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Western Cape Department of Agriculture

Veterinary Services

Provincial Procedural Notice No. 01/2020

STANDARD RELATING TO THE LAYOUT, CONSTRUCTION, OPERATIONAL PROCEDURES AND FOOD SAFETY REQUIREMENTS AT APPROVED EXPORT MEAT PROCESSING FACILITIES

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PART I BACKGROUND

INTRODUCTION

When viewing meat products available in retail, there are a great variety of products with different sizes, shape, colour and taste characteristics available. A variety of processing technologies are used to achieve unique characteristics in different types of meat products. Despite this variety, there are many hygiene and food safety requirements that are common across the spectrum of processing methods. This standard aims to achieve a uniform approach to regulatory, hygiene, and food safety requirements across all meat processing establishments which are approved to export processed meat products to countries where export requirements can be met. In order to fulfil this purpose the requirements of local legislation, South African National Standards and international guidelines have been incorporated to serve as the basis of this standard.

SCOPE

This standard is applicable to all export-approved meat processing facilities producing meat products through alteration of fresh meat from carcasses or meat cuts by any (or a combination of any) of the following processes:

- Mechanical alteration such as cutting, grinding, mincing, mechanical deboning, mechanical tenderisation or extrusion.
- The addition/injection of any spices or brine products.
- The application of any heat process resulting in a 'ready to eat', 'ready to heat' or 'ready to cook' product.
- Curing.
- Smoking.
- Drying.
- Fermentation.
- Commercial sterilization (Canned meat products).
- Sous Vide cooking (Cook in bag).
- The production of meat extracts.

Background

NORMATIVE REFFERENCES

South African legislation

- Act 119 of 1990 – Agricultural Products Standards Act.
- Act 29 0f 1993 – Standards Act.
- Act 40 of 2000 – Meat Safety Act.
- Act 54 of 1972 – Foodstuffs, Cosmetics and Disinfectants Act.
- Act 9 of 1983 – Perishable Products Export Control Act.
- R.146 of 1 March 2010 under Act 54 of 1972 – Regulations relating to the labelling and advertising of foodstuffs.
- R.607 of 14 June 2018 under Act 54 of 1972 - Regulations relating to the application of the Hazard Analysis Critical Control Point System – Amendment.
- R.638 of 22 June 2018 under Act 54 0f 1972 – Regulations governing general hygiene requirements for food premises, the transport of food and related matters.
- R.692 of 16 May 1997 under Act 54 of 1972 – Microbiological standards for foodstuffs.
- R.791 of 9 July 2004 under Act 29 0f 1993 – Compulsory specification for the manufacture, production, processing and treatment of canned meat products.
- R.908 of 27 June 2003 under Act 54 of 1972 – Regulations relating to the application of the Hazard Analysis Critical Control Point System.
- R.965 of 3 June 1977 under Act 54 of 1972 – Regulations – Preservatives and Antioxidants.
- VC9100 under Act 5 of 2008 – Compulsory specification for processed meat products.

South African National Standards

- SANS 10049 – Food safety management – Requirements for prerequisite programmes.
- SANS 241 – Drinking water standards.
- SANS 885 – Processed meat products.

Background

South African guidelines

- Department of Health – Guidelines for Environmental Health Officers on the interpretation of microbiological analysis data of food.

International standards and guidelines

- (EC) 2073/2005 – Regulation on microbiological criteria for foodstuffs.
- Annex to CAC/RCP 1- 1969 – Hazard analysis and critical control point system and guidelines for its application.
- CAC/GL 61-2007 – Guidelines on the application of general principles of food hygiene to the control of Listeria Monocytogenes in foods.
- CAC/RCP 1- 1969 – General principles of food hygiene
- CAC/RCP 58-2005 - Code of hygienic practice for meat.
- CAC/RCP23 – 1979 – Code of hygienic practice for low and acidified low acid canned foods.
- CODEX STAN 1-1985 – General standard for the labelling of pre-packaged foods.
- CODEX STAN 99-1981 – Standard for corned beef.
- OIE Terrestrial Animal Health Code.
- US Food and Drug Administration – Food Code.
- US Food and Drug Administration – Meat Industry Guide.

DEFINITIONS

Acceptable	Means acceptable to the authority administering this standard.
Acid food.	Food that has a natural pH of 4.6 or below.
Acidified low acid food.	Food that has been treated so as to attain an equilibrium pH of 4.6 or lower after heat processing.
Ambient temperature	The temperature of the surrounding environment.
Batch	A group or set of identifiable products obtained from a given process under practically identical circumstances and produced in a given place within one defined production period.
Brine	A high concentration solution of salt (Usually sodium chloride).
Canned food	Commercially sterile food in hermetically sealed containers.
Chilled meat products	Meat products which is stored in a temperature controlled area to maintain a core temperature of -1°C to 5°C (-1°C to 4°C for raw poultry meat products).
Cleaning	Actions dealing with the removal of soil, food residue, dirt, grease and other objectionable matter.
Commercial sterility of processed foods	The condition achieved by any appropriate treatment or combination of treatments to render the food free from microorganisms capable of growing in food at normal non-refrigerated conditions at which the food is likely to be held during distribution and storage.
Comminuted meat product	Product comprising of meat pieces that have been reduced in size by either mincing, grinding, chopping, flaking, dicing or emulsifying with or without other ingredients which is then either filled into a casing, formed into a mould or pre-formed.

Competent Authority	The central authority of South Africa, competent to ensure compliance with the requirements of this regulation or any other authority to which that central authority has delegated that competence.
Control measure	Any action or activity that can be used to prevent or eliminate a food safety hazard or reduce it to an acceptable level.
Critical Control Point (CCP)	A step at which control can be applied and is essential to prevent or eliminate a food safety hazard or reduce it to an acceptable level.
Critical limit	A criterion which separates acceptability from unacceptability.
Cured products	Product with added curing agents (for example nitrites or nitrates).
Extrusion	Generally a process through which a set of mixed ingredients are forced through an opening in a perforated plate with a design specific to the food and is then cut into a specified size.
F Value in heat processing	The number of minutes required to kill a known population of microorganisms in a given food under specified conditions.
Factory/Processing facility	Premises in which meat or meat products are handled or treated to process further for commercial purposes.
Fermentation	Conversion of carbohydrates to organic acids (lactic acid) using micro-organisms, under controlled conditions.
Fermented product	Product that has been passed through the fermentation process and in addition might have undergone a process of air drying and may be smoked or unsmoked.
Food Business Operator	Refers to the person or persons responsible for ensuring that the prescribed requirements of the export standards and requirements of national food law are met within the food business under his or her control.

Food contact surface	Any surface on which unwrapped food is handled and any equipment which comes into direct contact with food.
Food packaging	Materials that enclose food to protect it from damage, contamination, spoilage, pest attacks and tampering during transport, storage, and retail sale.
Food safety	The assurance that food will not cause harm chemically, biologically or physically to the consumer when prepared, used or eaten according to its intended use.
Barriers	An intelligent combination of hurdles which secures the microbial safety and stability as well as the organoleptic and nutritional quality of food products. Examples of hurdles in a food system are high temperature during processing, low temperature during storage, increasing the acidity, lowering the water activity, or the presence of preservatives.
Freezing	A continuous process whereby the temperature of the product is lowered until the temperature of the entire product has reached –18 °C or lower.
Fresh meat	Meat of red meat species, game, poultry, pork and ratites that has not undergone any preserving process other than chilling, freezing, quick freezing, vacuum wrapping or modified atmosphere packaging.
Good Manufacturing Practice	Methods or manufacture procedures applied taking into account the most basic principle of hygiene, that food must not be contaminated or spoiled during the manufacturing process
Harmful bacteria	Bacteria which can cause disease in humans.
Hazard analysis	The process of collecting and evaluating information on hazards and conditions leading to their presence to decide which are significant to food safety and therefore should be addressed in the HACCP-plan.
Health certificate	A certificate that certifies, after inspection by competent authorities of the exporting country that the products are

	compliant with the requirements of the importing country defined in applicable laws concerning production hygiene, microbiological standards for foodstuffs and the health condition of the animals of origin.
Hermetically sealed containers	Containers which are sealed to protect the contents against the entry of micro-organisms during and after heat processing.
High risk area	The room or area where exposed ready-to-eat processed meat products are received after the processing step which is intended to kill harmful bacteria and is handled by workers, by hand, as part of a further production step (e.g. cutting, slicing, wrapping etc.) and where subsequent production steps does not include a step that effectively destroys all harmful microorganisms.
Lethality treatment	The process step or steps used to destroy pathogenic micro-organisms in a product to make the product safe for human consumption.
Local authority	The administrative body in the local government responsible for all public services and facilities in a particular area and with the authority to make their own legislation.
Low acid food	Foodstuffs where any part has a pH value between 4.6 and 7 and a water activity greater than 0.85.
Meat extract.	A highly concentrated meat stock used to add meat flavour in cooking and to make broth for soups and other liquid-based foods.
Meat preparations.	Fresh meat, including meat that has been reduced to fragments which has had foodstuffs, seasonings or additives added to it or that has undergone processes insufficient to modify the internal muscle fibre structure of the meat and thus, eliminate the characteristics of fresh meat.
Minced meat	Meat that has been cut up into very small pieces using a special machine.

Moisture : Protein ratio	Refers to the quantity of moisture in a product in relation to the quantity of meat protein expressed as a percentage of moisture for each percentage of meat protein.
Monitor	The act of conducting a planned sequence of observations or measurements of control parameters to assess whether a CCP is under control.
Niche	An environment that can harbour and sustain the growth of spoilage or pathogenic microorganisms.
Non-conformance.	Non-fulfilment of a specified requirement.
Occupational health Practitioner	An occupational medicine practitioner or a person who holds a valid registration with the Health Professions Council of South Africa or the South African Nursing Council.
Positive release of product	Refers to processed meat products that will only be released for distribution into the market after prescribed food safety controls/tests have been completed with acceptable results.
Potable water	Water which is safe to drink.
Preparatory processes	Processes during which food products of a lower hygiene status is handled and/or treated to prepare it for further processing, on its own or together with food products of a higher hygiene status. Examples include meat thawing and vegetable washing and peeling.
Prerequisite programmes	The basic conditions and activities that are necessary to maintain a hygienic environment throughout production and handling and provision of safe end food products and safe food for human consumption.
Primary food packaging	Food packaging that comes into direct contact with food surfaces.
Provincial Procedural Notice	Official Provincial Department of Agriculture instructions. Mostly to elaborate on and explain practical implementation of legal requirements or to provide instruction on aspects required by importing countries.

