

**RECOMMENDED INTERNATIONAL CODE OF HYGIENIC PRACTICE FOR FRESH MEAT
CAC/RCP 11-1976, Rev. 1 (1993)**

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PREAMBLE

Veterinary science and the science of meat hygiene should be applied throughout the food chain, starting at the farm of origin, so that fresh meat produced from slaughtered animals is safe and wholesome. This Code, together with the Code for Ante-mortem and Post-mortem Inspection of Slaughter Animals and for Ante-mortem and Post-mortem Judgement of Slaughter Animals and Meat, describes requirements necessary to achieve that goal. Traditional practices may permit departures from some of the requirements when fresh meat is produced for local trade.

**PRINCIPLES AND OBJECTIVES OF THIS CODE AND FOR THE CODE FOR ANTE-MORTEM
AND POST-MORTEM INSPECTION OF SLAUGHTER ANIMALS AND FOR ANTE-MORTEM
AND POST-MORTEM JUDGEMENT OF SLAUGHTER ANIMALS AND MEAT**

1. Ante-mortem and post-mortem inspection of slaughtered animals and the maintenance of hygienic practice is carried out to ensure that fresh meat produced for human consumption is safe and wholesome.
2. Rules of meat inspection and hygienic practice that are described in this and its associated code of practice provide the requirements that have been developed from current scientific knowledge and practice.
3. Risk analysis based on accepted scientific methodology should be undertaken wherever possible, so as to improve current knowledge. These analyses will promote the following principles of meat hygiene:
 - (a) there should be consistently applied food safety standards so as to assure a safe and wholesome meat supply; if an adequate food supply is threatened in some local trade situations, safety standards may include treatment sufficient to remove any hazard;
 - (b) ante-mortem and post-mortem inspection procedures should be appropriate to the spectrum and prevalence of diseases and defects present in the particular class of slaughter livestock being inspected;
 - (c) process control systems should limit microbial contamination of meat to as low a practicable level as possible, and prevent subsequent growth to levels that may constitute a hazard;

- (d) Hazard Analysis Critical Control Point (HACCP)¹ under the control and supervision of the controlling authority provides a scientific approach to food safety and wholesomeness throughout the production, processing and distribution of fresh meat, and the HACCP approach should wherever possible, together with other quality assurance procedures, be utilized in the application of this Code; and
- (e) where risk analysis has shown that safety is not compromised by the failure to remove a defect of a type specified by the controlling authority, and any necessary product identification procedures are in place, the controlling authority should allow production for the end use it specifies.

4. The responsibility for production of safe and wholesome meat should be shared by industry and the controlling authority. Industry personnel should be involved as widely as possible in voluntary quality assurance systems and in the monitoring and control of meat hygiene, with supervision and audit by the controlling authority to ensure compliance with requirements. Training and education programmes involving both industry and the controlling authority are necessary to meet this objective.

5. The controlling authority should be adequately resourced, have the legal power to enforce requirements necessary to produce meat that is safe and wholesome, and be independent of the management of the establishment and of other industry interests. There should be a legal obligation on managers to comply with meat hygiene and inspection instructions and to provide such information and assistance as may be reasonably required by the controlling authority.

6. In meeting the goal of reducing meat borne hazards, the controlling authority should maintain cost effective and efficient allocation of resources.

7. Monitoring to identify meat borne hazards introduced at the point of production is an important component of a meat hygiene programme. A knowledge of the health status of livestock presented for slaughter, as well as of food borne diseases occurring in human beings, is important for the application of control measures and requires an adequate system for data collection.

8. Meat hygiene regulations should be scientifically based, should protect the health of consumers and facilitate fair practices in the international trading of meat. Policies of equivalence², for countries or parts of countries, that provide the same safety and wholesomeness guarantees remove the necessity of replicating individual country requirements or applying identical procedures.

¹ The considerable benefits that Hazard Analysis Critical Control Point (HACCP) offers with respect to food safety are recognized within the Codex Alimentarius, and the inclusion of HACCP in codes of practice has been endorsed. HACCP provides a systematic approach to sanitation and process control in food production, thereby assuring safe and wholesome food. A HACCP plan should be based on an assessment, as appropriate to the circumstances, of the risks to human health and animal health, taking into account accepted risk analysis techniques. A specific HACCP system, tailored to its individual product, processing and distribution conditions, should be developed by each abattoir or establishment. The principles and applications of HACCP, as they apply generally to Codex codes of practice, are documented elsewhere in the Codex Alimentarius.

² *Equivalence* is not separately defined for the purposes of this Code, but rather is as determined by the General Agreement on Tariff and Trade (GATT). The following text, relating to Sanitary and Phytosanitary Measures, is an extract from the Draft Final Act of the Uruguay Round of the Multilateral Trade Negotiations:

"Contracting parties shall accept the sanitary or phytosanitary measures of other contracting parties as equivalent, even if these measures differ from their own or from those used by other contracting parties trading in the same product, if the exporting contracting party objectively demonstrates to the importing contracting party that its measures achieve the importing contracting party's appropriate level of sanitary or phytosanitary protection. For this purpose, reasonable access shall be given, upon request, to the importing contracting party for inspection, testing and other relevant procedures.

9. The controlling authority should facilitate adoption of new technologies and developments, provided they are consistent with the safe and wholesome production of fresh meat.

10. Controlling authorities should promote integrated food safety practices, taking into account the entire spectrum of food safety concerns and knowledge. This should be combined with international cooperation in food safety programmes.

NOTE

The contents of this Code are not intended to:

- (a) preclude the adoption of technical and other innovations by; or
- (b) restrict the throughput or productivity of;

the meat industry provided innovations and production are consistent with the hygienic production of safe and wholesome meat.

SECTION I - SCOPE

This Code of Hygienic Practice applies to fresh meat³, other than commodities covered by other Codex codes, namely poultry, fish and game⁴, intended for human consumption, whether sold direct to the consumer in that form or after further processing. It contains the minimum requirements of meat hygiene up to and including the transport of meat. This Code should be read in conjunction with the Code for Ante-mortem and Post-mortem Inspection of Slaughter Animals and for Ante-mortem and Post-mortem Judgement of Slaughter Animals and Meat.

SECTION II - PRINCIPLES AND OBJECTIVES OF THIS CODE

The principles and objectives of this Code are to ensure:

- (a) hygienic practices during animal production and transport of animals to slaughter;**
- (b) availability of information on hazards that may be present in slaughter animals;**

"Contracting parties shall, upon request, enter into consultations with the aim of achieving bilateral and multilateral agreements on recognition of the equivalence of specified sanitary or phytosanitary measures."

³ International trade in meat derived from many wildlife species is either banned or controlled under the provisions of the Convention on International Trade of Endangered Wildlife Species (CITES).

⁴ This Code does not contain labelling requirements for fresh meat. For this reason, nothing in this Code prevents meat prepared in accordance with both this Code and the Code for Ante-mortem and Post-mortem Inspection of Slaughter Animals and for Ante-mortem and Post-mortem Judgement of Slaughter Animals and Meat, being labelled as game meat when that meat is derived from animals traditionally accepted as being *game*, provided the controlling authority is satisfied that such labelling is not misleading.

