Code of Practice: Rendering

Part 1: Overview

Prelims

Amendment 0

September 2009

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IMPORTANT DISCLAIMER

Every effort has been made to ensure the information in this report is accurate.

NZFSA does not accept any responsibility or liability whatsoever for any error of fact, omission, interpretation or opinion that may be present, however it may have occurred.

Website

A copy of this document can be found at: http://www.nzfsa.govt.nz/animalproducts/index.htm

Review of Code of Practice

This code of practice will be reviewed as necessary, by the NZFSA. Suggestions for alterations, deletions, or additions to this code of practice, should be sent, together with reasons for the change, any relevant data and contact details for the person making the suggestion, to:

Assistant Director (Production and Processing)
Standards Group
New Zealand Food Safety Authority
PO Box 2835
Wellington
Telephone: (04) 894 2500

Amendment Record

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1 Purpose and scope of the Code of Practice

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September 2009

The Animal Products Act 1999 (the Act) requires all rendering and blood-drying businesses producing animal product intended for human or animal consumption to operate under a risk management programme (RMP). In addition, an RMP is also required for rendering and blood-drying operations producing mammal or bird material or product for trade purposes, whether or not the product concerned is intended for human or animal consumption, e.g. fertiliser.

This code of practice (COP) has been developed by the New Zealand Food Safety Authority (NZFSA), in consultation with industry, to:

- assist operators meet the requirements of the Animal Products Act 1999;
- produce rendered animal products that are safe and suitable for their purpose; and
- prevent animal material and animal product that is not fit for human consumption from entering the human food chain.

In particular, it provides guidance for meeting the requirements for the development, registration and implementation of RMPs.

This COP applies to businesses involved in the production of rendered animal products intended for animal consumption, such as meat and bone meal, dried blood, fish meal, poultry meal, feather meal, tallow, fish oil and poultry fat. It covers the:

- collection of animal material for rendering; and
- rendering, drying, storage and dispatch of products.

1.1 Parts of the COP

This COP is divided into three parts.

Part 1: Overview

Part 1 gives an overview of the whole COP and the requirements of the Animal Products Act 1999. It explains the options available to operators for the development of RMPs. It also provides links to other relevant documents published by the NZFSA.

Part 2: Good Operating Practice (GOP)

Part 2 covers good operating practices and process control. It sets out the regulatory requirements, and acceptable or agreed procedures for meeting the requirements of the Act, particularly the Animal Products Specifications for Products Intended for Animal Consumption. This will assist processors in the development and documentation of supporting systems that form part of RMPs.

Part 3: Generic Risk Management Programme (RMP) model

Part 3 provides an RMP model for a typical New Zealand rendering operation to assist operators in the development of their own RMPs. It shows:

- how the Hazard Analysis and Critical Control Point (HACCP) principles can be applied to rendered product and processes; and
- the identification and controls of risks to wholesomeness and risks from false or misleading labelling of rendered animal products; and
- how the RMP components could be written for a typical rendering process.

1.2 Exclusions

This code of practice does not apply to the following:

- rendering for human consumption; or
- collection of animal material for rendering, where the collection activities are performed by human consumption operators. This will be covered under the relevant human consumption Code of Practice.

This code of practice has been developed based on **New Zealand requirements only** and does not cover overseas market access requirements. Exporters must ensure that they meet the overseas market access requirements relevant to their product and intended market.

2 Requirements of the Animal Products Act 1999

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The Animal Products Act 1999 is New Zealand's legal framework for the processing of animal products. It establishes a risk management system that requires all animal products traded and used to be "fit for intended purpose". The Act sets out the duties of the operator and the requirements related to RMPs, regulated control schemes, and exporter controls.

2.1 Risk management programmes (Part 2 of the Act)

All animal product rendering and blood-drying operations producing animal product intended for animal consumption must operate under an RMP. In addition, an RMP is also required for rendering and blood-drying operations producing mammal or bird material or product for trade purposes, whether or not the product concerned is intended for human or animal consumption, e.g. fertiliser.

All renderers licensed under section 20(1)(b) of the Meat Act 1981 were required to operate under a registered RMP from 1 July 2004.

All new rendering and blood operations that are required to have an RMP must have a registered RMP before the start of operation.

2.2 Regulated control schemes (Part 3 of the Act)

A regulated control scheme is a scheme developed by the NZFSA and imposed by the Director-General to manage risks, where:

- RMPs would not be feasible or practicable;
- it is more efficient for the government to run the programme; or
- it is needed to meet the market access requirements of foreign governments.

2.3 Exporter controls (Part 5 of the Act)

Exporters of rendered products are required to register with the NZFSA. Exporters are responsible for exporting in accordance with the Act and, where appropriate, may be required to meet specified market access requirements of foreign governments which may be additional to the New Zealand standard.

Export requirements are excluded from this COP, as they are additional to New Zealand requirements. Operators that are involved in the export of animal products must ensure that their documented systems include procedures and records necessary to demonstrate compliance with all relevant requirements notified in General Requirements for Export (GREX) and Overseas Market Access Requirements (OMAR).

The Guide for Exporters and the Official Assurances Guide discuss exporter requirements in more detail.

2.4 Imposition of authorisations, duties and responsibilities (Part 8 of the Act)

The Act provides for the recognition by the NZFSA of agencies and persons to undertake certain functions and activities (e.g. evaluation and external verification) that are important to the management of RMPs. The NZFSA maintains a public register of all recognised agencies and recognised persons, which is available on the NZFSA website.

The Act imposes duties on these key persons:

- operators of RMPs (section 16 of the Act);
- exporters (section 51 of the Act);
- recognised agencies (section 106 of the Act); and
- recognised persons (section 107 of the Act).

The Act also provides for appropriate penalties to be applied when an offence occurs.

3 Risk Management Programme

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3.1 What is a risk management programme?

A risk management programme (RMP) is a documented programme designed to identify and manage hazards and other risk factors in relation to the production and processing of animal material and animal products, in order to ensure that the resulting animal product is fit for intended purpose. The risk factors that need to be considered in the development of an RMP are:

- risks from hazards to human and animal health;
- risks from false or misleading labelling; and
- risks to the wholesomeness of animal material or product.

An operator's registered RMP will be "legally binding" so it must be developed and implemented in accordance with relevant New Zealand legislation. Overseas market access requirements and commercial quality issues are not required to be part of the RMP.

The Risk Management Programme Manual provides comprehensive information on the principles and components of an RMP and provides guidance for their development.

3.2 RMP configurations

An RMP may be developed for a single business or for multiple businesses.

3.2.1 Single-business RMP (Sections 12(3) and 12(4) of the Act)

A single RMP that covers the operations of a single business located in a single site is the simplest form of an RMP and its use is encouraged, whenever applicable. This is likely to be the most suitable RMP configuration for the majority of rendering and blood-drying operators.

A business may also decide to have more than one RMP. This may be useful when the operation can be logically and clearly split by product, process or premises. For example, a single business involved in the rendering of fish material and mammal material may wish to have two RMPs covering each material separately. This arrangement can give flexibility to the operator in terms of making RMP amendments. It also allows for the suspension or deregistration of one RMP without affecting the other. However, consideration should be given to the practicality and cost of managing more than one RMP within a single business, and any market access requirements.