Background

Raw materials	All the ingredients, processing aids and packaging materials used to produce finished food products.
Ready to Cook (RTC) meat products	Food which is processed into a form where one or more of the ingredients are still raw and which needs a further cooking step to render the food safe for consumption.
Ready to Eat (RTE) meat products	Food which is processed into a form in which it is normally consumed without further processing.
Ready to Heat (RTH)	Food for which the processing steps have included a lethality step, but for which further heating is recommended before consumption in order to improve the organoleptic quality of the food.
Registered inspector	A Veterinary Public Health Official or a Veterinarian authorised by the Competent Authority to perform public health inspections.
Retort	A pressure vehicle designed for thermal processing of food packed in hermetically sealed containers.
Reviewing Officer	A supervisor/manager with knowledge of- and responsibility for the subject under review, who reviews records of monitoring actions or corrective actions for the effective implementation of these actions.
Rework	Clean, unadulterated food that has been removed from processing for reasons other than unsanitary conditions or that has been successfully reconditioned by re-processing and that is suitable for use as food.
Secondary food packaging	Food packaging that encloses food without coming into direct contact with the food surface.
Shelf life.	The time the specific product can be stored under specific conditions that retains organoleptic acceptability.
Shelf stable products.	Products that do not need refrigeration or freezing for safety.
Sous Vide cooking	A process of cooking under vacuum in sealed pouches at precise (sometimes low) temperatures for long times.

Background

Standard Operating Procedure (SOP)	A set of step-by-step instructions compiled by an organization to help workers carry out complex routine operations.
Sterilization temperature	The temperature maintained throughout the thermal process as specified in the scheduled process for the production of commercially sterile products.
Sterilization time	The time between the moment the sterilisation temperature is achieved and the moment cooling starts in the production process for commercially sterile products.
Uncleaned ingredient	Ingredients of a lower hygiene status than exposed raw meat, for example, vegetables before washing and/or peeling.
Validation	The process of obtaining evidence that the HACCP-plan is effective.
Verification	The application of methods, procedures, tests and other evaluations in addition to monitoring to determine compliance with the HACCP plan.
Veterinary Procedural Notice (VPN)	Official DALRRD (Department of Agriculture, Land Reform and Rural Development) instructions, mostly to elaborate on and explain practical implementation of legal requirements or to provide instruction on aspects required by importing countries.
Water activity of foodstuffs.	The moisture condition of a food product measured as the equilibrium relative humidity and viewed in relation to the water activity of pure distilled water which has a value of one.

RESPONSIBILITIES:

The Food Business Operator (FBO) will be responsible for:

1. Ensuring compliance to the statutory requirements of all national legislation that may be relevant to the type of products produced and the specific processing methods implemented at the facility;
2. Compliance with all the relevant requirements of this standard in order to qualify for approval to export processed meat products, as defined by this standard, to countries where import requirements can be met;

3. Applying to be registered/re-registered for export by the Competent Authority(CA) on an annual basis;
4. Ensuring the availability of documented methods and procedures that can proof that an acceptable product safety system has been implemented and maintained;
5. Maintaining records to prove implementation of the food safety system and making them readily available on request of a registered inspector;
6. Implementing a HACCP system (or any other certified, equivalent food safety system) in compliance with the guidelines provided by the Recommended International Code of Practice, CAC/RCP 1-1969;
7. Compliance to any particular animal health and public health requirements of the country of import in addition to the requirements of national legislation and this standard.

The Competent Authority will be responsible for:

8. Inspecting the FBO upon application on an annual basis for compliance to this standard;
9. Registering the FBO for approval to export based on the outcome of such inspections;
10. Keeping an up to date register of approved facilities.

DISPENSATION:

11. Under exceptional circumstances where deviations from the requirements of this standard may be justified, dispensation will be considered by the Competent Authority.
    a. Application towards dispensation shall be made in writing.
    b. The nature of the dispensation required, including the applicable requirement in the standard for which dispensation shall be granted, shall be clearly indicated.
    c. A detailed motivation for the application shall be included in the application.
    d. The arrangements for alternative risk management controls shall be provided.

e. The time period for which dispensation is required shall be stated.

12. Dispensation shall be granted in writing and the documentation shall be presented by the Food Business Operator during all regulatory audits/inspections.
13. Dispensation may be revoked at any time as situations may warrant.

PART II: REQUIREMENTS FOR THE LAYOUT, CONSTRUCTION AND DESIGN OF THE PREMISES AND FACTORY/PROCESSING FACILITY

14. The layout, construction and design of the premises and equipment shall at all times comply with the statutory requirements of R638 under Act 54 of 1972 and all other relevant requirements of the local authority.
15. A valid Certificate of Acceptability in terms of R638 shall be available and shall be prominently displayed.
16. Food Business Operators producing canned meat products shall comply with the statutory requirements of R791 under Act 29 of 1993.

General requirements for the premises

17. The premises shall be secured against the unauthorised entry of persons and vehicles.
18. Outside areas shall be well drained and have a surface covering that is not liable to produce dust.
19. The buildings shall be designed and constructed to prevent the entry of pests, shall be in good repair and the premises shall be kept neat and free from litter or unused items that may harbour pests.
20. Sewage and effluent lines shall be so constructed as to avoid the contamination of potable water supplies, storage areas and production areas.

Construction and layout of the factory

Receiving and dispatch areas

21. Separate rooms or well defined areas within such rooms, of acceptable size, shall be provided for the receipt of raw materials and the dispatch of finished products.
22. The raw receiving area may be used for the dispatch of processed meat products provided no exposed raw meat or exposed processed meat products are handled therein at the same time.

REQUIREMENTS FOR THE LAYOUT, CONSTRUCTION AND DESIGN OF THE PREMISES AND FACTORY/PROCESSING FACILITY

23. Where carcasses and raw meat are handled in the same receiving/dispatch area, a Standard Operating Procedure(SOP) for cleaning and preventing cross-contamination between products shall be implemented.
24. Other chilled or frozen ingredients e.g. frozen vegetables may also be received via the raw meat receiving area provided no exposed raw meat or meat preparations are handled therein at the same time.
25. Receiving and dispatch areas shall be fitted with doors that shall be kept closed when the area is not in operation and which shall prevent the entry of pests when closed.
26. Receiving doors and dispatch doors shall be designed to protect both raw and finished products from contamination from outside or loss of the cold chain for temperature controlled areas.
27. Areas where chilled or frozen products are received and/or dispatched shall be temperature controlled to 12°C or less.
28. Such areas shall be fitted with temperature dials that accurately display the room temperature at any given time.

General processing environment

29. Access to processing areas shall be controlled.
30. Interior wall surfaces shall be faced with impervious material of a durable smooth surface (to a height of at least 2m above the floor).
31. Openings in walls for conveyers, pipes and vents shall be smooth and sealed.
32. Floor and wall junctions shall be rounded and floors and walls shall not display crevices, cracks or open joints.
33. Floors shall be constructed of water-impermeable, easy to clean material and shall be sloped to drain into open type drainage channels with, where necessary, removable covers.
34. Drainage channels shall be designed to cope with the maximum expected flow of liquid.
35. Gully traps shall be fitted with easily removable strainers.
36. Drainage channels shall not flow from less hygienic to more hygienic areas
37. All processing areas shall be adequately ventilated to effectively control the prescribed room temperatures and humidity and to prevent condensation.
38. Ventilation screens shall be easy to clean.

REQUIREMENTS FOR THE LAYOUT, CONSTRUCTION AND DESIGN OF THE PREMISES AND FACTORY/PROCESSING FACILITY

39. Condensation/drip from overhead structures onto raw materials or food shall be prevented.
40. Overhead pipes shall be insulated where appropriate and insulation material shall be in a good state of repair.
41. Ceilings and walls shall not be flaky or covered with mould and shall be light and uniform in colour.
42. Air shall not flow from less hygienic to more hygienic areas.

43. Any area where food products are stored or handled, shall be provided with adequate natural or artificial lighting (220 lux for processing areas).
44. Light bulbs shall be covered with protectors and all lights shall be in working order.

45. A sufficient number of hand-wash basins with an abundant supply of hot and cold (or warm) potable running water (40°C - 50°C) shall be provided at the entrance to- and in the processing areas.
46. Hand basins shall be supplied with a sufficient supply of soap or hand cleaning detergent and enough functional hand driers, or where appropriate, single use hand towels.
47. Taps shall be of the knee- or foot operated type.
48. Hand-wash basins shall drain directly into closed drainage channels and shall be fitted with traps to prevent odour or steam release and allow for the removal of solids.

49. A means to disinfect boots or shoes shall be provided at each entrance, either by means of a footbath where appropriate, or any acceptable alternative.
50. Footbaths shall be constructed so that they can be adequately drained and cleaned.

51. Separate rooms or well defined areas of acceptable size shall be provided for:
    a. The receipt of raw materials;
    b. The storage of raw materials;
    c. In the case where cartonized raw meat or meat preparations is received, a separate room or well defined area for removing meat

cuts/portions/preparations from cartons without removing or damaging the meat's primary packaging before further use of the meat;

d. In the case where frozen raw meat is received, a separate room for thawing wrapped, frozen meat cuts/portions before further processing;
e. Preparatory operations of the food;
f. Food handling and processing operations;
g. Packaging;
h. The storage of the food product in secondary packaging.

52. The flow of products from one area/process to the next shall be of such a nature as to prevent cross contamination between different categories of food products.
53. The layout of the factory and size of the rooms shall ensure an un-delayed flow of product.
54. Processed meat products in primary packaging shall not be cartonized in the same processing room where exposed meat products are handled after the processing step.
55. Processing areas shall be physically separated from any storage and cleaning areas.
56. Areas where uncleaned ingredients are handled shall be separated from areas where cleaned ingredients or raw, unprotected meat are handled.
57. Areas where meat is deboned and cut for further processing shall be physically separated from heat treatment areas.
58. Where canned meat is produced a clean separated area for the sole purpose of cooling cans after retort shall be provided. Such an area shall:
    a. be physically separated from areas where steam is emitted,
    b. be enclosed with unauthorised entrance being restricted,
    c. Situated away from other normal factory traffic with no cross-flow along the route of the baskets or trolleys between the retorts and the cooling area.