- (c) **hygienic facilities and equipment for holding, slaughter, dressing and further processing, storage and distribution;**
- (d) **hygienic practices during holding, slaughter, processing, storage and distribution; and**
- (e) **provision of adequate facilities for inspection activities.**

SECTION III - DEFINITIONS

For the purposes of this Code:

1. **Abattoir** means any premises that is approved and registered by the controlling authority in which animals are slaughtered and dressed for human consumption.
2. **Brand** means any mark or stamp approved by the controlling authority and also includes any tag or label bearing such mark or stamp.
3. **Carcase** means the body of any slaughtered animal after bleeding and dressing.
4. **Cleaning** means the removal of objectionable matter.
5. **Condemned**, in relation to a slaughter animal or meat, means inspected and judged as, or otherwise officially determined to be, unfit for human consumption and requiring destruction. Total condemnation means the entire carcass and offal are condemned (Judgement symbol T). Partial condemnation, means only parts of the slaughtered animal are condemned, while others are judged otherwise (Judgement symbol D for the condemned diseased or defective parts).
6. **Contamination** means objectionable matter, and includes substances and/or microorganisms that make fresh meat unsafe and/or unwholesome.
7. **Controlling authority** means the official authority charged by the government with the control of meat hygiene, including meat inspection.
8. **Disease or defect** means a pathological change or other abnormality.
9. **Disinfection**, of plant, facilities and equipment, means the reduction, without adversely affecting the meat, by means of hygienically satisfactory chemical agents and/or physical methods, of the number of microorganisms to a minimum.
10. **Dressing** means the progressive separation on the dressing floor of a slaughter animal into a carcass (or sides of a carcass), offals and inedible by-products and may include the removal of the head. Examples of dressing include the removal of the head, hide or skin, genital organs, urinary bladder, feet, and in lactating animals, the removal of the udder.
11. **Edible offal** in relation to slaughtered animals means offals that have been passed as fit for human consumption.

12. **Establishment** means any premises other than an abattoir that is approved and registered by the controlling authority in which fresh meat is prepared, handled, packed or stored.
13. **Fit for human consumption** in relation to meat means meat that has been passed by an inspector as safe and wholesome, unless found unwholesome in subsequent examinations, which may include laboratory tests.
14. **Fresh meat** means meat that has not yet been treated in any way other than by modified atmosphere packaging or vacuum packaging to ensure its preservation, except that if it has been subjected only to refrigeration, it continues to be considered fresh for the purposes of this Code.
15. **Inedible** means inspected and judged to be, or otherwise officially determined to be, unfit for human consumption but not requiring destruction.
16. **Inspector** means a properly trained officer appointed by the controlling authority for the purpose of meat inspection and control of hygiene, and includes a veterinary inspector. The supervision of meat hygiene, including the inspection of meat, should be under the responsibility of a veterinary inspector.
17. **Manager** in relation to an abattoir or establishment includes any person for the time being responsible for the management of the abattoir or establishment.
18. **Meat** means the edible part of any slaughter animal slaughtered in an abattoir and includes edible offal.
19. **Potable water** means water that is pure and wholesome at the point of usage in accordance with requirements contained in the WHO publication *Guidelines for drinking-water quality*.
20. **Protective clothing** means special garments intended to prevent the contamination of meat and used as outer wear by persons in an abattoir or establishment, and includes head coverings and footwear.
21. **Residues** means residues of veterinary drugs, pesticide residues, and contaminants, as defined for the purposes of the Codex Alimentarius⁵.

⁵ **Definitions for the Purpose of the Codex Alimentarius** are as follows (*Codex Alimentarius* Second Edition, Volume 1, p11-13):

Veterinary drug means any substance applied or administered to any food-producing animal, such as meat or milk-producing animals, poultry, fish or bees, whether used for therapeutic, prophylactic or diagnostic purposes or for modification of physiological functions or behaviour.

Residues of veterinary drugs include the parent compounds and/or their metabolites in any edible portion of the animal product, and include residues of associated impurities of the veterinary drug concerned.

Pesticide means any substance intended for preventing, destroying, attracting, repelling, or controlling any pest including unwanted species of plants or animals during the production, storage, transport, distribution and processing of food, agricultural commodities, or animal feeds or which may be administered to animals for the control of ectoparasites. The term includes substances intended for use as a plant-growth regulator, defoliant, desiccant, fruit thinning agent, or sprouting inhibitor and substances applied to crops either before or after harvest to protect the commodity from deterioration during storage and transport. The term normally excludes fertilizers, plant and animal nutrients, food additives, and animal drugs.

Pesticide Residue means any specified substance in food, agricultural commodities, or animal feed resulting from the use of a pesticide. The term includes any derivatives of a pesticide, such as conversion products, metabolites, reaction products, and impurities considered to be of toxicological significance.

Contaminant means any substance not intentionally added to food, which is present in such food as a result of the production (including operations carried out in crop husbandry, animal husbandry and veterinary medicine), manufacture, processing, preparation, treatment, packing, packaging, transport or holding of such food or as a result of environmental contamination. The term does not include insect fragments, rodent hairs and other extraneous matter.

22. **Risk analysis** includes risk assessment, risk management and risk communication, all of which are essential to the decision making process that determines acceptable levels of risk, and the implementation of those decisions.
23. **Safe and wholesome** refers to meat that has been passed as fit for human consumption using the criteria that it:
- (a) will not cause food borne infection or intoxication when properly handled and prepared with respect to the intended use;
 - (b) does not contain residues in excess of established Codex limits;
 - (c) is free of obvious contamination;
 - (d) is free of defects that are generally recognized as objectionable to consumers;
 - (e) has been produced under adequate hygiene control; and
 - (f) has not been treated with illegal substances as specified in relevant national legislation.
24. **Slaughter animal** means any animal lawfully brought into an abattoir for slaughter.
25. **Veterinary Inspector** means an inspector who is professionally qualified as a veterinarian.

SECTION IV - ANIMAL PRODUCTION FOR FRESH MEAT

The controlling authority should encourage all aspects of the health management of food animals that improve the safety and wholesomeness of fresh meat produced for human consumption.

The conditions under which animals are raised for meat production should be conducive to the production of meat that is safe and wholesome and full consideration needs to be taken of the environment in which the animals have been raised or through which they have moved. Systematic monitoring and surveillance of the health status of the population, control over animal and plant treatments to ensure the absence of harmful residues in meat, and the proper disposal of animal wastes are of particular importance. The controlling authority also should have the ability to prevent or control the movement of animals to abattoirs from areas under sanitary restriction.

Monitoring of the health status of slaughtered animals allows accumulation of information that will assist in the efficient application of particular dressing and meat inspection systems. Meat inspection judgements will also be enhanced. The full benefit of such information will only be realized if there is an identification system linking animals with their place of production and an efficient information transfer system.

26. There should be in place, applying to areas where slaughter animals are produced and through which they pass en-route to an abattoir, a government administered regulatory programme mandating measures related to the health of animals and the safety and wholesomeness of meat derived from those animals. The regulatory programme should be soundly based in law and should include measures to:

- (a) prevent the entry of exotic diseases of public health or animal health importance; and
- (b) provide surveillance for endemic diseases of significant public health or animal health importance, and apply control and/or eradication programmes as appropriate⁶.