3.2.2 Multi-business RMP (Section 17A of the Act)

An RMP may apply to more than one business, if the Director-General approves such arrangement for the particular business. The approval will depend on the operator being able to demonstrate that:

- the programme is appropriate to all businesses or part-businesses that it covers;
- the registered operator of the programme will have sufficient control, authority and accountability for all matters covered by the programme in relation to the other business or part-business subject to its coverage; and
- the applicant has obtained the consent or otherwise taken into account the views of any person whose business or part-business is to be covered by the programme.

An example where a multi-business RMP could apply is in a situation where the rendering operator decides to include the operations of several separate rendering businesses under a single RMP. In this case, the operator must have sufficient control, authority and accountability for the related activities of the different businesses, and these businesses must consent to the arrangement.

Certain market access requirements, for example European Union (EU) listing requirements, do not allow this RMP configuration to be used. Therefore, this is not likely to be a suitable RMP configuration for the majority of rendering or blood-drying operators who export.

3.3 Contents of a risk management programme

3.3.1 Contents

The documented RMP must include the following:

- Good Operating Practice

Good Operating Practice (GOP) includes the practices and procedures designed to ensure the consistent production of products that are safe and suitable for their intended purpose, and that meet relevant regulatory requirements. It includes several interacting components such as hygienic practices, process control and quality assurance systems. GOP is usually documented by the operator in supporting systems of their RMP.

GOP is the foundation for Hazard Analysis and Critical Control Point (HACCP) and RMPs. GOP for rendering and blood-drying is discussed in Part 2 of this COP.

- Application of HACCP principles

The operator must apply HACCP principles to the processes covered by their RMP to ensure a systematic approach to the identification and analysis of hazards and their control. This is covered in Part 3 of this COP.

- Identification of other risk factors and their controls

Other risk factors related to the wholesomeness of the product and risk from misleading labelling must be identified in the RMP, together with control measures for addressing any identified risk factors. These are also covered in Part 3 of this COP.

- Other RMP requirements

Other RMP requirements such as business identification, operator's details, physical boundaries, and provision for verifiers' rights must also be documented in the RMP.

4 Development of an RMP based on an approved Code of Practice

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Section 12 (3A) of the Animal Products Act 1999 allows for an RMP to be based on a COP, a template, or a model, if in the view of the Director-General it is valid and appropriate for businesses of that kind. A COP that is deemed as valid and appropriate after an assessment process carried out by the NZFSA will be formally recognised as an “approved code of practice”.

A COP is a valuable tool to use in the development of the RMP. Compliance to an approved COP will:

- ensure that the operator complies with current best practice or acceptable industry practices and procedures;
- ensure that the operator meets the relevant regulatory requirements; and
- simplify and reduce the cost of developing and evaluating the RMP.

The applicability of the approved COP to the particular business and the degree of the operator’s compliance to the approved COP will impact on the development approach and evaluation requirements for the RMP.

4.1 Businesses whose products and processes are fully covered by an approved COP

4.1.1 Development

The simplest approach for developing an RMP is to base the RMP on the generic RMP model that NZFSA has provided in this Code of Practice. Operators must customise their RMPs to cover specific products, processes and premises.

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4.2 Businesses whose products or processes are not fully covered by an approved COP, or those with significant variation from the COP

4.2.1 Development

Businesses whose products and processes are not fully covered by the COP, or who have decided to apply procedures or processing parameters that significantly differ from those given in the COP must write their own documentation for those parts of the RMP that are not covered by, or vary from, the COP (including HACCP application and GMP procedures).

The operator must be able to demonstrate the effectiveness of any alternative procedures or parameters to consistently meet all relevant regulatory requirements and produce products that are safe and suitable for their purpose. To demonstrate the effectiveness of such alternative procedures the operator may be required to collect evidence (e.g. data from testing or trials, published scientific information, report from an expert) for assessment by the recognised evaluator or the NZFSA.

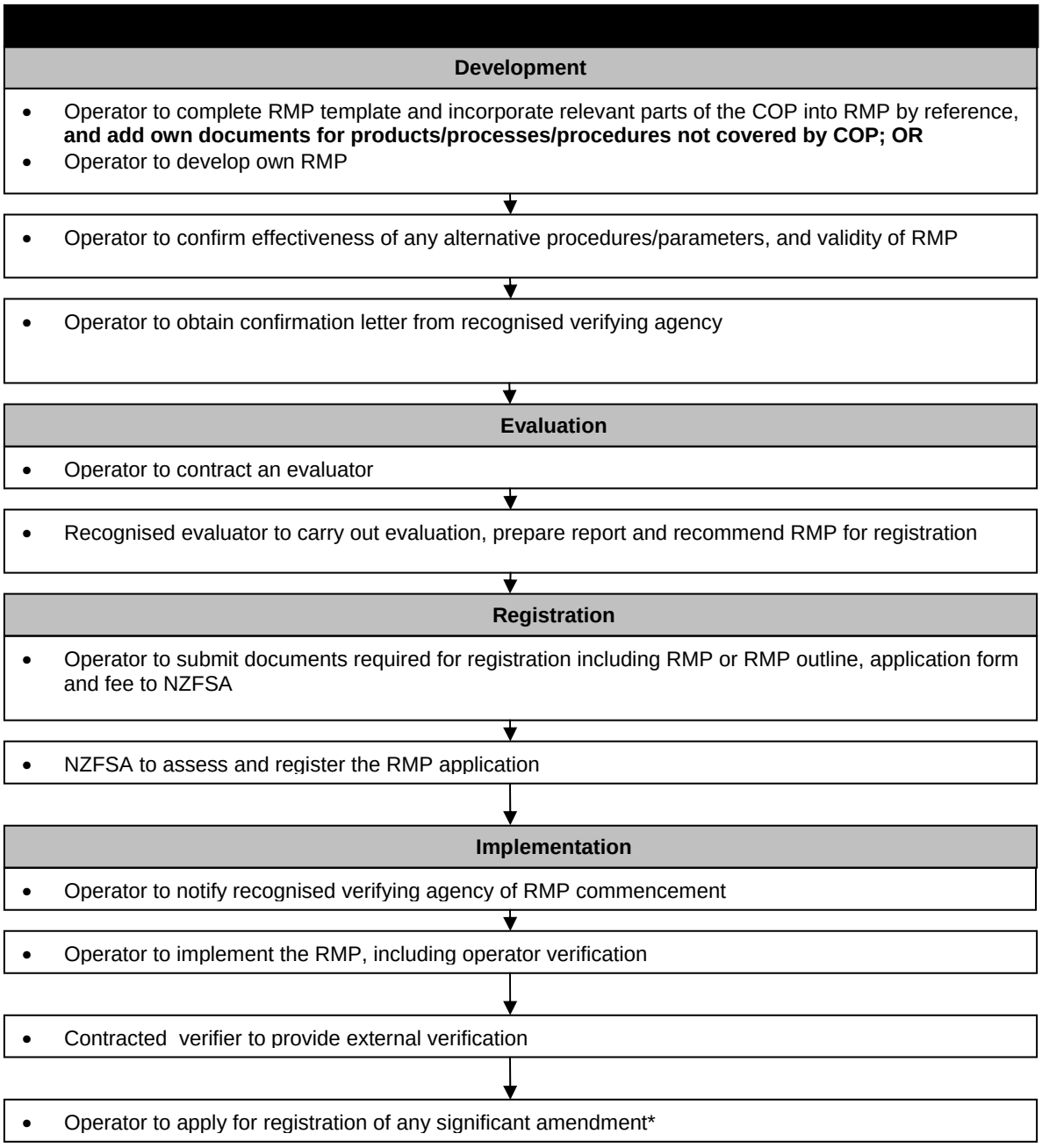
4.2.2 Evaluation

Rendering and blood-drying RMPs, whether they are based on the approved Rendering COP or have procedures that vary from the COP, must be evaluated by an independent, recognised evaluator to confirm the adequacy of the RMP. Evaluation will involve a desk-top audit of the documented RMP and an on-site visit of the premises before registration of the RMP.