59. Areas where ready-to-eat meat products are exposed after they have undergone a processing step that effectively destroys harmful micro-organisms and subsequent process steps do not include a lethality treatment step, shall be considered high risk areas.

REQUIREMENTS FOR THE LAYOUT, CONSTRUCTION AND DESIGN OF THE PREMISES AND FACTORY/PROCESSING FACILITY

a. High risk areas shall be physically separated from other food handling areas and shall be demarcated as such.
b. Access to high risk areas shall be restricted to designated personnel.
c. Entry into high risk areas shall be through a dedicated lobby/changing area.
d. The air supply to high risk areas shall be filtered and the area shall be kept under positive pressure.
e. Air filters shall be examined and changed regularly according to the manufacturer's instruction and such changes shall be recorded.
f. No cardboard or outer case packaging materials shall be permitted in the high risk area.

60. Separate cleaning facilities with proper drainage shall be provided for the cleaning and disinfection of portable equipment and utensils.
61. Such cleaning facilities shall be supplied with cold potable water, hot water and steam where applicable.

62. Separate, suitable waste facilities shall be provided on the premises and shall be designed to prevent contamination of the environment.
63. Waste facilities shall be kept neat and shall be cleaned frequently.
64. No miscellaneous items shall be stored in production areas.

Ambient storage facilities

65. Storage rooms for edible products kept at ambient temperature shall be dry, well ventilated, dust free and be vermin proof.
66. No edible products shall be stored directly on the floor or against the walls.
67. Containers used for the storage of edible materials must be kept closed during storage.
68. Hermetically sealed products shall be handled and stored in a manner to prevent mechanical damage to the containers.

69. Storage rooms for packing and packaging materials shall be dry, free from dust and vermin proof.

70. Substances used for cleaning and disinfection and the equipment for their application shall be stored in a room in which no foodstuffs, food handling equipment, packaging materials or food handling containers are stored.
71. All substances for disinfection and cleaning shall be prominently labelled.
72. Access to rooms where chemicals are stored shall be restricted and the room shall carry a warning as to be containing hazardous substances.

73. Where required, a demarcated area shall be available to handle non-compliant raw materials.
74. A method of clearly identifying non-compliant raw materials shall be implemented.
75. Returned foodstuffs shall be handled separately from edible raw materials and finished goods and shall be clearly identified until such time as its positive release.

Cold rooms

76. A sufficient number of chillers shall be available to keep raw meat cuts/portions and/or meat preparations received chilled before processing.
77. A sufficient number of freezers shall be available to keep raw meat cuts/portions and/or meat preparations received frozen before processing.
78. Cooling units shall be designed and placed to prevent dripping of effluent onto foodstuffs and shall be placed to ensure uniform cold air distribution.
79. Unprotected meat shall be stored in a separate room from boxed meat or any other edible raw materials.
80. Cartonized raw meat and meat preparations may be stored in the same cold room as cartonized processed meat products.
81. Edible raw materials other than meat shall only be stored in the same room as wrapped and cartonized meat and meat preparations if in a prepared, neatly packaged form in hygienic containers.
82. Sufficient blast freezer facilities shall be provided where the temperature of wrapped or cartonized processed meat products are to be reduced before it

is stored in bulk freezers or where individual quick freezing of processed meat products may be performed if required.

83. Sufficient blast chiller facilities shall be provided if required as part of the process.
84. All chillers and freezers shall be designed and managed to allow for adequate circulation of cold air in order to ensure uniform temperature control of the products therein and to prevent the formation of condensate.
85. Chiller and freezer space shall be managed in a manner to allow for the inspection of all products therein.
86. No edible products shall be handled directly on the floor or in contact with the walls.
87. Open meat shall be handled on racks or trays and shall be managed in a manner to prevent drip contamination from top layers onto bottom layers.
88. Condemned material/adulterated foodstuffs or meat waste shall be stored in a separate room or in a well demarcated area away from raw or processed meat, meat cuts/portions or meat preparations.
89. The walls floors and ceilings of chillers and freezers shall be maintained in a good condition to prevent the formation of niches which may harbour harmful bacteria.
90. The entrances to chillers and freezers shall be protected against the in-flow of warm air by the provision of an ante-room, mechanical air curtain, strip curtain or self-closing shutters.
91. Chillers and freezers shall be equipped with temperature measuring devices connected to external dials in a position that is easily accessible.
92. RTE chillers containing exposed products, shall be considered 'High Risk Areas' and shall be designed and managed in accordance with the requirements for high risk areas.

93. Where required, a demarcated area shall be available to handle chilled or frozen returned processed meat products.
94. Returned foodstuffs shall be handled separately from edible raw materials and finished goods and shall be clearly identified until such time as its positive release.

95. In the case where frozen raw meat is received and has to be thawed before use, a separate room for thawing wrapped, frozen meat cuts/portions before further processing shall be supplied.
96. The thawing room shall be designed in a manner that allows adequate draining of the run-off liquid from the thawing process without causing cross-contamination.

Equipment

97. All equipment shall be designed for and constructed of materials that are suitable for food handling processes and shall prevent the contamination of food product during operations.
98. Equipment shall have no open joints or crevices and shall be constructed to facilitate their cleaning and disinfection as well as the cleaning and disinfection of the areas under such equipment.
99. Where equipment is fixed to floors, walls or tables the junctions shall be sealed.
100. Where necessary it shall be possible to dismantle equipment for cleaning and disinfection.
101. Equipment shall be maintained in a good state of repair.
102. No wooden equipment (for example chopping boards) shall be allowed in process areas.
103. No surfaces with which the product comes into contact shall be painted.
104. Pipes in which product runs shall have no dead ends or tight corners.
105. Where closed pipe systems are used all seals shall be intact and maintained as such.
106. Conveyers, runways and elevators shall be constructed to allow for effective cleaning and shall host no open-ended rollers or other open-ended structures.
107. Containers holding food material shall not be stacked one upon the other so that the contents of one container can be contaminated by another.
108. Containers with food material shall not be stacked or handled directly on the floor.
109. Where seamers or sealing equipment for canned meat products are in use such equipment shall be clearly numbered and be equipped with a coding device.

110. Where heating equipment generate steam, equipment to remove steam and prevent condensation over food product shall be installed.

Comfort facilities

111. An acceptable number of suitable change rooms and toilet facilities in compliance with Annexure D of R.638 under Act 54 of 1972, shall be provided within practical distance from the food handling areas.
112. Comfort facilities shall not open directly into the preparation, processing, packaging and storage areas.
113. Comfort facilities shall be kept clean & tidy and shall be adequately ventilated.
114. Change rooms shall provide for separation between personal and protective clothing.
115. Open windows shall be protected with fly screens and doors shall be kept closed.
116. Dining rooms shall be separate from the change rooms and shall not open directly into the food handling areas or toilet facilities.
117. Dining rooms shall be provided with storage areas for personnel's food.

PART III: OPERATIONAL PROCEDURES

REQUIREMENTS FOR RAW MATERIALS.

118. All ingredients and additives used shall comply with the relevant national legislation and requirements of the importing country and only permitted ingredients shall be used.
119. All ingredients used for the preparation of the product shall be clean, sound and safe and in every way wholesome.
120. Purchasing requirements shall be established based on the impact of products on services and on food safety.
121. Food safety and regulatory criteria for the selection, evaluation and re-evaluation of suppliers shall be established and documented.
122. A current list of approved suppliers shall be available.
123. Food product ingredients shall be inspected, tested or certified to verify conformity to specified requirements before acceptance or use.
124. Rejection criteria for raw materials shall be established.
125. Non-conforming ingredients shall be identified, segregated and handled in a manner which will ensure that they are prevented form unintended use or possible cross-contamination.
126. A procedure detailing the actions to be taken with regards to rejected products shall be maintained.
127. Where the final products are intended for export, raw materials of animal origin shall be sourced exclusively from the Department of Agriculture, Land Reform and Rural development (DALRRD) approved export facilities.
128. Proof of the current export approval status of such suppliers shall be available.
129. Where imported raw materials of animal origin are used, a valid import permit and corresponding Health Certificate for the products shall be available and shall:
    a. Be traceable to a specific batch of imported products;
    b. Proof of release of the products into South Africa by DALRRD.
    c. Proof of compliance with the requirements of the importing country.

130. Imported raw materials of animal origin shall be handled only through DALRRD approved cold stores or facilities and proof of the current DALRRD approval status of such facilities shall be available where applicable.
131. Food product materials shall be used following the first-expired-first-out (FEFO) rule.

PREREQUISITE PROGRAMMES

All establishments shall document and implement Prerequisite Programmes in order to maintain a hygienic environment throughout the production process.

Personal Hygiene

132. All the hygiene and health practices for food handling personnel shall comply with the statutory requirements of R638 under Act 54 of 1972.
133. A Code of Conduct for workers shall be supplied at the establishment and shall include basic principles of hygiene such as:
    a. Hand washing procedures before and during work in processing areas,
    b. Wearing of protective clothing;
    c. Worker health;
    d. A procedure for handling injuries in the workplace;
    e. Prohibited unhygienic acts (such as spitting etc.) in work areas.
134. Management shall supply sufficient and suitable clean protective clothing, head cover and footwear to all staff and shall maintain these in a good state of repair.
135. Protective clothing shall be stored separate from personal clothes and food products in a manner which will prevent contamination.
136. Personnel entering High Risk Areas shall wear readily identifiable protective clothing, including footwear. Such protective clothing shall shall not be worn outside of the dedicated area.
137. In High Risk Areas, hand sanitising shall be performed at predetermined intervals irrespective of whether gloves are worn.
138. Where the same person are to handle raw products before- and RTE products after a lethality step has been applied, that person shall wash hands and change protective gear before doing so.
139. A constant supply of soap, sanitiser and paper towel at hand wash facilities and toilet paper in staff amenities shall be ensured, monitored and recorded.