27. There should be in place, applying to areas where slaughter animals are produced and through which they pass en-route to an abattoir, a government administered regulatory programme mandating measures to control the use of chemical substances (such as veterinary drugs⁷, pesticides, and other agricultural chemicals) or contaminants that may give rise to harmful levels of residues or contaminants in fresh meat. Systematic monitoring and surveillance to test the effectiveness of the regulatory programme is an essential component.

28. Animals intended for slaughter should at all times be raised according to good animal husbandry practices. They should not be fed feedstuffs:

- (a) capable of recycling human or animal pathogens unless precautions are taken to minimize this risk; or
- (b) that contain chemical substances (such as veterinary drugs, pesticides and other agricultural chemicals) or contaminants at levels that could result in residues or contaminants in fresh meat at greater than maximum levels as adopted by the Codex Alimentarius.

29. In intensive animal production systems where active disposal is carried out, the method of disposal should not constitute a hazard to public or animal health, and should be environmentally sound.

30. There should be in place a system capable of reliably identifying, back from an abattoir, the place of production of slaughter animals.

31. Controlling authorities should where applicable encourage the use of HACCP systems in all aspects of food production, and actively utilize the data generated from such systems for regulatory purposes.

32. Where the owner or any other person has reason to believe that, as a result of:

- (a) any accident;
- (b) any disease or defect;
- (c) the administration of any drug or chemical; or
- (d) any treatment;

⁶ For animal health rules for international trade and for guidelines for the organisation of animal health services see Sections 1.3 and 1.4 of the OIE International Health Code.

⁷ The *Guidelines for the Establishment of a Regulatory Programme for Control of Veterinary Drugs Residues in Foods* was elaborated by the Codex Committee on Residues of Veterinary Drugs in Foods (*Codex Alimentarius* Second Edition, Volume 3).

the meat derived from any animal might not be suitable for human consumption, that person should not send the animal to an abattoir unless the animal is the subject of veterinary certification to the effect that it has been attended by a veterinarian who is of the opinion that it is suitable to be slaughtered for human consumption. However, irrespective of any certificate that may have been given, a veterinary inspector should be the sole judge of whether an animal is fit for slaughter.

SECTION V - TRANSPORT OF SLAUGHTER ANIMALS

Food animals need to be transported in such a way that they are not unduly contaminated or stressed, that the spread of pathogens is minimized, that the identification to place of production is maintained and that animal welfare considerations are met.

Construction and maintenance of means of transport

33. Livestock transport vehicles should be so constructed that:
- (a) animals can be loaded and unloaded easily and with minimal risk of injury;
 - (b) animals of different species, and animals of the same species likely to cause injury to one another, are physically separated during transport;
 - (c) soiling of animals by excreta deposited on the floor of vehicles is minimized by the use of floor gratings or similar devices;
 - (d) ventilation is adequate;
 - (e) where they have more than one deck, animals conveyed on a lower deck are protected by an impervious floor to the deck above; and
 - (f) they can be readily cleaned and disinfected.
34. Vehicles used to transport animals to an abattoir should be maintained in good repair. They should be cleaned and if necessary disinfected as soon as practicable after animals have been unloaded.

Maintenance of identification

35. The transport of slaughter animals to an abattoir should be in a manner that ensures their identification back to the place of production is not lost.

SECTION VI - REQUIREMENTS FOR ANIMALS PRESENTED FOR SLAUGHTER

The controlling authority should have access to all information on the production history that is relevant to the processing and inspection of slaughter animals. Differential allocation of processing and inspection resources is dependent on acquiring detailed information on animals presented for slaughter.

A knowledge of the health and condition of the animals that comprise the raw material for meat production is important in determining optimal dressing and inspection procedures. Identification of animals both to their place of production and throughout their time at the abattoir is a prerequisite to adequate veterinary control and appropriate information systems are necessary to optimize the use of available data.

Identification of animals

36. While being handled and held on an abattoir prior to slaughter, all necessary measures should be taken to ensure that the ability to identify slaughter animals back to their place of production is retained.

Identification of animals requiring special attention

37. Where a slaughter animal has been identified prior to its arrival at an abattoir or at ante-mortem inspection, or its carcase has been identified at post-mortem inspection or during dressing as requiring special attention, all necessary measures should be taken to ensure that the animal or carcase and the information relating to it can be correlated.

Information systems and segregation at the abattoir

38. An effective system should be in place to ensure that information concerning slaughter animals that is relevant to post-mortem inspection or to special dressing requirements, whether originating prior to arrival at the abattoir or from ante-mortem inspection, is conveyed to the inspector undertaking post-mortem inspection and, in the case of special dressing requirements, to those persons involved in dressing of carcasses.

Adequate rest for slaughter

Animals need to be rested prior to slaughter so as to optimize their physiological condition and ensure that evidence of any diseases or defects that may be present is not masked. Animals found to be diseased or defective need to be separated from others, to enable them to receive any special attention they require and to prevent cross contamination to normal animals or facilities.

Separation of different categories of animals within species allows better application of processing and inspection resources, and facilitates hygienic dressing. The level of cleanliness of animals prior to slaughter also has a significant effect on hygienic slaughter and dressing.

39. Slaughter animals should be adequately rested prior to being slaughtered.

40. Animals that have been identified as being affected by any disease or defect that affects, or might affect, the suitability of their meat for human consumption, should be segregated from other animals.

41. If during the ante-mortem inspection a disease or defect has been detected that does not prevent an animal from being slaughtered for human consumption, it should be identified and released for slaughter and post-mortem veterinary inspection.

42. Groups of animals that are found to be normal at ante-mortem inspection but that are of different categories with respect to age and system of production, should be slaughtered and dressed as separate lines.

43. Any animal that is in an unreasonably dirty condition should be cleaned to the extent necessary to lessen the risk of contamination of meat and the slaughter and dressing areas before it is allowed to enter the killing floor.

Veterinary responsibility

All animals should be inspected ante-mortem. A veterinary inspector should have the final responsibility as to fitness for, and any conditions applying to, slaughter of animals for the production of fresh meat.

44. The ultimate decision as to whether or not an animal may be slaughtered and dressed in an abattoir, and any conditions applying to such slaughter and dressing, should rest with a veterinary inspector.

SECTION VII - ABATTOIR AND ESTABLISHMENT PLANT AND FACILITIES

Abattoir and establishment plant and facilities for holding, slaughter, dressing, further processing and distribution should provide an environment that allows the application of consistently applied minimum food safety requirements. The structure of the abattoir or establishment and the equipment used should limit microbial contamination to as low a practicable level as possible and prevent subsequent growth to levels that may constitute a hazard. The structure and equipment should also protect meat from contamination from outside sources.

Some level of microbial contamination is inevitable in the abattoir environment and facilities should be such that dressing and further processing can take place in an environment that minimizes contamination of the meat. The facilities need to be such that all services necessary to support hygienic operations (including meat inspection) are available and are laid out in a manner that enables personnel to operate effectively and safely. The standard of design and construction of both the building and equipment contained within it needs to be such that they do not themselves pose a risk of directly or indirectly contaminating meat and furthermore the rooms within the building and the equipment can be kept acceptably clean while operations are taking place and be readily cleaned when operations have concluded. Support areas, such as areas set aside for inedible material, all contribute to the general environment and need to be of a standard appropriate to a food producing establishment. The overall design and construction of the premises needs to be such that contamination from exogenous sources such as objectionable odours, dust and pests is prevented. A process control system that prevents hazards in fresh meat should be in place and this should be based on the HACCP approach.

