between departure of the vessel from the first port of loading and arrival at the final port of discharge.

"During Discharge" means the period between arrival at the final port of discharge and completion at the port of discharge.

Name of Stockman:..... Signature:..... Date:.....
 Name of Master:..... Signature:..... Date:.....

Note: This form must be completed and returned to Veterinary Division, Department of Agriculture, Food and Forestry, Dublin 2 within seven days after discharge of cattle or prior to the return of the vessel to Ireland, whichever is the sooner.

Where any mortality has occurred, the form must be returned immediately, by fax to + 353 - 1 - 6619031 or + 353 - 1 - 6763900.

GIVEN under my Official Seal, this 24th day of January, 1996.

IVAN YATES,

Minister for Agriculture, Food and

Forestry.

EXPLANATORY NOTE.

This Order lays down regulations for the carriage of cattle by sea from the State. It provides for the inspection and approval of cattle vessels which comply with specified criteria, the loading and care of cattle on vessels, conditions in relation to weather and the submission of voyage reports.

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