Operational Procedures

140. Where hand blowers are used they shall be separate from production areas, sufficient in number and functional at all times.
141. Where footbaths are used, the frequency of cleaning, chemical to be used and the desired concentration for the chemical shall be described, monitored and recorded.

142. All persons handling foodstuffs shall be certified fit to handle food by an Occupational Health Practitioner before the start of employment and annually thereafter.
143. Any food handler who had been absent due to illness for longer than 3 days shall receive a health check by an Occupational Health Practitioner and shall provide a medical certificate indicating the nature of the illness.
144. All personnel shall report health issues to a nominated person, who will have the responsibility and authority to take the most appropriate action.
145. A standard operating procedure shall be available for the management of injuries, especially where blood may be spilled near or on food products.
146. No persons with wounds, open sores or cuts may handle food unless the injury has been treated or dressed by waterproof dressing and the wound and its dressing are covered to ensure that contamination is not possible.
147. A glove and plaster policy shall be implemented.
148. All food handlers shall be subjected to daily health checks by their supervisors who shall implement appropriate corrective actions when needed.

149. A programme for the microbiological testing of hand swabs from food handlers shall be maintained to verify the efficacy of hand washing and sanitation.
150. A test schedule shall be available and shall include:
    a. The frequency of sampling:
        i. Shall be risk based according to the size of the operation;
        ii. Shall not be less frequent than monthly.
    b. The type of tests to be performed:
        i. Staphylococcus Aureus and E Coli testing shall be performed as a minimum requirement.

ii. The selection of additional microbes for testing shall be risk based and shall be appropriate to the specific type of food product produced at the facility.

c. The criteria for acceptability:
   I. Staphylococcus Aureus and E Coli shall test absent.
d. The corrective actions to be taken in the event of a non-compliant result.

151. Any person who visits the food handling areas during the hours of operation shall be made aware of and shall comply with all the relevant hygiene requirements, including wearing protective clothing that shall be provided by the management of the establishment.

Cleaning and sanitation

152. A documented cleaning and disinfection programme (Master Cleaning Schedule) for the premises, equipment, containers and vehicles shall be established and implemented and shall include:
   a. All areas and equipment to be cleaned and disinfected including ancillary structures, conveyers, overhead rails, ceilings and runways;
   b. Persons responsible for cleaning;
   c. Frequency of cleaning and disinfection;
   d. Methods of cleaning and disinfection including the water temperature required and contact time for chemicals;
   e. Cleaning and disinfection agents to be used including the concentrations at which they are to be used;
   f. Cleaning tools and equipment to be used;
   g. Monitoring and verification procedures;
   h. Procedures for continuous cleaning during processing.

153. No cleaning or disinfection shall be performed in direct contact with food or where food can be contaminated.

154. Processing areas shall be kept free from surplus water.

155. Colour-coded cleaning equipment shall be used for areas of varying hygiene status.

156. Cleaning equipment shall be stored hygienically and away from the floor.

Operational Procedures

157. Pipe couplings for pipes used to transport food or for 'cleaning in place' (CIP) cleaning shall not be left lying on the floor.

158. Where equipment needs to be disassembled before cleaning, the method shall be specifically described.

159. Where 'deep clean' procedures are used in high risk areas or as a corrective action where non-compliances are identified the method shall be described.

160. Only chemicals approved for cleaning and disinfection in the food industry shall be used.

161. A list of approved chemicals with their respective material safety data sheets shall be available.

162. Chemicals shall be used according to the dilution and instructions for application as recommended by the manufacturer.

163. No chemicals may be stored in food handling areas.

164. Cleaning with high pressure hoses in the presence of foodstuffs shall be prohibited.

165. Where applicable, equipment in high risk areas which cannot be disassembled shall be cleaned at least once a week by means of wet heat, for example cooking or the application of steam at 82°C for 3 hours or any other appropriate method. These shall include equipment like peelers and slicers.

166. Steam cleaning shall be performed in a designated area.

167. Where fixed equipment, which cannot be moved to a dedicated cleaning area are cleaned with steam, measures shall be taken to prevent droplet contamination of the surrounding processing areas during cleaning.

168. A procedure shall be established for the monitoring of all cleaning and disinfection activities at defined frequencies and records of effective cleaning and implementation of the cleaning programme shall be maintained.

169. An environmental testing programme shall be maintained at the facility to verify the efficacy of cleaning and disinfection and act as an early warning system for microbiological hazards in the production environment.

170. An environmental testing schedule shall be available and the schedule shall include:

a. Areas and or equipment to be sampled:
   i. Both food contact and non-food contact surfaces shall be included;
   ii. Both high risk and low risk areas shall be included;
   iii. The inside surfaces of pipes used to convey food shall be included;
   iv. Where brine is used to cool or inject RTE products after the lethality step, such brine shall be considered a 'food contact surface' and shall be included in the sampling plan for Listeria.

b. The frequency of sampling:
   i. Shall be determined through risk assessment and may vary for different manufacturing areas within the same facility;
   ii. Shall include the number of sites to be sampled as well as the time interval between sampling efforts;
   iii. The number of sites to be sampled in high risk areas versus low risk areas shall be determined through risk analysis with the higher percentage of sample taking to be performed in high risk areas;
   iv. Shall include sampling post-cleaning and during processing specifically for Listeria species sampling in plants producing RTE products;
   v. Shall not be less frequent than monthly unless a risk assessment can prove a mitigated risk that justifies a deviation in frequency from the minimum requirement.

c. The type of tests to be performed:
   i. Both indicators of the general levels of microbiological cleanliness (for example: Total Viable Counts, Coliforms, Enterobacteriacae, E Coli and Listeria spp), and food poisoning pathogens (for example Listeria Monocytogenes, Salmonella and E Coli:0157) shall be considered for inclusion in the environmental monitoring program;
   ii. The selection of microbes for testing shall be risk based and shall be appropriate to the specific type of food product produced at the facility;

iii. Total Viable Count testing on food contact surfaces shall be performed as a minimum requirement in all meat processing plants.

iv. All RTE meat processing plants shall include Listeria spp as an indicator organism and / or Listeria Monocytogenes as a pathogen in their environmental testing program;

d. The criteria for acceptability:

i. Total Viable Counts on food contact surfaces shall not exceed 100cfu/cm²;

ii. Listeria spp. shall test absent in RTE meat processing plants;

iii. The limits defining acceptability for the scheduled tests shall be determined through interpretation of historical data as well as taking into account applicable legal requirements and customer specifications.

e. Corrective actions to be described in the event of non-conforming test results:

i. The extent of corrective actions in the event of non-compliant results shall be based on the risk for contaminating the product from the area where non-compliant results were obtained;

ii. The rating of the specific type of bacteria as an indicator or a pathogen shall be taken into account when determining corrective actions;

iii. In high risk areas where Listeria spp have been detected, the corrective action shall include confirmation of the presence/absence of Listeria Monocytogenes.

iv. On food contact surfaces in high risk areas where a pathogen have been detected in RTE factories, the corrective action shall include the action to be taken with regards to food products that may have been contaminated through contact with the affected surface.

171. Results shall be reviewed by a competent person within the food safety team as soon as they become available and shall be signed off upon review.

172. The results gained from the environmental testing program shall be presented in a manner that allows for comparison to previous results in order to highlight trends.

173. In facilities producing RTE meat products the results for Listeria spp. testing shall be mapped to allow for the identification of niche areas and possible routes of contamination to final products.
174. The method for sample taking shall be described.
175. Pathogen testing shall be performed at a SANAS (South African National Accreditation System) accredited laboratory.

Training

176. Personnel engaged in the handling of food products shall possess sufficient knowledge to carry out assigned tasks with competence.
177. All employees shall receive induction training on the basic principles of hygiene and the Code of Conduct when employment commences.
178. An annual training schedule shall be compiled and shall include the following aspects:
    a. refresher training on the principles of the Code of Conduct,
    b. basic hygiene training,
    c. technical competencies required for specific operations,
    d. training on cleaning methods and the use of chemicals,
    e. training for personnel monitoring CCP's
179. The person in charge of a food premises shall be adequately trained in the principles and practices of food safety and hygiene.
180. Managers and supervisors shall have the necessary knowledge of food hygiene principles and the relevant food safety requirements to enable them to judge potential hazards and to take the necessary action to remedy non-conformities.
181. All HACCP team members shall be adequately trained in the skills needed to study, implement and maintain the HACCP system.
182. Routine assessments of the effectiveness of training exercises shall be conducted.
183. The criteria for competency shall be documented.
184. Training records shall be kept and shall be able to demonstrate:
    a. that all personnel received appropriate training,
    b. the content of the training material, where appropriate,
    c. the outcome of competency evaluations,

d. the arrangements for follow-up training where needed and the subsequent outcome,

185. Training records shall be signed off by both the trainer and trainee.

Cold chain temperature control.

Maintenance of the cold chain.

186. All necessary measures shall be implemented to maintain the cold chain, as applicable, from the point of receiving chilled and/or frozen raw materials to the dispatch of chilled or frozen final processed meat products.

187. Any perishable foodstuffs that must be kept chilled to prevent spoilage shall be maintained at a core temperature of ≤ 5°C except for raw poultry meat products which shall be kept at a core temperature of ≤ 4°C.

188. Meat being deboned shall not exceed 5°C (poultry meat shall not exceed 4°C) and the area temperature of the deboning room shall not exceed 12°C.

189. The core temperature of chilled meat and chilled meat product emulsions that are awaiting processing shall not exceed 5°C.

190. Any perishable foodstuffs (except frozen fish and fishery products) which is marketed as a frozen product shall be maintained at a core temperature of ≤ -18°C.

191. The room temperature of temperature controlled areas shall be monitored on a continuous basis (when in use), preferably with a continuous monitoring device.

192. Continuous monitoring devices shall have a sampling frequency not exceeding 30 minutes and shall be linked to a notification or alarm system.

193. The records from continuous monitoring devices shall be reviewed on a daily basis by a supervisor/manager and shall be available up to 6 months post the shelf-life of the products therein.