Structure

45. Abattoirs and establishments should:

- (a) be located in areas that are not subject to regular or frequent flooding, and that are free from objectionable odours, smoke, dust or other contaminants;
- (b) have adequate working space for the satisfactory performance of all operations;
- (c) be soundly constructed and ensure adequate ventilation, good natural or artificial lighting and easy cleaning;

- (d) with respect to both the building and the facilities it contains, be kept in good repair at all times;
- (e) be laid out and equipped so as to facilitate proper supervision of meat hygiene, including the carrying out of meat inspection;
- (f) be constructed so as to protect against the entrance and harbouring of insects, birds, rodents and other vermin;
- (g) have a physical separation between departments in which edible material is handled and departments set aside for the handling of inedible material;
- (h) have a physical separation between departments in which edible material is handled and places where animals are held;
- (i) in all rooms, other than rooms provided for the accommodation of workers and inspectors, have:
 - (i) floors that are of waterproof, non-toxic, non-absorbent materials and that are easy to clean and disinfect;
 - (ii) floors that are non-slip and without crevices and (except in the case of rooms where meat is frozen or stored frozen) that slope sufficiently for liquids to be drained off to trapped outlets that are protected by a grill;
 - (iii) walls that are of waterproof, non-toxic, non-absorbent materials, light coloured, easy to clean and disinfect, smooth, and of a height appropriate to the operation conducted;
 - (iv) the angles between adjoining walls, and the angles at wall to floor junctions, coved; and
 - (v) ceilings so designed and constructed as to prevent the accumulation of dirt and condensation and that are light coloured and easy to clean; and
- (j) have an efficient effluent and waste disposal system:
 - (i) that is maintained at all times in good order and repair;
 - (ii) in which all lines, including sewer lines, are large enough to carry peak loads;
 - (iii) in which all lines are watertight and adequately trapped and vented;
 - (iv) with catch basins, traps, save-alls and sumps that are fully separate from any department in which meat is prepared, handled, packed or stored;
 - (v) from which waste is disposed of in such a manner as to avoid contamination of potable water supplies;
 - (vi) with waste lines from toilets not joining the plant effluent system prior to the final save-all; and
 - (vii) that is approved by the controlling authority.

46. Abattoirs should include:
- (a) areas reserved for the use of the meat inspection service that comply with the requirements set out in Section IX of this Code;
 - (b) suitable accommodation for animals that:
 - (i) is large enough to house all animals that are to be held;
 - (ii) is covered, except where climate permits otherwise;
 - (iii) is so arranged and fitted out as to permit the proper inspection of animals before slaughter;
 - (iv) has a sufficient number of pens to facilitate ante-mortem inspection;
 - (v) is suitably constructed and maintained;
 - (vi) is paved or slatted and is well drained;
 - (vii) is provided with an adequate water supply;
 - (viii) is so provided with hose connection points as to enable lairages, yards, races, unloading ramps and livestock transport vehicles to be cleaned; and
 - (ix) has suitable restraining devices for the close examination of animals;
 - (c) separate facilities for the physical isolation of sick animals or animals suspected of being sick, and that:
 - (i) are covered if climatic conditions so require;
 - (ii) are capable of being locked; and
 - (iii) have drainage that is separate and does not connect with any open drain that runs through other lairages and yards;
 - (d) slaughter and dressing areas that enable work to be performed in a satisfactory manner;
 - (e) equipment in slaughter and dressing areas being constructed of impermeable, corrosion-resistant materials, capable of being easily cleaned, and designed, constructed and installed such that meat will not touch the floor;
 - (f) a separate area reserved for the skin-on dressing of pigs or other animals where other classes of animals are dressed at the same time;

- (g) where animals are dressed, facilities for their scalding and dehairing or similar operation that are situated in an area adequately separated from other areas;
- (h) a separate room for emptying and cleansing alimentary tracts;⁸
- (i) a separate room for the further preparation of emptied and rinsed alimentary tracts where these are to be prepared for human consumption;⁸
- (j) if necessary, separate facilities for the preparation of edible fats and, if they are not removed daily from the premises, proper facilities for their storage;
- (k) separate rooms for the storing of hides, horns and hooves, and inedible animal fats unless these are removed daily from the abattoir;
- (l) refrigerated rooms suitable for the effective cooling and storage of meat;
- (m) except where the national rules of the controlling authority either prohibit the killing of such animals in abattoirs or specify hygienically acceptable alternate arrangements, separate facilities for the slaughter and dressing of animals as specified in paragraph 44 of the Code for Ante-mortem and Post-mortem Inspection of Slaughter Animals and for Ante-mortem and Post-mortem Judgement of Slaughter Animals and Meat, that:
 - (i) are capable of being locked;
 - (ii) are solely for the slaughter and dressing of such animals and the holding of meat derived from them; and
 - (iii) are located within easy reach of the pens reserved for isolation of such animals;
- (n) separate facilities in the form of a separate room or portion of a room capable of being controlled and capable of being locked whenever required, for storing suspect meat, and designed so as to prevent the risk of contaminating other meat and the risk of substitution;
- (o) facilities in the form of a room or portion of a room capable of being locked and suitable for the secure holding of condemned meat, unless other adequate arrangements for disposal exist;
- (p) facilities for the control of the entrances and exits;
- (q) suitable facilities for the adequate cleaning and disinfecting of vehicles (except that the controlling authority may instead permit a satisfactory operational alternative to facilities located on the abattoir); and
- (r) suitable facilities for the hygienic collection and subsequent disposal of manure.

47. Abattoirs and establishments should be designed, constructed and equipped such that:

⁸ However, the controlling authority may approve other systems in the light of technological developments which will ensure that contamination is prevented to an equivalent extent.

- (a) those operations that carry a risk of contamination of meat are sufficiently separated from meat to avoid the risk of such contamination;
- (b) meat does not come into contact with floors, walls or fixed structures, other than those that are specifically designed for such contact;
- (c) there is an overhead rail, so installed as to avoid contamination of meat, for the moving of meat;
- (d) there is an ample supply of potable water under adequate pressure, together with facilities for its storage and distribution under conditions that guard against back siphonage and adequately protect against contamination;
- (e) there is equipment installed capable of providing an adequate supply of:
 - (i) hot potable water at no less than 82°C; and
 - (ii) hot and cold running water or water premixed to a suitable temperature for hand washing; or
 - (iii) cold or warm sanitising solution of acceptable concentration;
- (f) where a supply of non-potable water exists under circumstances set out in paragraph 0:
 - (i) that supply is completely separate from the supply of potable water; and
 - (ii) all pipes and any vessels within which it is contained are distinctively identified by colour or by other means approved by the controlling authority;
- (g) there is adequate natural or artificial lighting installed throughout the premises of a type that does not alter colours and that is capable of providing illumination of an intensity not less than that detailed in paragraphs 0 and 0;
- (h) where light bulbs or light fixtures are located over meat, they are of the safety type, or otherwise protected so as to prevent contamination of meat in case of breakage;
- (i) there is adequate ventilation provided to prevent excessive heat, steam and condensation and to ensure that the air of premises is not contaminated with odours, dust, vapour or smoke;
- (j) any windows are fitted with whole panes and that those that open, and any other ventilation openings, are fitted with screens of a type that are easily removable for cleaning;
- (k) door ways are sufficiently wide to permit ready traffic;
- (l) doors that open from departments where edible material is handled, unless fitted with an effective air screen, are solid and:
 - (i) as far as practicable self-closing; or