4.3 Steps for the development, registration and implementation of an RMP

The steps for the development, registration and implementation of an RMP are summarised in Figure 1.

Figure 1. Steps for the development, registration and implementation of an RMP



* Significant amendments will require evaluation prior to registration – refer to Appendix G of the Risk Management Programme Manual for information on significant amendments.

5 Other legislation

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This COP will assist rendering and blood-drying operators meet the requirements of the Animal Products Act 1999. Operators should not rely solely on this COP to provide them with information on legal requirements under other legislation. Operators are responsible for ensuring that they are familiar and comply with all other legislation relevant to their business.

Legislation that are likely to be relevant to rendering operators include, but is not limited to, the Acts listed below, and their associated regulations and specifications.

- Animal Products Act 1999
- Agricultural Compounds and Veterinary Medicines Act 1997
- Biosecurity Act 1993
- Commerce Act 1986
- Consumer Guarantees Act 1993
- Fair Trading Act 1986
- Hazardous Substances and New Organisms Act 1996
- Health Act 1956
- Health and Safety in Employment Act 1992
- Resource Management Act 1991

6 Sources of other information

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Other information about the Animal Products Act 1999 and RMPs can be obtained through the RMP Help Desk or the Animal Products website.

NZFSA is also planning to develop a webpage specific to rendering on the NZFSA Animal Products website, which will contain information specific to rendering and blood-drying operators.

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Rendering

Part 2: Good Operating Practice

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1 Introduction

Amendment 0

September 2009

1.1 Purpose and scope

This code of practice (COP) has been developed by the New Zealand Food Safety Authority (NZFSA), in consultation with an industry working group, to assist rendering operators meet the requirements of the Animal Products Act 1999 and produce products that are fit for their intended purpose. It applies to businesses involved in the production of rendered animal products intended for animal consumption, such as meat and bone meal, dried blood, fish meal, poultry meal, feather meal, tallow, fish oil and poultry fat. It covers the:

- collection of animal material for rendering except for collection activities performed by human consumption operators, as this will be covered under the relevant human consumption Code of Practice; and
- rendering, drying, storage and dispatch of products.

Rendering involves the break down of animal tissues into the constituent fat and protein elements. Under current New Zealand conditions this is achieved by thermal processing, which is the application of heat, with or without the application of pressure. As a result procedures given in this COP refer to thermal processing. Where an operator renders by other means e.g. chemical extraction they must be able to demonstrate that they meet all relevant regulatory requirements and produce products that are safe and suitable for their purpose.

Part 2 of the COP covers Good Operating Practice (GOP). It provides guidance on hygienic practices and process control procedures. Compliance with these GOP measures will assist operators meet the requirements of the Animal Products Act 1999, particularly the current version of the Animal Products (Specifications for Products Intended for Animal Consumption) Notice.

GOP is the foundation for Hazard Analysis and Critical Control Point (HACCP) and of risk management programmes (RMPs). The HACCP approach applied in Part 3 of this COP is based on the expectation that GOP is effectively being implemented prior to the application of HACCP principles.

1.2 Layout of Part 2

Part 2 is divided into several GOP programmes that cover hygiene and sanitation, process control, and other RMP requirements. The programmes covering hygiene and sanitation (e.g. pest control, design and construction), and RMP requirements (e.g. product recall) are expected to apply to the rendering of all types of animal products. However, the process control procedures given in Part 2 only cover the collection, transport and receipt of raw materials; and the rendering, drying, storage and dispatch of commonly rendered product (e.g. meat & bone meal, dried blood, fish meal, poultry meal, feather meal, tallow, fish oil and poultry fat).

Other types of products or processes that may occur in rendering operations such as bile evaporation, may not be adequately covered in this COP. If such is the case, the operator will need to write their own process control procedures for the particular product or process.

The GOP programmes are laid out with the following subheadings:

Purpose and scope

This describes the purpose of the GOP programme and its scope of application.

Sources of hazards

This section identifies the sources of hazards that are controlled under the particular GOP programme, and it gives examples of hazards associated with each source. However certain GOP programmes such as inventory control and calibration do not have this subheading as they do not directly address a particular source of hazard.

Mandatory requirements

These requirements are mandated by legislation, and must be met or complied with by the operator. The mandatory requirements are not always directly quoted from legislation. Some of them have been reworded to make them easier to understand. The specific legislation from which each requirement has been derived is cited to assist those who may wish to read the actual piece of legislation referred to. Actual legislation will always take precedence and it is the operator's responsibility to check for changes to legislation.

The abbreviations used for legislation cited in this document are:

AP Reg – the current version of the Animal Product Regulations

RMP Spec – the current version of the Animal Products (Risk Management Programme Specifications) Notice

AC Spec – the current version of the Animal Products (Specifications for Products Intended for Animal Consumption) Notice.

Procedures

The procedures given are the accepted or industry agreed means of achieving or complying with the mandated requirements. These procedures cover control, monitoring, corrective action, and verification. The operator must comply with the procedures that are applicable to their product and process.

There may be cases when the operator may decide to use an alternative process, procedure or parameter that is not provided for in this COP (e.g. when new technology becomes available). The operator must be able to demonstrate the effectiveness of any alternative to consistently meet all relevant regulatory requirements and produce products that are fit for their intended purpose. Confirmation of the effectiveness of any alternative process, procedure or parameter may involve the collection and analysis of evidence by the operator (e.g. data from testing or trials, published scientific information, report from an expert). A protocol for the collection of data should be prepared by the operator as discussed in the Risk Management Programme Manual.

This COP will be reviewed, as necessary, and the inclusion of any alternative process, procedure or parameter will be considered as part of this review.

It is important to note that some mandatory requirements (e.g. those that are specific and clear in their intent) are not repeated or expanded further in relevant sections under procedures. Operators must ensure that they read and comply with all requirements given under mandatory requirements and procedures that are relevant to their operation.

Guidance

Guidance material is presented in a box under relevant requirements. It provides explanatory information, and/or options for achieving a particular outcome or requirement. Operators may use alternative methods or measures to those set out in the guidance material provided they do not in any way compromise GOP and the achievement of regulatory requirements. Justification is not needed when deviating from guidance.

Records

This section gives the list of records that must be kept by the operator.

1.3 Documentation of GOP

1.3.1 Legal requirement

The operator must document sufficient procedures to ensure that GOP is applied. These procedures must cover:

- the control measures to be used to control hazards and other risk factors;
- any parameters to be met;
- any monitoring procedures that are to be carried out; and
- any corrective action procedures that are to be applied in the event of loss of control; including restoration of control, identification and disposition of affected animal material or animal product, and any measures to be taken to prevent reoccurrence of the loss of control.