194. Where a continuous monitoring device is not available, a system of manual monitoring and recording shall be implemented at frequencies that do not exceed every 4 hours and that can prove adequate temperature control.

195. Where a manual monitoring and recording system is implemented, provisions shall be made for a manual alert system.

196. The manual recording system shall make provision for after-hours recordings where applicable (such as bulk chillers and freezers).

197. Where personnel other than trained personnel in the employ of the Food Business Operator perform manual recording of temperatures after hours, the said personnel shall be trained to perform such tasks.

198. The corrective actions, including the actions to be taken with regards to affected foodstuffs, in the event of a break in the cold chain, shall be described.

199. Meat that has suffered prolonged temperature abuse that may have led to the production of Staphylococcus enterotoxin should be rejected rather than be reworked or be further processed, regardless of whether further processes might include a heat treatment process.

200. Where chilled or frozen final products are dispatched in vehicles with temperature controlled loading spaces, the temperature of the holding area of the truck shall be verified before loading to be equal or below the temperature at which the products were stored prior to dispatch.

201. The core/surface temperature of chilled or frozen meat products shall be monitored and recorded whenever the core temperature of these products serves as an essential indicator that process parameters, food safety requirements, statutory requirements or specific export requirements have been met.

202. Meat core/surface temperature monitoring procedures shall apply from the point of receiving, during processing and storage up to the dispatch of final products as may be applicable.

The thawing procedure.

203. Where frozen raw meat is received and has to be thawed before use, the surface and core temperature of the meat shall at no stage during the procedure exceed 5°C (4°C for raw poultry meat).

204. The surface temperature of the meat shall be monitored and recorded at intervals that can sufficiently demonstrate adherence to the required end temperature parameters.

205. The corrective actions to be taken in the event of a deviation from the prescribed temperature control procedure for thawing frozen meat products, shall be described.

Calibration or verification of monitoring and measuring devices.

206. All monitoring and measuring devices shall be identifiable.

207. A schedule for the calibration of all monitoring and measuring devices shall be maintained and records of all calibrations shall be kept.

208. The following devices shall be calibrated annually from an external service provider and such calibration shall be traceable to National Standards where applicable:

a. All master thermometers;
b. In-line thermometers and pressure gauges;
c. Metal detectors;
d. Electronic measuring devices and weighing scales.

209. The following instruments shall be verified internally against a master instrument or calibrated from an external service provider:

a. All external dials for temperature controlled areas;
b. Continuous temperature monitoring devices;
c. All temperature gauges for transport vehicles which are under the direct control of the Food Business Operator.

210. A procedure for the internal verification of measuring and monitoring devices against an externally calibrated master instrument shall be described and shall include:

a. A list of instruments to be verified against a master instrument;
b. The frequency at which verifications shall be performed;
c. The tolerance from the master instrument;
d. The method to be followed for the verification procedure;
e. The corrective actions to be implemented upon deviation from the master instrument.

Pest control

211. All food handling areas shall be pest free.

212. Pest control shall be performed by a suitably qualified pest control officer and proof of registration under Act 36 of 1947 shall be available.

213. Pesticides shall be handled in a manner that shall prevent contact with or contamination of foodstuffs.

214. An effective pest control program shall be documented and implemented and shall include:

a. The person or contractor responsible for controlling pests;
b. A site plan indicating numbered bait stations and pest traps;
c. A list of pests to be controlled;
d. A register of pesticides used;
e. Material Safety Data Sheets for all pesticides used;
f. Records of service reports and actions taken upon pest sightings;
g. Records of corrective actions performed by the Food Business Operator upon recommendation from the pest controller.

Water quality

215. Only potable water (including steam and ice) shall be used as a food product ingredient or for cleaning purposes and shall be available in adequate supply.
216. Only potable water shall be used for cooling food containers or packaged food.
217. The standard defining potable water shall be described and shall provide assurance at least equal to the latest version of SANS 241.
218. Where recycled water is used in a food processing establishment the potability shall be ensured.
219. Where installations for the treatment of water are found, including filters and holding tanks, they shall be thoroughly cleaned on a regular basis according to a prescribed schedule and cleaning method.
220. Where installations for the treatment of water are found a description of such systems shall be available.
221. Where non potable water is used for purposes other than a food ingredient or cleaning food contact surfaces it shall be carried in separate identifiable lines.
222. Where water treatment includes the addition of chlorine, the desired chlorine level shall be described, monitored and recorded at regular intervals.

223. A microbiological testing program to confirm water safety shall be implemented.
224. The program shall include:
    a. A list of the microbiological tests to be performed and shall include (SANS 241):
        i. Heterotrophic plate count (<1000cfu/ml)

ii. Total coliforms (<10cfu/100ml)
iii. E Coli / Faecal coliforms (0/100ml)

b. A schedule indicating the water outlets to be sampled;
c. The frequency for microbiological sampling;
d. The specifications for test results based on the standard prescribed for potability;
e. Corrective actions to be undertaken in the event of non-compliant results;
f. Annual physiochemical testing based on the requirements of SANS 241 for companies where water is used as an ingredient in the food products.

225. Results shall be reviewed by a competent person within the food safety team as soon as they become available.

226. The determination of the frequency and number of samples shall be risk based and shall ensure that all water outlets are tested at least once during the course of a year.

227. Hand wash outlets shall be included in the microbiological sampling schedule, especially for high risk areas.

228. Where canned meat products are manufactured the following requirements shall be adhered to in compliance with R791 under Act 29 of 1993:

a. Water that is used for container cooling shall be treated to contain at least 2ppm free chlorine;
b. Chlorine levels in water shall be monitored immediately after the cooling process.
c. Corrective actions shall be described in the event of deviation from the prescribed chlorine levels.
d. The microbiological test schedule shall include:
    i. TVC (<100cfu/ml),
    ii. Coliforms (<5/100ml) and
    iii. Faecal Coliforms (absent /100ml).

Maintenance of equipment and structures.

229. An effective maintenance program shall be implemented to ensure the hygienic integrity and proper functioning of buildings (both exterior and interior), equipment and vehicles.

230. A preventative maintenance schedule for all equipment and structures essential to food safety shall be implemented and records shall be kept.
231. A standard operating procedure for addressing any unforeseen maintenance requirements shall be implemented.
232. Maintenance shall be performed in a manner that does not pose a risk for contaminating food handling materials or food.
233. Only lubricants that have been approved for use in the food industry shall be used on food handling equipment or structures.
234. A routine inspection system of the condition and maintenance of the factory structures and equipment shall be implemented.
235. Completed maintenance tasks shall be verified for compliance to food safety standards by the hygiene manager.

Sterilizer control

236. Where hot water sterilizers are used for knives and equipment, the water temperature shall be maintained at 82°C or higher.
237. Sterilizers shall be monitored at a predetermined frequency for compliance to the prescribed temperature limit.
238. The monitoring schedule for sterilizers shall include a pre-operational check to ensure that minimum temperature requirements are met before the start of operations.
239. Corrective actions shall be prescribed for temperature deviations.
240. Sterilizers shall be managed to prevent excessive steam and droplet formation.
241. Where chemical sterilization methods are used for the sterilization of knives and equipment, a documented procedure shall be implemented and shall include:
    a) A description of the approved chemical to be used;
    b) The recommended dilution of the chemical;
    c) The temperature of the water;
    d) The contact time needed for the sterilization process to be effective;
    e) The frequency of change of the chemical solution;
242. Monitoring procedures shall be established and shall be recorded.
243. Only chemicals approved for cleaning and disinfection in the food industry shall be used.

Prevention of physical contamination

244. A programme to prevent the contamination of raw meat and processed meat product from contamination with physical hazards such as glass, metal, wood and dust shall be maintained.

245. Such a programme shall include:

a. A policy for glass contamination control;
b. A list of all glass fittings in the establishment;
c. Regular checks for the condition of unprotected glass structures;
d. A standard operating procedure for glass breakage;
e. A prohibition of wooden utensils or equipment entering the food handling areas.

Waste Management

246. A programme for the management of all the different categories of waste generated at the facility shall be maintained and shall comply at all times with the waste management bylaws of the local government of the region as published under Act 32 of 2000 – Local Government: Municipal Systems Act.

247. The different categories of waste and the actions to be taken with regards to their disposal shall be defined and shall include:

a. Household waste;
b. Meat waste that is not fit for human consumption, for example: dropped meat, floor sweepings, and the waste from mincing/cutting/slicing machines;
c. Waste water;
d. Hazardous waste generated from in-house laboratories.

248. Waste shall be removed frequently from food handling areas at times and in a flow direction that shall not cause cross-contamination of foodstuffs.

249. Containers used for the collection of products that are deemed 'not fit for human consumption' shall be clearly identified, leak proof, lockable where appropriate and shall not be of the same type that food products are handled in.

250. Waste shall be removed in a timely manner from food handling areas specifically and the premises in general to prevent the build-up of waste products that may create an environment conducive to harbouring pests and causing contamination of foodstuffs.

251. In high risk areas, a single person or dedicated personnel shall be designated to pick up floor waste and handle products deemed 'not fit for human consumption'.

252. The methods for disposing of food waste products shall not contravene in any way Environmental Health or animal Health legislation.

PART IV: HAZARD ANALYSIS CRITICAL CONTROL POINT SYSTEM

All facilities producing processed meat products as defined by this standard shall develop, implement and maintain a Hazard Analysis Critical Control Point System (HACCP) as a preventative measure to enhance the safety of food.

Prerequisites for the hazard analysis.

253. A multidisciplinary team shall be assembled to assist with the development and implementation of the HACCP system.
254. Each member shall accept in writing his/her assignment to the HACCP Team.
255. The HACCP team shall define the scope of the HACCP study.
256. A complete description of the products produced at the facility shall be given in terms of its type and composition and shall include:
    a. Relevant legislation;
    b. Handling instructions,
    c. Processing, packaging, storage and distribution conditions;
    d. Shelf- life under prescribed conditions.
    e. Allergens
257. The intended use of the product and possible abuse that may occur after the product has left the control of the food handling organisation shall be described.
258. The HACCP team shall prepare a detailed flow diagram including all process steps, rework cycles and outsourced processes for the specified food products or process categories relevant to the defined scope of the HACCP study.
259. A floor plan of the entire factory (this may be prepared in sections as applicable to the scope of the HACCP study) shall be available.
260. The following information shall be available from the floor plans/layout maps:
    a. An overview of the premises including outline of the premises, ancillary structures, walkways and access roads,
    b. Layout and design features of equipment.
    c. product flow,
    d. personnel flow,
    e. the segregation of high risk areas from low risk areas,

f. water reticulation system with numbered water points,
g. numbered hand wash facilities.
h. numbered sterilizer placements.