- (ii) snug-fitting and of the double action type;
- (m) any stairs located in a room where edible material is handled are constructed so that they can be easily cleaned and no contamination can be caused by material falling from them;
- (n) any lift cage is so constructed as to afford adequate protection of meat against contamination and it and its shaft are capable of being effectively cleaned;
- (o) any platform, ladder, chute or similar equipment in a room used for the preparation of meat is constructed so as to be capable of being effectively cleaned and is of material that is:
 - (i) resistant to fracture, abrasion and corrosion; and
 - (ii) capable of being effectively cleaned;
- (p) any chutes are fitted with inspection and cleaning hatches where these are necessary to ensure cleanliness;
- (q) all rooms used for slaughtering, dressing, deboning, preparation, packaging or other handling of meat, are equipped with adequate facilities for washing hands, and these facilities:
 - (i) have waste water lines leading to drains;
 - (ii) are conveniently located for the use of personnel who will work in the room;
 - (iii) are connected to a warm water supply;
 - (iv) have taps of a non-hand operable type; and
 - (v) are fitted with a dispenser (or dispensers, as appropriate) for liquid soap or other hand cleansing agent;
- (r) all rooms used for slaughtering, dressing, deboning, preparation, packaging or other handling of meat are equipped with adequate facilities for the cleaning and disinfecting of implements, and these:
 - (i) have waste water lines leading to drains;
 - (ii) are conveniently located for the use of personnel who will use the implements;
 - (iii) are set aside exclusively for the cleaning and disinfection of knives, steels, cleavers, saws and other implements; and
 - (iv) are of such nature and size as to permit proper cleaning and disinfection of implements;
- (s) all rooms in which carcasses, parts of carcasses or edible offals are placed for chilling, freezing or refrigerated storage are fitted with temperature recorders; and

- (t) all rooms in which carcasses, parts of carcasses or edible offals are placed for chilling have proper insulation of walls and ceilings and:
 - (i) if overhead refrigerating coils are installed, have insulated drip pans fitted beneath them; and
 - (ii) if floor type refrigerating units are installed, they are placed within curbed and separately drained areas unless located adjacent to floor drains.

48. The construction and layout of any chilling room, freezing room or freezer store should satisfy the relevant provisions of paragraph 0.

49. Abattoirs and establishments in which meat is deboned and/or cut up should have:

- (a) a room or rooms, capable of being temperature controlled, for the holding of meat;
- (b) a room or rooms, physically separated from other rooms and capable of being temperature controlled, for deboning and cutting up of meat; and
- (c) separation of the area in which deboning, cutting and primary wrapping operations are to be undertaken from the place where packaging is to be undertaken, unless the controlling authority permits an operational approach to prevent the packaging causing contamination of meat.

Amenities

50. Each abattoir or establishment should include amenities for employees that:

- (a) are commensurate in size with the number of employees;
- (b) include changing room, separate area for eating meals, toilets with flushing water closets, and showers;
- (c) have hand washing facilities, in close association with toilets, that:
 - (i) are connected to a warm water supply;
 - (ii) have taps of a non-hand operable type;
 - (iii) are fitted with a dispenser (or dispensers, as appropriate) for liquid soap or other hand cleansing agent; and
 - (iv) are associated with suitable hygienic means of drying hands;
- (d) are equipped to permit adequate lighting, ventilation and, where necessary, heating; and
- (e) do not open directly to any work area.

51. Each abattoir or establishment should have adequate and suitably equipped working areas and amenities for meat inspection personnel and office accommodation for the meat inspection service that complies with the requirements set out in Section IX of this Code.

Equipment and related items

52. All equipment, implements and utensils used in abattoirs or establishments that come in contact with meat should be of a design and construction that facilitates cleaning, and:

- (a) have smooth impervious surfaces;
- (b) be resistant to corrosion and made of a material that is non-toxic and does not transmit odour or taste;
- (c) be smooth, free from pits and crevices; and
- (d) be capable of withstanding repeated exposure to normal cleaning and disinfection;

and if fixed or stationary, be installed in such a manner as to permit easy access and thorough cleaning.

53. Equipment and utensils for use with inedible or condemned materials should be distinctively identified.

Transport vehicles

Vehicles in which meat is transported need to be designed, constructed and equipped to prevent contamination of that meat, whether from external sources or from the vehicle itself, and to prevent or limit the growth of microbes.

54. Vehicles or shipping containers in which meat is to be transported should:

- (a) have all internal finishes made of corrosion resistant material that is smooth, impervious and easy to clean and disinfect;
- (b) have joints and doors sealed so as to prevent the entry of pests and other sources of contamination;
- (c) be designed, constructed and equipped such that the required temperature can be maintained while meat is being carried; and
- (d) be designed, constructed and equipped such that meat does not come into contact with the floor.

SECTION VIII - HYGIENIC OPERATING REQUIREMENTS AND PRACTICES

Operations and practices for holding, slaughter, dressing, further processing and distribution should ensure the application of consistently applied minimum food safety standards. Hygienic operations and practices should limit microbial contamination to as low a practicable level as possible and prevent subsequent growth to levels that may constitute a hazard. Operations and practices should also protect meat from other sources of contamination. A process control system should be in place to prevent hazards in fresh meat and should be based on the HACCP approach.

Health of persons

Personnel who work in abattoirs and establishments should have a health status consistent with the prevention of the contamination of meat.

55. Persons who come in contact with fresh meat in the course of their work should have a medical examination prior to their employment if the controlling authority, acting on medical advice, considers that this is necessary. In such circumstances, the manager should maintain the medical certificates of employees in a systematic manner and they should be available for perusal by an inspector. Medical examination of a person who handles fresh meat should be carried out at other times when clinically or epidemiologically indicated or as prescribed by the controlling authority.

56. Care should be taken to ensure that no person, while known or suspected to be suffering from, or to be a carrier of a disease likely to be transmitted through meat or while afflicted with infected wounds, skin infections, sores or with diarrhoea, is permitted to work or be present in any meat handling area of an abattoir or establishment in any capacity in which there is any likelihood of such a person directly or indirectly contaminating meat with pathogenic microorganisms. Any person so affected should immediately report that illness to the manager.

Cleanliness of premises

Cleanliness of plant and equipment so that there is neither direct nor indirect contamination of meat is a fundamental principle of meat hygiene.

57. A cleaning and sanitation programme should be established by the manager of an abattoir or establishment that ensures:

- (a) the premises, including the amenities, are kept clean;
- (b) equipment, implements and utensils (including knives, knife pouches, cleavers, saws and trays) are:
 - (i) cleaned at frequent intervals during and/or between periods of work;
 - (ii) immediately and effectively cleaned and disinfected whenever they come into contact with pathological material, infective material or otherwise become contaminated; and
 - (iii) in a clean and disinfected state at the beginning of each working day;
- (c) washing down, cleaning and disinfection are carried out in compliance with this Code;

- (d) carcasses or meat are not contaminated during cleaning or disinfection of rooms, equipment or utensils;
- (e) that no detergents, sanitising agents or disinfectants are allowed to come into either direct or indirect contact with meat unless they conform to public health requirements for such contact;
- (f) any residue of detergents, sanitising agents or disinfectants used for the washing of floors, walls or edible product equipment are removed by thorough rinsing with potable water before the area or equipment is again used for handling meat; and
- (g) no cleaning preparation or material, or any paint or other surface treatment, likely to contaminate meat, is used in any part of an abattoir or establishment where animals are slaughtered or dressed or meat is prepared, handled, packaged or stored.