1.3.2 Contents of supporting systems

When documenting supporting systems, the operator should ensure that they cover the areas listed below:

- Purpose and scope
- Authorities and responsibilities

The operator must identify who is responsible for a supporting system or particular activities (e.g. monitoring, corrective action, operator verification). These responsibilities can be documented either by name, position or designation. It is recommended that the position or designation option is used to minimise the need to update the supporting systems.

The operator must also grant the person responsible for the supporting system or activities the appropriate authority to perform those activities.

The operator may delegate these responsibilities and authorities to different people at different times, depending on availability of personnel e.g. by roster. In such cases, the operator must document the method for delegating responsibilities and authorities.

- Procedures (covering control measures, monitoring, corrective action and operator verification)
- Records
- References to other relevant documents, as applicable.

2 Glossary of terms

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Note: any term or expression that is defined in the APA 1999, Animal Products (Ancillary and Transitional Provisions) Act 1999, or subordinate legislation and used, but not defined here, has the same meaning as in those Acts or regulations. In all other cases terms will have the same meaning as that given in the Concise Oxford Dictionary.

Act means the Animal Products Act 1999 unless otherwise stated.

AC Spec means the current version of the Animal Products (Specifications for Products Intended for Animal Consumption) Notice.

ACVM Act means the Agricultural Compounds and Veterinary Medicines Act 1997.

AP Reg means the current version of the Animal Product Regulations.

Agricultural compound has the same meaning as in section 2 of the Agricultural Compounds and Veterinary Medicines Act 1997.

Amenities includes toilets, wash rooms, locker rooms, change rooms, lunch/smoke rooms and cafeterias.

Animal means any member of the animal kingdom, and includes,

a. any mammal, bird, finfish, shellfish, reptile, amphibian, insect or invertebrate;

b. any other creature or entity that is declared by the Minister by notice in the Gazette to be an animal for the purposes of this Act; but does not include a human being.

Animal material means any live or dead animal, or any tissue or other material taken or derived from an animal.

Animal product, or product means any animal material that has been processed (other than simply transported or stored in such a way as not to involve any alteration to its nature) for the purpose, or ultimate purpose, of consumption or other use by humans or animals.

Animal product operator means an operator who processes animal material or product for animal consumption under a risk management programme and includes without limitation-

a. pet food operators other than those to whom Part 7A [of the AC Specs] applies;

b. rendering operators;

c. and operator when used in this [AC Specs] notice has a corresponding meaning.

Animal treatment and exposure status means the status of the animal in relation to its treatment and exposure to veterinary medicines or other chemical substances that may impact on the suitability of the animal material for processing or animal product fitness for intended purpose.

Approved ink means an ink or stain listed in Schedule 4 [of the AC Specs] that is approved for use for a specific purpose.

Approved **denaturing inks** are covered in AC Spec Schedule 4(1). This states that inks for denaturing animal material or product must be prepared from the following dyes:
i. Brilliant Green, colour index number (CI) 42040; or
ii. A green dye, colour index number (CI) 42053, variously named Fast Green FCF or FD & C No.3 Green; or
iii. Green S, colour index number (CI) 44090; or
iv. Green vegetable dyes.

Approved maintenance compound means any maintenance compound that is approved by the Director-General or listed in specifications made under the Act.

Approved veterinary medicine means those veterinary medicines that are registered under the ACVM Act and those that are exempt from registration under the ACVM Act.

Clean, when used as a verb, means to remove visible contaminants from any surface.

Clean seawater means seawater that is free of excessive turbidity, colour, offensive odour, and any contaminants.

Clean water means-

a. in relation to water supplied by an independent supplier (including a public or private supplier), water of a standard administered by the independent supplier under the Health Act 1956 and any regulations made under that Act; or

b. in relation to water supplied by the animal product operator solely for the use of the animal product operator (such as bore water, rainwater or surface water), water that complies with the requirements in Schedule 1 [of the AC Specs].

Contaminant means any substance or thing which:

a. is undesirable, potentially harmful, or unexpected in a particular product or process; and

b. is or may be present in, or in contact with, animal material or animal product.

Denatured animal material or product means animal material or product that is clearly identified as not suitable for human consumption by-

a. being hashed or hogged so that it is not recognisable as suitable for human consumption; or

b. having added an approved ink intimately mixed throughout the animal material or product; or

c. having crude carbolic acid intimately mixed throughout the animal material or product provided the animal product operator has determined by analysis that the intended use of the acid will not adversely affect the suitability for processing of the animal material, or fitness for intended purpose of the animal product; or

d. having cresylic disinfectant intimately mixed throughout the animal material or product provided the animal product operator has determined by analysis that the intended use of the disinfectant will not adversely affect the suitability for processing of the animal material, or fitness for intended purpose of the animal product; or

e. being treated in a manner approved by the Director-General in writing as resulting in denaturing equivalent in result to the means of denaturing described in paragraphs (a) to (d)

and denature has a corresponding meaning.

Direct supervision in relation to an function, operation or activity means supervising any function, operation or activity while in sufficiently close physical proximity to ensure that any relevant specifications are met.

Equipment includes-

a. the whole or any part of any utensil, machine, fitting, device, instrument, stamp, apparatus, table, or article, that is used or available for use in or for the preparing, marking, processing, packing, storing, carrying, or handling of any animal material, animal product, ingredient, additive, or processing aid; and

b. any utensil or machine used or capable of being used in the cleaning of any equipment or facilities.

Essential services includes, without limitation, process gases, lighting, ventilation, water, and waste management.

Facilities include amenities, storage areas, and processing areas.

Hazard means a biological, chemical, or physical agent that –

a. is in or has the potential to be in animal material or product; or

b. is or has the potential to be a condition of animal material or product; and

c. leads or could lead to an adverse health effect on humans or animals.

High risk raw material means a type of animal material or product that is –

a. declared by the Director-General to contain infectious agents or substances harmful to animals; or

b. medium risk raw material or minimal risk raw material that has come into contact with any high risk raw material.

Human or animal consumption, used in relation to any animal product, means that the product is intended to be eaten, or taken orally, or administered parenterally, or applied topically.

Ingredient means any substance, including a feed additive, added to animal material or product during processing.

Fit for intended purpose, the phrase, used in relation to any animal product, that has been processed in accordance with the requirements of a registered risk management programme under the Animal Products Act 1999, means that by reason of animal material or product having had the relevant risk factors managed and meeting any relevant animal product standards and associated specifications, the product is suitable for the purpose for which the product is specifically stated or could reasonably be presumed to be intended having regard to its nature, packaging, and identification.

Label includes any wording, tag, brand, symbol, picture, or other descriptive matter, written, printed, stencilled, marked, embossed, impressed on, appearing on, attached to, or enclosed within any animal material or product.

Medium risk raw material means, animal material or product that is-

a. derived from slaughtered or killed animals that are suspected to be diseased;

b. derived from animals slaughtered and killed for specific disease eradication purposes as directed by the Director-General;

c. derived from mammals and birds that have died in the field;

d. derived from homekill or recreational catch;

e. derived from animal material or product from any animal containing residues of agricultural compounds or veterinary medicines, toxic substances or natural substances, including shellfish affected by marine biotoxins, which may result in harm to the consumer, except where any particular residue or toxic substance can be processed or treated so that they can be reduced to a level that is unlikely to result in harm to the consumer;

f. derived from animal material or product which is not fit for animal consumption without further processing or treatment;

g. any other material declared to be medium risk raw material by the Director-General;

h. any minimal risk raw material that has come into contact with any medium risk raw material.