261. The HACCP team shall confirm the accuracy of the flow diagram and the floor plan on site.

Hazard analysis.

262. The HACCP team shall identify all the potential food safety hazards (inherent and introduced) that might reasonably be expected to occur at each step of the food handling process.
263. All biological, physical, chemical and allergenic hazards shall be considered. (Annex B: Guidance list to potential biological hazards in the meat processing industry.)
264. The significance of the identified hazards shall be determined, taking into consideration their likelihood to occur and the severity of the effect their presence may have on the safety of the consumer.
265. The method for determining the significance of a hazard shall be described.
266. The HACCP team shall establish control measures for each of the hazards identified.

Identification and description of critical control points (CCP's)

267. The HACCP team shall determine whether a particular step in the food handling process is a CCP.
268. The method by which a CCP is determined shall be recorded.
269. The HACCP team shall establish specific and measurable critical limits appropriate for each CCP.
270. The HACCP team shall establish a monitoring system to ensure that the control of the CCP is effective. The monitoring programme shall include:
    a. responsible person/equipment;
    b. frequency of monitoring;
    c. A detailed description of the method of monitoring.
271. The HACCP team shall establish detailed corrective actions to be taken when monitoring indicates a particular CCP is not under control.

272. Corrective actions shall include the responsibility for and manner of disposal of any unsafe food products.

Verification and validation procedures.

273. The HACCP team shall establish procedures for verification to confirm that the HACCP system is working effectively.

274. Verification procedures shall be carried out by someone other than the person doing the monitoring and may include, but are not limited to:

a. internal audits;
b. random sampling and microbiological testing;
c. periodic review of the HACCP plan or review whenever operations change.

275. Validation activities shall include actions to confirm that the established critical limits for each CCP is effective and capable of achieving the intended control of the identified hazard.

Documents and records.

276. The HACCP team shall establish documentation concerning all procedures and keep records appropriate to the HACCP principles and their application.

277. Only documents which are approved by management shall be incorporated in the food safety system.

278. Documents shall be reviewed and updated as necessary and changes shall be re-approved before implementation.

279. The HACCP team shall keep a bibliography of the sources used to provide the scientific basis for considering the hazards and determining their significance.

280. All records of CCP monitoring shall be signed by both the person responsible for performing the monitoring as well as by a reviewing officer/supervisor.

281. Minutes of HACCP meetings shall be available.

282. Production and monitoring records shall be kept for at least 6 months post the shelve life of the products and shall be traceable to specific production batches.

283. Records of any deviations with regards to CCP's, the corrective measures implemented and the disposition of non-compliant products shall be kept.

284. Records proving implementation of the HACCP system shall be available for before approval for export may be considered.

Procedure for allergen control

285. The HACCP team shall include all identified allergen hazards in the hazard analysis.

286. An allergen control programme shall be documented and implemented and shall include:

a. A List of permissible allergens or allergen containing products at the establishment;
b. Arrangements for the receiving, marking and labelling of allergens;
c. Separate storage practices for allergens;
d. Validated cleaning procedures for the food production equipment to ensure that allergens are not carried over from one food product to another;
e. Separate utensils and material handling equipment where necessary.

287. The risk of allergens in raw materials shall be investigated and identified through the aid of a detailed supplier questionnaire.

288. Criteria for supplier approval and a list of approved suppliers shall be available.

289. The production schedule shall be designed to prevent allergen cross contamination of the food product produced later in the production run.

290. Rework cycles shall be specifically considered to prevent the introduction of allergens not declared on the label.

291. The internal audit program shall ensure regular auditing of the implementation of the allergen control measures.

292. Allergen testing shall be performed where appropriate or where required by legislation.

Rework cycles

293. A description/list of products eligible for rework shall be documented.

294. Products fit for rework shall not be regarded as waste products and shall be:

a. Clearly identified;
b. Shall be stored in a dedicated, marked area:

c. shall carry identification with regards to further traceability:
d. shall be stored under appropriate temperature conditions;

295. The HACCP team shall determine the maximum time limit allowable for products to be reworked. A time limit of 72 hours shall not be exceeded without scientific validation by the HACCP team.

296. The nutritional content, ingredient listing and shelf-life of the final product shall not be affected by the addition of rework products.

297. Traceability of all ingredients, including rework contents and their origin shall be maintained at all times.

Metal detection.

298. Where metal detection is identified as a CCP, a programme for metal detection in final products shall be documented and implemented and shall include:

a. A list of products (if not all products) to be subjected to metal detection as determined by the HACCP team.
b. A list of metal detectors used in the facility with their individual identification.
c. A description of the critical limits for a particular test instrument or product.
d. The procedure and frequency for conducting routine verification of the efficacy of the test equipment through using test pieces.

299. Records shall be kept to attest to the regular monitoring and verification of the metal detection process and shall be verified by a review officer/supervisor.

300. Corrective actions to be taken in the event of non-conformances shall be described and recorded.

Corrective action procedure (Not limited to CCP's).

301. A documented corrective action programme shall be maintained for any non-conformities occurring during processing or with regards to the products produced at the facility and appropriate corrective actions shall be determined, implemented and recorded for each non-conformity.

302. A documented programme for the management of corrective actions shall include a definition of the deviations and non-conformities at the establishment that will require formal, recorded corrective actions.

303. All customer complaints shall be handled according to the documented corrective action programme.

304. A corrective action shall include:

a. A description of the non-conformity;
b. An investigation as to the root cause of the nonconformity;
c. The implementation of preventative actions where appropriate;
d. The determination and implementation of the immediate action needed;
e. Verification of the effectiveness of the action taken.

305. Records (according to a prescribed format) of all corrective actions shall be kept and shall include:

a. A date when the non-conformity took place;
b. An intended date for completion of implementation of the corrective action;
c. Records of all results of actions taken and/or tests performed.
d. Signed verification, upon completion of the corrective action by a reviewing officer.

306. The route of communication from the person generating the corrective action to all responsible personnel involved, shall be clear.

307. A register with a summary of all non-conformances shall be kept.

KNOWN OPERATIONAL REQUIREMENTS AND IMPORTANT CONTROL MEASURES FOR SPECIFIC PRODUCTION PROCESSES.

Cognisance shall be taken of the fact that a number of processes may be used in combination in the production of a single final product, resulting in a multiple barrier approach to food safety and may allow for process parameters to deviate from the critical limits described in this section. Where critical control limits deviate from the parameters described in this section, the chosen process parameters shall be validated or supported by reliable scientific research to prove adequate food safety.

Heat treatment (Cooking, partial cooking, pasteurisation).

308. Parameters for all heat treatment processes shall be described in detail, regardless of whether the heat treatment is considered a lethality step, and shall include:
   a. The desired core temperature of the product to be reached in combination with a desired time for maintaining the said core temperature or;
   b. The desired core temperature to be reached without a specific time limit for maintaining the said core temperature or;
   c. A desired temperature/time curve.

309. The cool down process for any product that received a heat treatment step, regardless of whether the heat treatment is considered a lethality step, shall be described and shall include:
   a. The time limit for the start of the cooling process (shall not exceed 90 minutes).
   b. The time limit in which a desired cool down core temperature of the product is to be reached.
   c. The core temperature which the product should reach and maintain before and during packing (shall not exceed 5°C for chilled products).

310. Both during applying a heat treatment as well as cooling down previously heat treated meat, it shall be avoided that food dwell in the danger zone of 10°C to 55°C for a period of longer than 6 hours.

311. RTE products (Fully cooked) shall, after receiving a lethality heat treatment step, be cooled down to 21°C within 2 hours and to 5°C within the next 4 hours.

312. Any products with additional barriers that may prevent the growth and multiplication of spore forming and toxin producing bacteria like Clostridium Perfringens, Clostridium Botilinum, Bacillus Cereus and Staphylococcus Aureus shall not necessarily be required to adhere to the cooling described in paragraph 311, provided that it can be demonstrated that the critical limits for these barriers are reached soon after the heating/lethality step. Such barriers may include:
   a. pH ≤ 4.6;
   b. Water Activity < 0.91;
   c. Salt concentration > 7%;

d. ≥ 100ppm Sodium Nitrite;

313. Core temperatures of products during the heating and cool down steps shall be monitored and recorded in a manner that can sufficiently demonstrate adherence to the time/temperature requirements for the specific process.

314. Where manual temperature monitoring is performed, the frequency of such monitoring shall be predetermined and shall be adequate to prove adherence to the time/temperature limits.

315. Detailed corrective actions shall be described for any deviations in the heat treatment and the cool down processes and shall always take into consideration the potential growth and multiplication of spore forming and toxin producing bacteria like Clostridium Perfringens, Clostridium Botilinum, Bacillus Cereus and Staphylococcus Aureus during a slow rise in temperature, a delayed period of cool down or not reaching the desired core temperature in the product during the heat treatment step.

316. Processes may deviate from the time/temperature limits described in this standard provided that scientific data or validation studies can support the chosen process parameters.

317. Ovens shall be validated for uniform heat distribution upon installation, annually thereafter and after any modification.

318. The flow of the product or the time/space management of operations shall be such that cross contamination between exposed cooked products and exposed raw products are prevented.

319. Raw products shall never stand waiting where exposed cooked RTE products come out.

Smoking

320. The critical limits for the area temperature inside the smokehouse as well as the desired core temperature of the products shall be described, monitored and recorded.

321. The temperature/time limits for chilling after the smoking process shall be described and shall comply with the limits described in paragraphs 311 -312.

322. Hot smoked meat products (Where heating is considered a critical step) should reach an internal temperature of 64°C for 115 seconds or an equivalent parameter as proven through validation or reliable scientific data. These

parameters may vary for products undergoing additional processes, like curing which may aid in pathogen control.