Pest control

Pests always retain the potential to contaminate meat by direct or indirect contact. Pest control programmes are an integral part of meat hygiene, with caution being required that the means of control does not in itself become a source of contamination.

58. An effective and continuous programme for the control of pests, including insects, birds, rodents and other vermin, should be maintained in abattoirs and establishments, and should include:

- (a) detailed documentation of the programme;
- (b) the programme being under the direct control of a representative of the manager who is suitably qualified for the task;
- (c) the regular examination of the surroundings for evidence of infestation with pests;
- (d) if pests are in evidence, eradication measures carried out under skilled supervision and with the knowledge of the inspector;
- (e) only the use of pesticides approved for such use by the controlling authority;
- (f) ensuring that chemicals used for pest control purposes do not contaminate meat;
- (g) the use of pesticides only if other control methods cannot be used effectively;
- (h) the removal of all meat from rooms to be treated before pesticides are used;
- (i) the thorough washing of all equipment and utensils that are in a room that has been treated with pesticides before they are used again; and
- (j) the storage of any pesticides or other toxic substances used for pest control in separate locked rooms or locked cabinets with access to them limited to authorized and properly trained personnel acting in accordance with the pest control programme.

General operational hygiene

All operations and practices should be carried out in a manner that limits contamination to as low a level as possible. Good personal hygiene and adequate training programmes are important components, as is adequate supervision to ensure compliance with operational requirements.

59. Managers of abattoirs and establishments should arrange for adequate and continuing training of all employees who work in the production of fresh meat in hygienic handling of meat and in personal hygiene. Instruction should include relevant parts of this Code.

60. Every person, including a visitor, in an area of an abattoir or establishment where meat is prepared or handled, should maintain a high degree of personal cleanliness, and at all times while in the area wear suitable light coloured protective clothing including:

- (a) head covering; and
- (b) footwear;

that is washable (unless disposable) and that is maintained in a clean condition consistent with the nature of the work in which the person is engaged.

61. Personal effects and clothing should not be deposited or stored in an area of an abattoir or establishment used for slaughter of animals, dressing of carcasses, or the preparation, handling, packaging or storing of meat. Protective clothing, knife pouches, belts and working implements not being used should be kept in a place provided for the purpose where they will not contaminate meat or become contaminated themselves.

62. All persons, while engaged in the preparation, handling, packaging or transport of meat, should wash their hands frequently and thoroughly with liquid soap under running warm potable water. Hands should always be washed before commencing work, immediately after using the toilet, after handling contaminated material and whenever else necessary. After handling any material that might be capable of transmitting disease, hands should immediately be washed and disinfected. Notices requiring hand washing should be prominently displayed.

63. Gloves, if used in the handling of meat, should be maintained in a sound, clean and sanitary condition. The wearing of gloves does not exempt any person from having thoroughly washed hands. Gloves should be made of an impermeable material except where their usage would be inappropriate or incompatible with the work involved and where the use of gloves of permeable material does not adversely affect hygiene.

64. Any behaviour or unhygienic practices that could potentially result in contamination of meat should be prohibited in any part of an abattoir or establishment.

65. Any person in an abattoir or establishment who has a cut or wound should discontinue handling meat or meat contact surfaces until the injury is completely protected by a water proof covering that is firmly secured, and that is conspicuous in colour. Adequate first aid facilities should be provided for this purpose.

66. Doors opening to the outside from departments where edible material is handled, unless protected by an effective air screen, should be kept closed as far as practicable.

67. Where a skip or trolley, or any container used in a department where edible material is handled, enters an area set aside for the handling or storage of inedible material, it should not re-enter any edible department until it has been cleaned and disinfected.

68. Where containers or cartons are assembled in parts of an abattoir or establishment where animals are slaughtered or dressed, or where meat is cut up or deboned, prepared, handled, packaged or stored, they should be assembled in such a manner that there is minimal risk of contaminating meat.
69. Where containers, equipment and utensils are held in any area of an abattoir or establishment where animals are slaughtered or dressed, or where meat is cut up or deboned, prepared, handled, packaged or stored, they should be held in such a manner that there is minimal risk of contaminating meat.
70. Aprons and other items of protective clothing, other than footwear, should not be washed on the floor.
71. Effective ventilation should be provided in work areas of an abattoir or establishment to prevent excessive heat, steam and condensation and to ensure that the air is not contaminated with odours.
72. Lighting intensity throughout an abattoir or establishment should not be less than:
- (a) 540 lux in areas where detailed examination or trimming is undertaken;
 - (b) 220 lux elsewhere in work rooms; and
 - (c) 110 lux in other areas;

while slaughtering and dressing of animals is being undertaken, and when meat is being deboned or prepared.

73. No animal other than an animal for slaughter, or an animal used for transport or for stock handling, should enter any part of an abattoir. Animals present in an abattoir for purposes of transport or stock control should be kept outside or have entry restricted to lairages, and should be kept under control.
74. No animal should enter any part of an establishment.
75. Notwithstanding anything elsewhere in this Code, materials employed in the construction or maintenance of an abattoir or establishment may be used at any time that such use is necessary, provided an inspector is satisfied that there would be no danger of contamination of meat.

Water and operational hygiene

Water is used extensively in abattoirs and establishments both for cleaning and disinfecting. Water itself can carry contaminants and it is therefore important that its quality is appropriate to the operation and that it is used carefully to prevent inadvertent direct or indirect cross contamination.

76. All water used in abattoirs and establishments should be potable, except that water that falls outside of the standard for potable water because of physical and/or chemical characteristics may be used in situations where there is no risk of contamination of meat.
77. There should be an adequate supply of hot potable water at not less than 82°C, and of warm potable water for hand washing, at all times while slaughtering and dressing of animals is being undertaken, and when meat is being deboned or prepared.

78. Sterilizers should be reserved exclusively for cleaning and disinfection of knives, steels, cleavers, saws and other such implements.
79. Soap and detergent dispensers located in areas that are in use should be adequately filled.
80. Hand drying facilities that have been provided should be useable in any area where persons are working with meat. When this entails the provision of disposable towels, suitable receptacles for used towels should be available and be used.

Process control programmes

The process of converting slaughter animals to edible meat and then transporting that meat involves many steps; at each of these steps there can be risk to safety and wholesomeness. To adequately control those risks and protect the consumer requires a systematic approach to the process. A process control programme includes systematic identification of hazards (raw materials, processes, procedures), establishment of target levels and tolerances, monitoring, corrective actions, verification procedures and documentation. The HACCP approach is a valuable tool to this end and efficient process control programmes require a joint approach by industry and the controlling authority.

Both the meat industry and the controlling authority have important roles in process control. This necessitates a joint approach.