Medium risk raw material is defined in AC Spec clause 6.

Minimal risk raw material means any animal material or product that is not of a kind listed above [in either high or medium risk raw material] and which does not result in any direct or indirect harm to animals on consumption.

Minimal risk raw material is defined in AC Spec clause 7.

NZFSA means the New Zealand Food Safety Authority.

Packaging material-

a. means any material that is associated with, and that comes into immediate contact with, animal material or product; and

b. includes rigid materials such as cartons and containers where animal material or product is filled directly into the carton or container; and

c. includes any other material contained with, in, or attached to, the animal material or product (such as labels, satay sticks, and heat sensors).

Pet means cat or dog.

Pet food means animal product intended for consumption by pets and petfood has the same meaning.

Place includes any building, conveyance, craft, fishing vessel, or structure; and includes any land, water, or other area where animals or animal material are produced or may be present.

Poison means in relation to vertebrates a vertebrate toxic agent that is registered under the ACVM Act for use against vertebrate animals.

Post-mortem examiner means a person, responsible for carrying out the post mortem examination functions and activities under a risk management programme, in accordance with this [AC Specs] notice.

Post thermal processing area means an area subsequent to the cooking or thermal process.

The point of separation between areas where raw material is received and stored and areas subsequent to the cooking or thermal process will differ for different rendering systems. For example in the case of:
- batch rendering systems the primary separation would be after the screw presses and a secondary separation would be between the raw material area and the cooker;
- systems where a cascade type meal drier is used the separation would be prior to the drier.

Poultry includes chicken, turkeys, ducks, pheasants, quail, guinea fowl, geese, partridges, pigeons and other game birds.

Process includes kill, slaughter, dress, cut, extract, manufacture, pack, preserve, transport, and store.

Protective clothing are garments worn as outer wear while any person is present in a processing area and includes, but is not restricted to, overalls, aprons, leggings, gloves and footwear.

Rendering means the breaking down of animal tissues into the constituent fat and protein elements, whether by the application of heat and pressure or otherwise.

Risk factors means:

a. risks from hazards to animal or human health:

b. risks from false or misleading labelling:

c. risks to the wholesomeness of animal material or product.

RMP Spec means the current version of the Animal Products (Risk Management Programme Specifications) Notice

Ruminant means an animal of the order Artiodactyla that chews cud regurgitated from its rumen, including but not limited to cattle, sheep (including lambs), deer, llamas, alpacas and goats.

Ruminant protein means protein derived from the tissue of a ruminant, except dairy produce; and for this purpose 'tissue' includes blood.

Sanitary design-

a. in relation to any premises or place, facility, internal structure, equipment or conveyance, means designed, constructed, and located so that it –

   i. meets the requirements appropriate to the type of animal material or product and process, and which includes consideration of the movement of people, access, and process flow; and

   ii. can be readily maintained, cleaned, sanitised, and sterilised where required, to ensure that risk factors from contaminants and pests are minimised; and

b. in relation to any equipment or access-way in any processing area, means that the equipment or access-way is designed, constructed and located so that it –

   i. is easily accessible for maintenance, cleaning, operation, checking and inspection; and

   ii. minimises the contact of contaminants with any animal material (other than live mammals or live birds), or animal product or other equipment; and

   iii. precludes the harbouring or accumulation of any contaminants or pests.

Sanitise means the application of a physical agent or maintenance compound, which is either an approved maintenance compound or an alternative maintenance compound within the scope of clause 21(2) [of the AC Specs], to minimise microbial contamination.

Suitably skilled person means a person who in the opinion of the operator is skilled in a particular activity or task through training, experience, or qualifications.

Transport includes transport by road, rail, sea or air.

Transport operator means any person or business that engages in the transport of animal material or product between places or premises within New Zealand and includes courier operations and subcontractors who are used intermittently.

Transportation outer means a package other than a transportation unit, that-

a. encases any packaged or unpackaged animal material or product for the purpose of transportation; and

b. is either removed before the animal product is used or offered for retail sale, or is not taken away by the consumer of the product.

Transportation unit includes vehicles, aircraft, railway wagons, ships, shipping containers, bulk bins, bulk tanks, trailers and any other form of transport used in the transport of animal material or product.

Veterinary medicine has the same meaning as in section 2 of the Agricultural Compounds and Veterinary Medicines Act 1997.

Waste means animal material or product that has been adjudged unsuitable or unfit for any purpose [i.e. unfit for human or animal consumption] and is awaiting disposal.

Water reticulation management plan means a documented programme that contains procedures for the management of the water and its reticulation within the premises or place to ensure that the appropriate quality of water is delivered at the point of use.

Wholesomeness, in relation to any regulated animal product, means that the product does not contain or have attached to it, enclosed with it or in contact with it anything that is offensive, or whose presence would be unexpected or unusual in product of that description.

Zoo animal means any animal that is displayed in a circus or zoological garden.

3 Categorisation and eligibility of raw material

Amendment 0

September 2009

3.1 Purpose and scope

To describe the different categories of raw material, their sources and eligibility for use.

3.2 Mandatory requirements

Not eligible for animal consumption

3.2.1 AC Spec 37(4)

The following animals must not be processed for animal consumption-

a. Animals used for research purposes, except where an approval is granted under subclause 39(2); or

b. Pets, zoo animals, guinea pigs, rats, mice; or

c. Any other animal notified by the Director-General.

High risk raw material

3.2.2 AC Spec 5

1. "**High risk raw material**" means a type of animal material or product that is-

   a. declared by the Director-General to contain infectious agents or substances harmful to animals; or

b. medium risk raw material or minimal risk raw material that has come into contact with any high risk raw material; or

c. animal material or product that is derived from ruminant animals imported live into New Zealand.

2. High risk raw material may not be processed for animal consumption, dealt with or disposed of, except in accordance with instructions issued by the Director-General.

NZFSA does not routinely declare animal material or product as high risk raw material. A situation where this may occur would be during a disease outbreak in New Zealand e.g. foot-and-mouth disease. High risk raw material is not a routine category and it may only be handled in accordance with the instructions issued by NZFSA under this clause. Therefore handling of this material is not documented elsewhere in this Part.

3.2.3 AC Spec 37(3)

High risk raw material is not eligible for processing for animal consumption, except in accordance with clause 5(2) and disposition must be in accordance with instructions issued under clause 5(2).

3.2.4 AC Spec 71

Operators must not collect or process high risk raw material, except in accordance with instructions and requirements specified by the Director-General in writing.

Medium risk raw material

3.2.5 AC Spec 6

"**Medium risk raw material**" means, animal material or product that is-

a. derived from slaughtered or killed animals that are suspected to be diseased;

b. derived from animals slaughtered and killed for specific disease eradication purposes as directed by the Director-General;

c. derived from mammals and birds that have died in the field;

d. derived from homekill or recreational catch;

e. derived from animal material or product from any animal containing residues of agricultural compounds or veterinary medicines, toxic substances or natural substances, including shellfish affected by marine biotoxins, which may result in harm to the consumer, except where any particular residue or toxic substance can be processed or treated so that they can be reduced to a level that is unlikely to result in harm to the consumer;

f. derived from animal material or product which is not fit for animal consumption without further processing or treatment;

g. any other material declared to be medium risk raw material by the Director-General;

h. any minimal risk raw material that has come into contact with any medium risk raw material.