323. Smoke units shall not be fired from the inside of the processing area, neither shall it emit any smoke into the processing area.

324. Smoke units shall not contaminate the processing area with sawdust.

325. The inner surface of a smoke unit shall be finished with a smooth lining to facilitate cleaning.

326. Smoke houses shall preferably have a 2 door system, but where a single door is used the person loading and unloading the smoke unit shall change protective clothing between procedures.

327. Meat shall always be thawed completely before being smoked.

328. Where a partial cooking step is applied before smoking there shall be minimal delay between these two procedures.

329. Where curing before smoking is a part of the process:

a. The formulation and preparation procedure for the curing agents shall be described;
b. The levels of curing agents added shall comply with the statutory requirements of R.965 under Act 54 of 1972;
c. Curing compound shall be pre measured/weighed;
d. The product temperature shall remain ≤ 5°C during the immersion or injection process.

Drying.

330. Dried products shall be handled in a manner that prevents reabsorption of moisture after the drying process.

331. The air circulated in the drying chambers shall be of such quality that it will not cause contamination of the products therein.

332. The drying chamber shall be designed to ensure:

a. Uniform airflow throughout the chamber;
b. Uniform temperature of the air throughout the chamber;
c. Uniform and controlled humidity levels;

333. Drying chambers/equipment shall be loaded with products of even shape in a manner to ensure even distribution.

334. Drying chambers/equipment shall be fitted with a temperature monitoring device where appropriate.
335. Drying chambers shall be validated upon installation, after modifications or periodically for uniformity of air flow and heat distribution.
336. The drying process shall be developed to ensure the rate of moisture migration from the product centre to the surface equals the rate of moisture migration from the surface to the atmosphere to prevent pockets of high moisture developing inside the product which may support bacterial growth.
337. In drying processes where the water activity level of the final products is considered a critical control point, the water activity level of the products shall:
    a. be monitored;
    b. the monitoring device shall be accurate and shall be subjected to annual calibration.
338. The moisture : protein ratio (MPR) may be used to illustrate the degree of drying of meat products.
339. The desired MPR for any given product shall be determined through validation studies or reliable scientific data.
340. The MPR is not necessarily indicative of microbial safety or stability and shall be interpreted in combination with the water activity of the given product where food safety is concerned.
341. It is recommended that the water activity level for shelf-stable dried products do not exceed 0.91 (≤0.85 where no other processes provide barriers against Staphylococcus Aureus toxin production).
342. For dried whole muscle meats, particularly dry cured products (for example, dry cured hams) the initial salt level and its application to all exposed meat surfaces shall be considered critical.
343. Dry cured products shall initially be held at ≤ 5°C until sufficient curing and drying has taken place to prevent bacterial growth before the ripening phase.

Fermentation

344. For fermented products, with or without a cooking process, the following shall be described and monitored:
    a. Duration of the fermentation process;

b. Temperature control during the fermentation process;
c. Desired pH to be achieved at the end of the fermentation process.

345. These parameters shall be determined through a validated process or from reliable scientific data in order to prove the control of at least the following known pathogens:
   a. E Coli;
   b. Staphylococcus Aureus and its enterotoxin;
   c. Salmonella;
   d. Clostridium Botulinium;
   e. Listeria Monocytogenes.

346. Fermentation chambers shall be designed to ensure a uniformity of air flow and temperature distribution and these aspects shall be validated upon installation, after modification or periodically.

347. The following parameters are considered critical in fermented products, regardless of whether a further cooking step may occur after the fermentation process has been completed:
   a. pH ≤ 5.3 at the end of fermentation
   b. Water activity ≤ 0.91
   c. For shelf-stable products: pH ≤ 4.6 or a water activity of ≤ 0.85 in the final product.

348. In fermented products, where a final cooking step is incorporated, Staphylococcus Aureus tests shall be performed at the end of the fermentation process as Staphylococcus Aureus toxin will not be inactivated by a further heat treatment.

349. Drying and ageing rooms shall be equipped with humidity recorders where appropriate. Alternatively, ambient humidity may be monitored manually twice a day with a calibrated instrument.

350. For routine monitoring of pH during and at the end of the fermentation process a calibrated accurate pH meter shall be employed.

351. The time limits during which the critical pH should be reached shall be described, monitored and recorded.

352. Where the water activity of the final product is considered a CCP, the requirements of paragraphs 337 and 341 shall be followed.

353. Where an inoculum from a previous batch is to be used as a starter culture, the establishment shall employ a control program to prevent cross contamination of pathogens and such a program shall include:
    a. The starter culture for the fermentation process to be stored at ≤ 4°C and a pH of ≤ 5.3.
    b. A batch of starter culture which has a pH greater than 5.3 must be analysed to detect Staphylococcus Aureus.

Commercially sterile products (Hermetically sealed shelve stable products).

354. All thermal processes incorporated in the sterilization of hermetically sealed products shall be validated after installation of the heating equipment or following any modification. The validation shall include temperature distribution studies to prove uniform distribution of heat throughout the system as well as heat penetration of each product into each can size at the coldest spot in the retort.
355. The following factors which may influence heat penetration into the product shall be considered and described:
    a. Container size and type;
    b. Ingoing weight of products;
    c. Allowable headspace in the container (where applicable);
    d. Orientation of the containers in the retort;
    e. Minimum initial product temperature;
    f. The time/temperature combination for the heat treatment of specific products;
    g. Oven pressure where applicable;
    h. Cooling method after sterilization.
356. Containers shall consistently be filled in a uniform manner and this shall be monitored.
357. Product shall occupy at least 90% of the container.
358. Overfilling shall be avoided.
359. Sealed containers shall be free of grease, dirt or product on the outside before it enters the retort and shall be washed on the outside when necessary.

360. Canned meat containers shall be cleaned on the inside immediately before use, with compressed air, whilst being in the inverted position.

361. Heat processing shall commence as soon as possible after closing of the containers.

362. A procedure shall be maintained on how the products in partially filled retorts shall be processed in the event of a breakdown or delay in the filling and closing process steps.

363. Un-retorted food in retort baskets should carry a heat sensitive marker to indicate whether or not the unit has been retorted.

364. The initial temperature of the contents in the coldest containers to be processed shall be recorded with sufficient frequency to ensure that the temperature of the products are not lower than the minimum temperature specified for the particular product.

365. The retort process shall be monitored continuously through an electronic device and a single retort shall be recorded per chart.

366. Electronic monitoring shall be backed up with manual monitoring of time and temperature readings.

367. For this purpose each retort shall be fitted with at least one indicating thermometer which shall be readable to 0.5°C and shall be calibrated annually from a South African National Accreditation Standard (SANAS) accredited facility.

368. The time/temperature/pressure recordings for every batch shall be verified by a reviewing officer.

369. In addition to the annual calibration of all temperature and pressure monitoring devices, any timing devices which are considered essential in the monitoring of the critical process, shall be checked for accuracy.

370. Retorts shall be fitted with an automatic steam controller which may be combined with the time/temperature control device.

371. Retorts shall be fitted with a pressure gauge and shall be operated and maintained in accordance with the safety standards for pressure vessels.

372. Wet containers exiting a retort shall not be handled manually.

373. Containers exiting a retort shall be cooled down as rapidly as possible to an internal temperature of <50°C.

374. Containers shall not be handled or bulk stacked before being thoroughly cooled and dried.
375. Mechanical shocks and abuse of hermetically sealed containers after sterilization shall be avoided.
376. Each retort shall be conspicuously identified with an identification number.
377. Visual seal checks on hermetically sealed containers shall be performed and recorded.
378. The seal integrity of products that are sealed prior to retorting shall be tested prior to retorting.
379. Whenever a seam closure defect is found, all products between the defect and the last satisfactory check should be identified and assessed.
380. Corrective actions in the event of non-compliance shall be documented.
381. Written records of seam examination shall be kept and shall be available for two years after the date of production.
382. Cans with a diameter ≤ 99mm shall not leak under a vacuum leak test under a maximum negative gauge pressure of 65kPa.
383. Cans with a diameter > 99mm shall not leak under a maximum negative gauge pressure of 50kPa.
384. Control checks shall be conducted and recorded during labelling to ensure correct labelling in accordance with R.146 under Act 54 of 1972.
385. The heat treatment for acidified low acid canned foods (for example food in brine) with a pH ≤ 4.6 may be lower than for low acid canned food provided that:
    a. The pH in the product be monitored;
    b. The concentration of salt in the brine be determined;
    c. The dilution of the salt or acid in the bulk tanks be monitored not to become diluted.

Sous Vide cooking.

This section refers to raw food that is vacuum-sealed in heat stable, food grade plastic pouches and the food is cooked using precisely controlled heating (often low temperatures) for prolonged periods resulting in a pasteurized non-shelf stable ready to heat or ready to eat product that may be chilled or frozen. For food

products that are vacuum packed and sterilised – refer to the section on commercially sterile products.

386. All thermal processes incorporated in the pasteurization of vacuum sealed products shall be validated or based on reliable scientific data to ensure food safety.

387. The critical limit for the core temperature that products should reach shall be described.

388. The time limit during which the critical limit is to be reached and the duration for which the product is to be maintained at that limit shall be described.

389. The time that food is held below 55°C shall not exceed 6 hours.

390. Where water baths are used to heat food, it shall be ensured that packages are properly submerged and not overlapping each other.

391. Where convection ovens are used, the process shall be validated after installation of the ovens to ensure even heat distribution and the exercise shall be repeated upon modification or periodically thereafter.

392. Cooking shall ensue without undue delay after vacuum sealing.

393. Food shall be chilled rapidly after cooking to conform to the following limits:

a. Within 2 hours to 21°C;
b. Within a further 4 hours to 5°C.

394. Deviation from these limits shall be validated or based on reliable scientific data to ensure food safety.

395. Where an ice water bath is used for cooling, only potable water and ice made from potable water shall be used.

396. The corrective actions in the event of temperature deviations shall be described and shall include consideration for the survival, multiplication of- and production of spores or toxins of the following pathogens:

a. Listeria Monocytogenes
b. Clostridum Botulinium
c. Clostridium Perfringens
d. Bacillus cereus
e. Staphylococcus Aureus

PRIMARY AND SECONDARY PACKAGING AND LABELLING REQUIREMENTS.