There are advantages in standardisation of process control systems in abattoirs and establishments (such as the facilitating of training, the assessment of compliance and the certification of fresh meat) but each programme should be individually designed on a premises-by-premises basis for the particular circumstances in which it is to operate.

81. Each step in the process of producing fresh meat should be the subject of an effective process control programme. The process control programme should be designed specifically for the operation concerned and have as its objective the production of safe and wholesome meat that complies with all the provisions of this Code and the Code for Ante-mortem and Post-mortem Inspection of Slaughter Animals and for Ante-mortem and Post-mortem Judgement of Slaughter Animals and Meat, as well as any additional requirements prescribed by the controlling authority.
82. The manager of an abattoir or establishment should be responsible for the development and continuance of the process control program. While the manager may delegate supervision of the process control programme to a properly trained subordinate, overall responsibility should never be delegated. The successful application of a process control programme requires a team approach, and the full commitment and involvement of management and employees.
83. An inspector should monitor the application and results of the process control programme with respect to all matters touching on the safety and hygiene of fresh meat as well as all matters relating to additional requirements imposed by the controlling authority.
84. The details of measures that comprise the process control programme should be fully documented and reviewed as frequently as necessary to ensure their continued relevance; the inspector with responsibility for monitoring the programme should have unrestricted access to details of the programme, as well as to records of the results of monitoring the process.

Operational hygiene of slaughtering and dressing

There is a substantial risk of seen and unseen contamination of meat during slaughtering and dressing. Good hygienic practice and good manufacturing practice will minimize this risk. Training programmes also are an important component in achieving hygienic slaughtering and dressing as is adequate supervision to ensure compliance with operational requirements.

85. Rooms, equipment and utensils for slaughtering and dressing should be used for that purpose only and not for cutting-up or deboning. However, in some situations, preparatory operations such as partial deboning of the neck, or removal of head meat, may be acceptable to the controlling authority once the carcass has passed inspection.
86. Except under emergency slaughter provisions described in paragraph 35 of the Code for Ante-mortem and Post-mortem Inspection of Slaughter Animals and for Ante-mortem and Post-mortem Judgement of Slaughter Animals and Meat, an animal should not be slaughtered or dressed in any abattoir except when an inspector is present.
87. All animals brought to the killing floor should be slaughtered without delay.
88. Stunning, sticking and bleeding of animals should not proceed at a rate faster than that at which carcasses can be promptly accepted for dressing.
89. Sticking, bleeding and dressing should be carried out so as to ensure the production of clean meat.
90. Bleeding should be as complete as possible. If blood is intended to be used in food preparation, it should be collected and handled hygienically and, if stirred, should only be stirred with hygienically acceptable implements and never with the hand.
91. Once the removal of the hide, skin or pelt has commenced, carcasses should be separated from each other to avoid contact between them and the risk of cross contamination. Separation of carcasses should be maintained until they have been examined and passed by an inspector. Carcasses should only come into contact with surfaces or equipment essential to handling, dressing and inspection.
92. Before the removal from any head of any meat or brain intended for human consumption, the head should be clean and, except in the case of scalded and dehaired carcasses, be skinned to a sufficient extent to facilitate inspection and the hygienic removal of head meat and/or the brain.
93. Where the tongue is dropped this should be done in such a way that the tonsils are not cut.
94. The following should apply in skinning and associated dressing operations:
 - (a) where carcasses are skinned, skinning should be done before evisceration, in a manner that avoids contamination of meat;
 - (b) pumping of air or gas between the skin and the carcass to facilitate skinning should only be permitted if it is of such nature and quality that it does not contaminate the meat;
 - (c) skinned carcasses that are uneviscerated, if washed, should only be washed in a manner that does not allow water to enter either the abdominal or thoracic cavities;

- (d) slaughtered animals that are scalded, flamed or similarly treated should be scoured of all bristles, hair, scurf and dirt;
- (e) the water in scalding tanks should be changed as frequently as practicable; and
- (f) with respect to udders:
 - (i) lactating or obviously diseased udders should be removed at the earliest appropriate time during dressing; and
 - (ii) no secretion from, or contents of, udders should be allowed to contaminate the carcass and therefore udders should be removed in such a manner that teat and udder substance remains intact and milk ducts or sinuses are not opened.

95. With respect to further dressing:

- (a) evisceration should be undertaken without delay and in a hygienic manner;
- (b) discharge of any material from the oesophagus, stomach or stomachs, intestines or rectum, or from the gall bladder, urinary bladder, uterus or udder should be effectively prevented;
- (c) intestines should not be severed from the stomach during evisceration and no other opening should be made during evisceration into any intestine, unless the intestines are first effectively tied to prevent spillage;
- (d) no paper, cloth, wad, sponge or brush should be used in the washing of any carcass, except that brushes may be used in the dressing of singed pig carcasses provided this is done as the next operation after singeing;
- (e) no carcass, meat or edible offal should be inflated with air or gas in a way that alters its appearance prior to post-mortem inspection or causes contamination;
- (f) no hide, skin or pelt should be washed, defleshed or left in any part of an abattoir or establishment used for the slaughtering or dressing of animals or for the preparation or holding of meat intended for human consumption;
- (g) stomachs and intestines and all inedible material derived from the slaughtering or dressing of animals should:
 - (i) be removed, as soon as the inspection procedure permits, from the dressing area in a manner that avoids contaminating the area or meat; and
 - (ii) after removal from the dressing area, be subsequently treated in parts of the abattoir intended for this purpose in a way that does not risk contamination of meat;
- (h) faecal and other objectionable matter that contaminates carcasses during dressing should be carefully trimmed off; and

- (i) where an inspector considers that the manner in which animals are being slaughtered or dressed or under which the carcasses or meat are being handled, prepared or packaged, will adversely affect:
 - (i) the safety and wholesomeness of the carcass or meat;
 - (ii) the hygiene of production; or
 - (iii) the efficiency of meat inspection;

and the manager has not taken effective action to correct the problem, the inspector should have the power to require a reduction in the rate of production or the suspension of operations for the time being in any specified area of the abattoir.

Operational hygiene after slaughtering and dressing

The operations following slaughter, dressing and inspection, including deboning and cutting, freezing and storing, also entail a risk of contamination, and a risk of growth of microbial contaminants. Good hygienic practice and good manufacturing practice will minimize this risk. Time, temperature and water activity are all important interacting factors in controlling microbial growth and they need to be controlled in such a way that the growth of microbiological contaminants is limited to non-hazardous levels.

Packaging and wrapping is used to protect meat from external contamination during handling, storage and transport. It is important that neither the packaging or wrapping itself, nor the packaging or wrapping procedure, causes contamination of meat.

96. Meat passed as fit for human consumption should:
- (a) be handled, stored or transported in a manner that will protect it from contamination and deterioration;
 - (b) be removed without delay from the dressing area; and
 - (c) unless cut up or deboned pre-rigor, be held under conditions that reduce its temperature and/or water activity.
97. Where carcasses, parts of carcasses or edible offals are placed in a holding room:
- (a) there should be a reliable method of monitoring the process control programme;
 - (b) carcasses should be hung in a manner permitting adequate circulation of air around them;
 - (c) parts of carcasses should be hung, or placed in suitable corrosion resistant trays, in a manner permitting adequate circulation of air around the meat;
 - (d) they should be held in a manner that precludes drip from one piece falling on to any other piece;
 - (e) temperature, relative humidity and air flow should be maintained in accordance with the process control programme; and

(f) dripping water, including dripping condensation, should be prevented.