3.2.6 AC Spec 37(2)

Medium risk raw material must be further processed to eliminate any hazard to the intended consumer prior to sale for animal consumption.

The conditions for use of medium risk raw material are given in AC Spec clause 72 and explained in the Process Control Sections (11-14).

Minimal risk raw material

3.2.7 AC Spec 7

"**Minimal risk raw material**" means any animal material or product that is not of a kind listed above in AC Spec 5 or 6, and which does not result in any direct or indirect harm to animals on consumption.

Minimal risk raw materials can be derived from premises operating under the Animal Products Act or Food Act regimes.
Sources of minimal risk raw materials could include processing scraps, such as boning room off cuts/bones, fish heads, gut or frames, that are obtained from the operators under the:
- Animal Products Act regime that process seafood or slaughtered / killed animals for human or animal consumption; or
- Food Act that process seafood, red meat or poultry for human consumption. This would include premises registered under the Health (Registration of Premises) Regulations 1966.
Minimal risk raw material may be handled through normal processing scrap handling systems.
To maintain animal material or product as minimal risk raw material requires it to be handled appropriately. This means that no hazards are introduced that may result in harm to the animal when consuming the product.

3.2.8 AC Spec 37(1)

Minimal risk raw material is eligible for animal consumption without further processing.

4 Design, construction and maintenance of buildings, facilities and equipment

Amendment 0

September 2009

4.1 Purpose and scope

To ensure that all buildings, facilities and equipment are designed, constructed, installed and operated in a manner that prevents or minimises contamination of animal products, packaging, equipment, and the processing environment.

4.2 Sources of hazards

The sources of hazards controlled under this programme are summarised in the table below.

Source	Examples of hazards
Facilities, equipment	Microbiological pathogens, e.g. *Salmonella* Chemical residues, e.g. heavy metals from equipment Physical hazards, e.g. metal, glass
Maintenance compounds (e.g. lubricating fluids)	Chemical residues
Environmental contaminants (e.g. dust, fumes, pollutants, sewage) particularly in post thermal processing areas	Microbiological pathogens, e.g. *Salmonella*, *Clostridium* spp. Chemical residues, e.g. agricultural chemicals

4.3 Mandatory requirements

4.3.1 AP Reg 10

The premises, places, facilities, equipment and essential services must be:

- designed, constructed, and located to enable suitability of the animal material to be maintained, and the fitness for intended purpose of the animal product to be achieved and maintained; and
- operated to minimise and manage the exposure of animal material or animal product or associated things (e.g. packaging, equipment, and the processing environment) to hazards and other risk factors.

4.3.2 AC Spec 9 (1)

Any material or exposed internal surface finish used in the building, manufacture, or maintenance of facilities, equipment, or internal structures of premises that may affect the suitability for processing of animal material (other than live mammals or live birds), or the fitness for intended purpose of animal product, must-

a. be impervious, non-absorbent, and free from depressions, pits, cracks, and crevices that may harbour contaminants; and

b. be easily cleaned and sanitised; and

c. be unaffected by any corrosive substance with which it is likely to come into contact, to the extent necessary to ensure that it will not harbour contaminants and not be a source of contamination; and

d. be durable, resistant to fracture, and capable of withstanding repeated exposure to normal cleaning and sanitising; and

e. in the case of surfaces (other than those used for walking or standing on during operations), be smooth and minimise the accumulation of condensation; and

f. in the case of materials lining the walls, floors, and ceilings, be of a colour that does not, having regard to the lighting arrangements and the type of processing carried out on the premises, disguise contaminants.

The items listed above are not mandatory for those operations where the operator has assessed and determined that the material or exposed internal surface finish does not affect the suitability for processing of animal material or the fitness for intended purpose of rendered animal product.

4.3.3 AC Spec 9 (2)

The facilities, equipment and internal structures of premises that may affect the suitability for processing of animal material or the fitness for intended purpose of animal product must be of sanitary design.

4.3.4 AC Spec 10 (3)

Temperature controlled rooms and equipment must be operated within their design, capability and capacity, and must consistently deliver any temperature as required by this notice or as specified in the risk management programme (as the case may require).

4.3.5 AC Spec 10 (5)

Cleaning and sanitation facilities, and equipment, must be provided to ensure that the hygiene of personnel, equipment, vehicles, conveyances, and the premises or place can be maintained so that the suitability for processing of animal material and the fitness for intended purpose of animal product is not adversely affected.

4.3.6 AC Spec 10 (6)

Access to facilities that are sufficient for official assessors and Animal Product Officers to perform their role must be provided.

4.3.7 AC Spec 10 (7), (8)

7. Any facilities used for the processing of animal material or product for animal consumption must be physically separated from facilities where product is processed for human consumption and must be used only for the processing of animal material or product for animal consumption.

8. Despite subclause (7), the animal product operator may process animal material or product for human consumption and animal consumption in the same facilities where the animal product operator has effective procedures in place to maintain separation of product intended for human consumption from that intended for animal consumption, and to prevent cross contamination or substitution between them.

4.3.8 AC Spec 11

Lighting must be of a sufficient intensity and quality to enable satisfactory performance of all operations that might affect the suitability of animal material for processing, or the fitness of animal product for its intended purpose.

4.3.9 AC Spec 19 (1)

Equipment or storage areas used to store or contain any animal, animal material or animal product that is intended for further processing, including medium risk raw material, must be clearly identified and not be a source of contamination to any other animal material or animal product.

4.3.10 AC Spec 20 (1)

Equipment or storage areas, as appropriate, used to store or contain waste must-

a. be clearly identified; and

b. not be a source of contamination to other animal material or product.

For the purpose of this clause, waste includes animal material or product which has been assessed by an official assessor or post-mortem pet food examiner, and has been adjudged unsuitable or unfit for any purpose and is awaiting disposal.

4.4 Procedures

4.4.1 Site

4.4.1.1 When establishing a new premises an operator must locate it away from:

a. environmentally polluted areas and industrial activities which pose a serious threat of contaminating animal material or animal product;

b. areas subject to flooding, unless sufficient safeguards are provided;

c. areas prone to infestation of pests; and/or

d. areas where wastes, either solid or liquid, cannot be effectively removed.

While existing premises can not avoid these issues the operator should be aware of the impact they may have on their operation.

4.4.1.2 Transport access ways, and areas between and around buildings, must be constructed and maintained so that they drain surface water, and minimise dust and other environmental contamination.

4.4.2 Buildings and facilities

4.4.2.1 The internal design and layout of premises must permit good hygienic practices, including protection against contamination of animal material and animal product between and during operations.

Clearly identified facilities should be provided for the handling of any non-complying animal material or product.

4.4.2.2 Adequate working space must be provided to allow for the hygienic performance of all operations, access of personnel, installation of equipment, effective cleaning, and effective monitoring and verification of activities.

4.4.2.3 Buildings and facilities must be designed and constructed to minimise pest access and breeding sites and enable effective pest control.

4.4.2.4 Buildings, facilities and equipment must be designed to facilitate separation between raw and thermally processed products. In the case of:

- medium risk raw material and thermally processed products, separation must be achieved by physical separation;
- minimal risk raw material and thermally processed products, separation must be achieved by either physical separation or separation by distance.