397. The labelling of all food products packed in the establishment shall comply with the requirements of R.146 under Act 54 of 1972 (Regulations relating to the labelling and advertising of foodstuffs).

398. Packaging and wrapping materials shall be free from all hazardous matter that may be harmful to the safety of the consumer.

399. Wrapping materials shall not be kept in the processing area in quantities greater than the daily requirement.

400. Exposed processed meat products may not come into contact with cartons except where waxed cartons are used.

PART V FINAL PRODUCTS

Final product testing.

401. No foodstuffs may contain micro-organisms at levels which may cause any harm to humans upon consumption.

402. A microbiological sampling schedule for final products shall be available and the schedule shall include:

a. The products to be sampled;

b. The frequency of sampling;

i. Where sampling frequency differ from the minimum requirements set out in Annex A, a risk based approach shall be demonstrated.

c. The type of tests to be performed;

I. Shall include both process hygiene indicators and food safety parameters.

Ii. For product ranges which falls within the scope of the Compulsory Specifications for Processed Meat Products (VC9100), shall in the least comply with the microbiological requirements as listed in the latest version of Sans 885.

Iii. For product ranges which falls outside the scope of VC9100, shall in the least comply with the compulsory requirements set out in Annex A.

d. The criteria for acceptability;

i. Shall comply with the requirements set out in VC 9100 and/or Annex A as applicable to the product range. Specifications may deviate from the prescribed specifications in Annex A provided that the deviation is based on scientific, legal or expert references and that the references are listed. Where an importing country's microbiological specifications may be stricter than the criteria listed in either VC9100 (Sans 885) or Annex A, the stricter criteria shall be observed.

e. Documented corrective actions in the event of non-conforming test results:

i. Shall detail the actions to be taken with regards to potentially affected products;
ii. Shall include a review of the production process;
iii. Shall be recorded.

403. The sampling methods, for example surface or excision methods, shall be described.
404. A procedure shall be maintained to retain suspect products in the event of non-compliant food safety parameters.
405. A procedure shall be documented for the safe disposal of adulterated products.
406. Results shall be reviewed by a competent person within the food safety team as soon as they become available.
407. Test results shall be traceable to a production batch.
408. Shelve life shall be scientifically validated before commercialization of the food product.
409. Blow tests shall be performed for hermetically sealed products and where tests fail the cause shall be identified and corrective actions shall be based on the findings.
410. Where appropriate, the details of a positive release system shall be documented.

Dispatch and transport of final products.

411. The cold chain shall be maintained at all times during the dispatch and transport of chilled or frozen final products and records shall be available to prove adherence to prescribed temperature limits.
412. The design and construction of the vehicle loading space shall allow for easy cleaning and shall be maintained in good condition.
413. Checks on the hygiene status of transport vehicles shall be performed before loading and shall be recorded.
414. Corrections in the event of non-compliance shall be recorded.

Returns policy.

415. Where returned goods are accepted and handled at a facility, a written programme shall include:

a. A list of the products that shall be accepted for return;
b. A list of the acceptance criteria for returned goods;
c. The method of identification of returned products;
d. The responsibility for decision making with regards to the actions to be taken with returned products.
e. The measures for separation of returned products during storage from final products until its final status has been determined.

416. Records shall be kept proving the outcome of inspections, decisions and actions taken with regards to returned goods.

PART VI TRACEABILITY

Identification of production batches.

417. A documented programme shall be provided for the identification of each batch of manufactured meat product at the establishment and shall include:
   a. A description of the method followed to generate batch codes at the facility.
   b. A definition of what constitutes an individual batch of final products.
   c. The method of marking each individual unit constituting a final batch.

Traceability of production batches.

418. A documented programme shall be provided demonstrating the traceability of a batch of final products and shall include:
   a. The chain of record keeping used to establish a clear link between the raw ingredients received at the facility (from approved abattoir/approved compartment level) and the final production batch.
   b. The chain of record keeping establishing a clear link between a specific production batch and the next point(s) of dispatch of the said batch of final products.
   c. Records shall provide for the determination of the weight/number of units included in a specific batch of final products.
   d. The chain of record keeping shall provide for linking critical process data to an individual batch of final product

419. Where a split system of production of products for both the local and the export market is implemented, the FBO shall demonstrate full traceability of the separate export chain.

Recall procedure.

420. A documented procedure shall be in place to ensure that any food product identified as failing to meet food safety- or animal health requirements, can be identified, located and removed from all necessary points of the supply chain.

TRACEABILITY

421. The documented procedure shall include:

a. Possible scenarios that may initiate a recall of final products.
b. The line of company communication in the event of a product recall.
c. The roles and responsibilities of designated personnel in the company with regards to decision making and communication to clients, the public, authorities and the media.
d. The intended time line for the completion of recall steps.
e. Provisions for the transport and storage of recalled products.
f. Decisions regarding the final actions to be taken with regards to recalled products.
g. The method of disposal of products that are determined to be unsafe for human consumption.

422. Any incident requiring a recall activation shall be reported to the local environmental health inspector, the National Directorate: Food Control and the Competent Authority.

423. Records shall be kept of all actions taken, decisions made and communications performed during a product recall.

424. A mock recall shall be conducted at least annually to ensure the effectiveness of the recall procedure.

425. A documented mock recall procedure shall:

a. Detail the time frame during which a mock exercise shall be completed.
b. The methodology for selecting a batch of final product for the test exercise.
c. A list of all the records to be accounted for during the test exercise.
d. The criteria for determining the success of the outcome of the test exercise.

426. A summary of the outcome of a mock recall exercise shall be available and shall include:

a. The actual time lines achieved for completion of the recall steps.
b. A list with the contact details of all the consignees who received products form the batch in question.
c. A reconciliation between the amounts of products produced in the batch in question and the amount of products traced/retrieved during the exercise.

427. Any non-conformities identified during the test exercise shall be handled through the corrective action system.

Disposal of products that are not fit for human consumption.

428. Non-conforming, unsafe products shall be disposed of in a manner that does not pose any risk to humans, animals or the environment and shall not contravene any Environmental Health- or Animal health legislation.

429. A certificate of safe disposal shall be obtained for each consignment that is disposed of.

430. A documented programme for the disposal of unsafe, non-conforming products shall include:

a. The details of the service provider responsible for disposal of the unsafe products;

b. Security arrangements for unsafe products until safe disposal.

PART VII APPENDIXES

Appendix A. FINAL PRODUCT TESTING

PROCESS HYGIENE INDICATORS		PATHOGENS	
COMPULSORY TESTS FOR ALL PROCESSED MEAT PRODUCTS (Ready to Cook, Ready to Heat and Ready to Eat)			
E. COLI (All products)	**ReF:**	**SALMONELLA in all products.**	**Ref:**
Test Method: ISO 16649-3 SABS 758	Sans 885 R.692	Test method: Sans 6759 SABS 759	Sans 885 R.692
Specifications: <10cfu/g 0/20g (cooked poultry) <500cfu/g (raw minced meat) <5000cfu/g (raw meat preparations)	Sans 885 R.692 EC/ 2073	Specifications: 0/25g 0/20g (cooked poultry)	Sans 885 R.692
Frequency: Risk based	EC/ 2073	Frequency: Risk based	EC 2073/ 2005
ADDITIONAL COMPULSORY TESTS FOR COOKED POULTRY PRODUCTS			
TOTAL COLONY COUNT in cooked chicken	**Ref:**	**STAPHYLOCOCCUS AUREUS in Cooked Poultry.**	**Ref:**
Test method: SABS 756	R.692	Test method: SABS 760	R.692
Specifications: <10000cfu/g	R.692	Specifications: 0/20g	R.692
Frequency: Risk based	EC/ 2073	Frequency: Risk based	

	CLOSTRIDIUM PERFRINGENS in Cooked Poultry.	
	Test Method: ISO 7937	R.692
	Specifications: 0/20g	R.692
	Frequency: Risk based	

PROCESS HYGIENE INDICATORS	PATHOGENS	
COMPULSORY TESTS FOR ALL 'READY TO EAT' FOODSTUFFS (Including cooked poultry)		
	LISTERIA MONOCYTOGENES Test method: EN/ISO 11290-1 EN/ISO 11290-2 Specifications: [1]RTE foods which do not support the growth of Listeria: <100cfu/g RTE foods which do support the growth of Listeria: <0.04cfu/g **or** Absent/25g Frequency: Risk based	EC/ 2073 CAC/ GL61-2007 EC/ 2073

[1] RTE foods which do not support the growth of Listeria Monocytogenes shall be determined through validation studies.

PROCESS HYGIENE INDICATORS		PATHOGENS	
RECOMMENDED TESTS FOR ALL PROCESSED MEAT PRODUCTS (Ready to Cook and Ready to Eat) NOT COMPULSORY			
TOTAL COLONY COUNT Test method: SANS 4833	SANS 885		
Specifications: <1000000cfu/g	SANS 885		
Frequency: Risk based	EC/ 2073		
RECOMMENDED TESTS FOR HEAT TREATED AND READY TO EAT FOODSTUFFS NOT COMPULSORY			
		STAPHYLOCOCCUS AUREUS Test method: SANS 688-1 SANS 688-2	SANS 885
		Specifications: <20cfu/g	SANS 885
		Frequency: Risk based	
		CLOSTRIDIUM PERFRINGENS Test Method: SANS 5761 SANS 7937	SANS 885
		Specifications: <10000cfu/g	SANS 885
		Frequency: Risk based	

*Commercially sterile foodstuffs shall be free from micro-organisms.

Appendix B. POTENTIAL BIOLOGICAL HAZZARDS FOR THE MEAT PROCESSING INDUSTRY

A GUIDE TO POTENTIAL BIOLOGICAL HAZZARDS FOR THE MEAT PROCESSING INDUSTRY may include, but are not limited to:	
All species	Staphylococcus Aureus enterotoxin Pathogenic Salmonella Clostridium Perfringens Clostridium Botulinium Shiga toxin producing E Coli Listeria Monocytogenes
Poultry	Campylobacter Jejuni
Pork	Yersinia Enterolistica Trichinella Spiralis Taenia Solium