98. Rooms, equipment and utensils for cutting-up, deboning or further preparing meat should be reserved for those purposes and not used for any other purpose.

99. Rooms in which deboning or cutting is in progress should be maintained at a temperature and humidity appropriate to the operation.

100. If meat is cut up or deboned pre-rigor:

- (a) it should be transported directly from the dressing area to the cutting up or deboning room;
- (b) the cutting up or deboning room should be temperature controlled and directly linked to the dressing areas, except that the controlling authority may approve alternative procedures that provide the same degree of hygienic protection; and
- (c) cutting up, deboning and packing should be done without delay and it should be handled or held in accordance with a suitable process control programme, that programme to include the rapid reduction of temperature where appropriate.

101. If meat is packaged or wrapped:

- (a) packaging material should be stored and used in a clean and sanitary manner;
- (b) wrapping and packaging should be sufficient for the purpose of protecting the meat from contamination in the conditions under which it is to be handled, transported and/or stored;
- (c) wrapping should be non-toxic and should not leave harmful deposits of any kind on the meat, or otherwise contaminate it; and
- (d) cases or cartons used should be provided with a suitable inner liner or other satisfactory means of protecting meat, except that the liner or other protection may not be required if individual pieces of meat, such as cuts, are individually wrapped before packing.

102. Inventory control should be maintained over all frozen meat and there should be effective monitoring of the freezing and storage process to ensure that time and temperature parameters are met.

103. Where carcasses, parts of carcasses or edible offals are placed in a freezing room for freezing, the following provisions should be observed:

- (a) meat that is not in cartons should be hung or placed on suitable corrosion resistant trays in a manner permitting adequate circulation of air around the meat;
- (b) cartons that contain meat should be stacked so as to permit adequate circulation of air around each carton;
- (c) meat that is not in cartons should be held in a manner that precludes drip from one piece of meat falling on to any other piece; and

- (d) care should be taken where meat is held on trays to avoid contact between the base of any tray and any meat stored beneath that tray.

104. Where carcasses, parts of carcasses or edible offals are placed in any freezer store, the following provisions should be observed:

- (a) they should not be placed in that freezer store until the temperature of the meat has been reduced to an acceptable level;
- (b) meat, whether in carcase form or in cartons, should not be stacked directly on the floor and should be positioned so that there is adequate air circulation; and
- (c) the freezer store should be operated and maintained at a temperature that will give adequate protection to the meat.

105. Where carcasses, parts of carcasses or edible offals are placed in freezing rooms or frozen storage rooms:

- (a) entry to those rooms should be restricted to personnel necessary to carry out operations;
- (b) doors of those rooms should not be left open for extended periods and should when possible be closed immediately after use; and
- (c) temperatures should be recorded.

Operational hygiene of transportation

Transportation is an area of particular risk for contamination of meat from a variety of sources and of increased difficulty in maintaining water activity and temperature parameters that assure safety and wholesomeness. Particular care should be taken during transportation to prevent the growth of microorganisms that might be present.

106. Meat should only be transported:

- (a) in a means of transport that was clean and in good repair before loading and, if necessary, that was disinfected;
- (b) if with other goods, in a way that does not adversely affect the meat;
- (c) in the case of stomachs, if they have been cleaned or scalded;
- (d) in the case of heads and trotters, if they have been skinned, or scalded and dehaired;
- (e) if carcasses, sides or quarters, as a hanging load or in a suitable manner on racks or similar equipment, except that if they are adequately wrapped and frozen, they may be carried under other hygienic arrangements;
- (f) if unwrapped and unfrozen edible offal, in suitable closed containers;

- (g) so that it does not contact the floor;
- (h) in a vehicle or container that prevents the entry of pests and other sources of contamination; and
- (i) in a way that prevents unacceptable rises in temperature.

107. Where meat is accidentally exposed to adverse conditions during transport and the wholesomeness of the meat is in doubt it should be examined and evaluated by a veterinary inspector, or by another suitably qualified person who is accountable to a veterinary inspector, before any further step is taken.

Operational hygiene for separate slaughter

108. Particular care should be exercised over the operational hygiene of the slaughter and dressing of animals of a category that a veterinary inspector has decided should be slaughtered and dressed in the separate facility specified in sub-paragraph 0 (m) of this Code. Slaughter and dressing should be consistent with the requirements set out in paragraphs 0 to 0.

109. Meat from animals slaughtered and dressed in the separate facility specified in sub-paragraph 0 (m) of this Code that is being held pending a decision on its fitness for human consumption, and any suspect meat, should be held under conditions that prevent it contaminating other meat and preclude it being substituted.

Operational hygiene for meat condemned or otherwise unfit for human consumption

Particular care and attention needs to be paid to handling practices for meat that has not been passed for human consumption and is either designated condemned or inedible, or is being held pending further investigatory testing. This meat must be prevented from being mixed with, substituted for, or in any way contaminating meat for human consumption.

110. Rooms, equipment and utensils for use with inedible or condemned materials should be reserved for that purpose and not used for edible product.

111. Meat that has been condemned or is otherwise unfit for human consumption, under supervision by a veterinary inspector:

- (a) should be placed without delay into clearly identified chutes, containers, trucks, trolleys, skips, or rooms, or handled in accordance with other adequate arrangements provided for these purposes;
- (b) may be identified by means of cuts or brands provided these clearly identify the meat as condemned or unfit for human consumption; and
- (c) should be conveyed to the rendering station or other place of destruction in a manner that ensures that no removal of such meat is possible and no contamination can be caused.

SECTION IX - SPECIAL REQUIREMENTS FOR INSPECTION

Facilities and equipment should be provided that allow adequate monitoring and control of meat hygiene by industry personnel and the controlling authority. All aspects of meat hygiene should be supervised by an official veterinarian. Each abattoir or establishment and its supervising veterinarian should have access to laboratory facilities and analytical procedures to support hygienic practices and process control programmes.

Facilities and equipment

112. Abattoirs and establishments should be laid out and equipped so as to facilitate proper supervision of meat hygiene including the performance of meat inspection.

113. Lighting intensity at all inspection points should not be less than 540 lux.

114. Each abattoir or establishment should include amenities for meat inspection personnel that are commensurate in size with the number of inspectors and that comply with the requirements of sub-paragraphs (b) to (e) of paragraph 0 of this Code. However, in the case of establishments, the controlling authority may waive this requirement where satisfactory arrangements are made for access to amenities elsewhere so long as they are conveniently located and meet the above requirements.

115. Suitably equipped office accommodation should be provided for the exclusive use of the meat inspection service.

116. Laboratory facilities should be readily available for the purpose of meat inspection and meat hygiene.

Veterinary supervision of meat hygiene

117. All meat hygiene requirements in this Code should be supervised by an official veterinarian (though those in Sections IV and V may be supervised by a separate authority in strict collaboration with the official veterinarian). For every abattoir or establishment there should be at least one official veterinarian appointed to supervise hygiene, including meat inspection.

Laboratory control procedures

118. It is desirable that the management of each abattoir or establishment, in its own interest, have access to laboratory services. Analytical procedures used should follow recognized or standard methods in order that the results may be readily interpreted.