Physical separation means the presence of a physical partition or barrier (e.g. separate rooms).
Buildings and facilities must be designed to minimise the need to access thermally processed animal product areas from areas likely to provide a source of contamination and to control personnel movement and access to prevent cross contamination.

4.4.2.5 Appropriate personnel hygiene facilities (e.g. hand washing facilities) must be provided for personnel who move between raw material and post thermal processing areas.

4.4.2.6 The area surrounding tallow tanks must be adequately paved and drained.

4.4.3 Essential services (process gases, lighting, ventilation, and water and waste management)

4.4.3.1 Adequate supply of clean water, at appropriate temperatures, must be available at suitably located draw-off points to enable hygienic operation. Refer to section 5, Water used for processing, for further information.

Water used for hand washing should be warm, as this encourages personnel to wash properly.
The temperature of water used for cleaning should be appropriate to the type of soil being removed (e.g. fat, protein) and the type of cleaning compound being used.

4.4.3.2 Facilities must be provided for the hygienic and effective collection and removal of any waste materials. This includes provision of waste and effluent disposal systems to handle and, where necessary, treat all liquid and solid waste.

4.4.3.3 Adequate means of natural or mechanical ventilation must be provided to:

a. minimise air-borne contamination of thermally processed product, e.g. from aerosols from raw material processing, condensation; and

b. control ambient temperature and humidity by removing excessive heat and water vapour.

Adequate ventilation is particularly important in post thermal processing areas. This is because steam and condensation in these areas may contribute to an environment where *Salmonella* growth is possible.
Where a rendering area adjoins human consumption processing areas, the air pressure should be controlled so that back flow of air, moisture, fumes or odours to human consumption processing areas via chutes, door ways or other conduits is minimised. The requirements relating to this would be outlined in the relevant human consumption processing Code of Practice.

4.4.3.4 Lights, skylights, and other glass fixtures over any exposed animal material or product must be of the safety type, or otherwise protected to prevent contamination of animal material or product in the event of breakage.

4.4.4 Facilities and internal structures

4.4.4.1 Adequate facilities must be provided for the storage of animal material or animal product, packaging, and non-food chemicals (e.g. cleaning materials, lubricants, and fuels).

4.4.4.2 Facilities must be designed to provide separation, by partition, location, or other effective means, between animal material or product and other materials (e.g. cleaning materials, hazardous substances, non-food materials, waste) that may cause contamination of any animal material or product.

4.4.4.3 Floors that are subject to wet cleaning must be adequately graded to facilitate the drainage of water.

4.4.4.4 Floor to wall junctions must be constructed in such a manner to facilitate easy cleaning.

4.4.4.5 Ceilings and overhead fixtures in post thermal processing areas must be constructed to minimise the build-up of dirt and condensation, and the shedding of particles.

4.4.5 Thermal processing equipment

4.4.5.1 Rendering facilities must be designed for the maximum capacity likely to be processed at any one time.

4.4.5.2 When processing medium risk raw material, equipment used for the control and monitoring of temperatures and other thermal processing parameters (e.g. time) must be provided and maintained so they accurately monitor the parameters of the process being controlled.

Although there are no required time / temperature processing parameters for minimal risk raw material, it is recommended that operators processing minimal risk raw material should provide equipment for the control and monitoring of temperatures and other thermal processing parameters (e.g. time).

4.4.6 Loading facilities

Loading facilities must be designed and constructed to protect animal product from environmental contaminants.

The use of sealed docking bays or fully enclosed environmental loading facilities for bulk meals will achieve this requirement. Loading facilities for bagged and other packaged product should be provided with a canopy. It is particularly important to prevent rain water from entering the loading equipment or area and creating a site for endemic *Salmonella* contamination.

4.4.7 Amenities

4.4.7.1 The following amenities must be provided for employees' use:

- changing facilities;
- personnel hygiene facilities; and
- dining facilities.

Animal consumption rendering and human consumption processing may occur at the same premises. Where this occurs, controls on the amenities for personnel processing human consumption product are covered in the relevant human consumption Code of Practice. This COP may require these amenities to be physically separated from those for rendering personnel.

4.4.7.2 Amenities must be located and constructed so as not to jeopardise the hygienic processing and storage of animal material and product.

To minimise the risk of indirect cross contamination of thermally processed product:
- amenities should be constructed with boot and clothing exchanges; and/or
- separate amenities should be provided for personnel working in raw material and post thermal process areas.

The operator should consider whether any additional controls are required for personnel handling dead mammals and birds e.g. physically separate dedicated amenities.

4.4.7.3 Amenities must be designed, constructed and maintained in a manner that facilitates cleanliness and tidiness.

4.4.8 Repairs and maintenance

Normal in-process adjustments to machinery or equipment are not considered to be repairs or maintenance activities.

4.4.8.1 General

- A maintenance programme must be documented and implemented to ensure that equipment and facilities are maintained in good working condition and do not cause any contamination of any animal product.

For a small operator with simple processes the maintenance programme may be a checklist.

- All alterations, repairs and maintenance work on buildings, facilities and equipment must be done in a manner that minimises exposure of products to hazards introduced by this work.
- Any tools and/or equipment used during repairs or plant maintenance must be used in a manner appropriate to the status of any animal material or animal product nearby.

Transferring tools and equipment into the post thermal processing area may lead to cross contamination of post thermally processed product. To minimise this: - dedicated tools should be provided for the post-thermal process area; or - where possible, tools should be sanitised before being transferred into the post-thermal process area.

4.4.8.2 Breakdowns

When equipment breakdown occurs during processing, and repairs cannot be carried out in a sanitary manner, then consideration must be given to reprocessing or downgrading the affected animal material or animal product.

It is unlikely that animal material awaiting thermal processing will require reprocessing or downgrading. An exception might be contamination with hydraulic fluid. When the corrective action cannot be carried out in a sanitary manner consideration should be given to: - removing the defective equipment from the processing environment to enable repair whilst production continues; or - removing the animal product and packaging from the adjacent area of the room while the equipment is repaired; or - ceasing processing in the affected area, and protecting animal product and packaging from contamination during repair of the equipment.

4.5 Monitoring

The responsible person must regularly check compliance to documented procedures.

The frequency and type of monitoring will depend on the nature of the operation, and on the degree of risk if hazards are uncontrolled.

4.6 Records

The operator must keep relevant records demonstrating compliance with documented procedures. These could include:

- site plans;
- equipment register;
- records of any major problems detected regarding buildings, facilities and equipment;
- records of any major alterations or repairs done; and
- records of any corrective action taken (including restoration of control, product disposition and prevention of recurrence).

Refer to Part 2, Section 17 of this COP for record keeping requirements.

5 Water used for processing

Amendment 0

September 2009

5.1 Purpose and scope

To ensure that adequate supply of water of an appropriate quality is available for hygienic operations.

5.2 Sources of hazards

The sources of hazards controlled under this programme are summarised in the table below.

Source	Examples of hazards
Faecal material (e.g. animal droppings, sewage)	Pathogenic micro organisms – *E. coli* spp, *Campylobacter* spp, *Cryptosporidium*, *Giardia*, viruses
Agricultural chemicals (e.g. fertiliser, pesticides)	Nitrate
Soil	Pathogenic micro organisms – *E. coli* spp, *Campylobacter* spp, *Cryptosporidium*, *Giardia*, viruses Toxic chemicals, e.g. arsenic, boron
Pipes and tanks	Copper
Roof paint for roof collected water	Lead

Operators may use one or more of the following categories of water:
- Clean water (supplied by an independent supplier of a standard administered by the supplier under the Health Act 1956 e.g. a town supply);
- Clean water (supplied by the operator solely for use by the operator);
- Water of an alternative quality;
- Clean seawater.

5.3 Summary of mandatory requirements and procedures

The mandatory requirements and procedures for water of different categories are summarised in the table below.

Water type	Source	Mandatory requirements	Procedures
Clean water	Town supply or other independent supply	- Section 5.4.4; - Non-complying water – section 5.4.8	Management of reticulation system – N/a Supply – Section 5.5.1 Handling and disposition of contaminated materials – section 5.5.2
Clean water	Operator's own supply (e.g. water sourced from a bore, river, stream, roof)	- Section 5.4.5; - Non-complying water – section 5.4.8	Supply – section 5.5.1 Handling and disposition of contaminated materials – section 5.5.2 Management of reticulation system – section 5.5.3
Alternative water standard[1]	Any	- Section 5.4.6; - Non-complying water – section 5.4.8	Supply – section 5.5.1 Handling and disposition of contaminated materials – section 5.5.2 Management of reticulation system – section 5.5.3
Clean seawater	Any	- Section 5.4.7; - Non-complying water – section 5.4.8	Supply – section 5.5.1 Handling and disposition of contaminated materials – section 5.5.2 Management of reticulation system – section 5.5.3

1. As determined by the operator provided the:

- water quality standard is determined by an analysis of hazards and other risk factors; and
- suitability for processing of animal material or fitness for intended purpose of animal product is not adversely affected.

5.4 Mandatory requirements

These requirements must be met in addition to those required under the Building Act 2004 regime e.g. the provision of water for personnel hygiene and drinking.

5.4.1 Specifications

The clauses in the AC Specs that relate to water are clauses 4, 12, 13, 14, 15, 16 as well as Schedule 1. The relevant parts of these clauses are outlined below under each category of water.

5.4.2 AC Spec 4(1) (definition of clean water)

Clean water means-

a. in relation to water supplied by an independent supplier (including a public or private supplier), water of a standard administered by the independent supplier under the Health Act 1956 and any regulations made under that Act; or

b. in relation to water supplied by the operator solely for the use of the operator (such as bore water, rainwater, surface water, or ground water), water that complies with the requirements in Schedule 1.

5.4.3 AC Spec 4(1) (definition of clean seawater)

Clean seawater means seawater that is free of excessive turbidity, colour, offensive odour, and any contaminants.

Specific mandatory requirements for each category of water

5.4.4 Clean water *(supplied by an independent supplier of a standard administered by the supplier under the Health Act 1956)*

Most town / council water supplies would fall into this category.

5.4.4.1 Water (including ice and steam) that comes into direct, or indirect, contact with animal material or product being processed for animal consumption must be clean water at the point of use.

Water supplied by an independent supplier is, by definition, clean water. As a result no sampling or testing of this water is required.
There may be situations where clean water from an independent supplier is supplied to both rendering and human consumption processing operations. The code of practice covering the human consumption processing may require the clean water to be tested. Where this is the case, the test results may be used by the rendering operator to confirm they are using clean water.

5.4.5 Clean water *(supplied by the operator solely for use by the operator)*

5.4.5.1 Clean water supplied by the operator solely for use by the operator (such as bore water, rainwater, surface water, or ground water) must comply with the requirements in Table 1.

5.4.5.2 Water (including ice and steam) that comes into direct, or indirect, contact with animal material or product being processed for animal consumption must be clean water at the point of use.

5.4.5.3 An operator must have a programme to ensure that the water coming into direct or indirect contact with animal material or product is clean water.

The *Water Supply Assessment Checklist*, referred to later under the 'Initial Assessment of Water Supply Status' may also be used to assist in documenting a water management plan.
Additional guidance on water is available from the Ministry of Health. Guidance on ways to keep roof water safe is provided in *Water Collection Tanks and Safe Household Water*, Ministry of Health, August 1999 (code 10148). Guidance on protecting bore and well water is provided in *Secure Ground Water (Bores and Wells) For Safe Household Water*, Ministry of Health, March 2000 (code 1129).

Both documents are available from www.moh.govt.nz under the section on Information for the Public.
For more information on water safety and tank installation, read *Household Water Supplies* (code 4602), available from your local public health service or your local authority (council).

5.4.5.4 An operator must implement a water reticulation management plan. This plan must include:

- systems to ensure that the clean water that is reticulated throughout the premises or place is not adversely affected by the reticulation system so that the intended water quality is delivered at point of use; and
- systems to ensure that there is no unintentional mixing of water of different standards; and
- an action plan with appropriate sanitation procedures to be implemented in the event of non-compliance with the water reticulation plan; and
- details of any additional treatment implemented by the operator to make the water fit for purpose.

5.4.5.5 Initial assessment of water supply status

The operator must assess all of the applicable water sources. This assessment must demonstrate that the sources do not affect the fitness for purpose of animal material or product. A copy of the completed assessment must be kept as part of the risk management programme.

The *Water Supply Assessment Checklist* provided in the latest version of the Animal Products (Specifications for Products Intended for Human Consumption) Notice may be used a guide when undertaking this assessment. This checklist is used to determine whether the water source is satisfactory, and if other corrective action must be applied by the operator.

5.4.5.6 Reassessment of water supply status

The operator must reassess the clean water-

a. every five years; and

b. whenever a new source of water is used in the plant; and

c. within a month of there being a change to the environment on or around the water source that may affect the water quality.

The *Water Supply Assessment Checklist* provided in the latest version of the Animal Products (Specifications for Products Intended for Human Consumption) Notice may be used a guide when undertaking this reassessment.

5.4.5.7 Ongoing water monitoring

Clean water must be subject to ongoing monitoring according to the following requirements-

a. Clean water at the point of use must meet the criteria set out in Table 1 including the minimum testing frequency; and

Chlorine, pH and turbidity measurements should be performed by a suitably skilled person using documented methodologies (including calibration procedures) and/or calibrated equipment.

b. Microbiological testing must be performed by, or under, the supervision of a recognised signatory of a LAS (Laboratory Approval Scheme) laboratory, or a ISO/IEC 17025 accredited laboratory with the required tests in the laboratory's scope of accreditation; and

A list of LAS approved laboratories, including authorised representatives & general categories, is available on the NZFSA Animal Products web site under "Registers & Lists".

c. The operator must ensure that the training of water samplers is undertaken by a laboratory referred to in paragraph (b).

Table 1 -Testing requirements

Clean water quality testing programme for a private/own supply		
Measurement	**Criteria**	**Test Frequency**
Faecal coliforms	Must not be detectable in any 100 ml sample	6 monthly
Turbidity	Must not exceed 5 NTU	6 monthly
Chlorine (when chlorinating)	Not less than 0.2ppm (mg/l) free available chlorine with a minimum of 20 minutes contact time	Daily
pH (when chlorinated)	6.6 to 8	6 monthly

5.4.6 Water of an alternative quality

5.4.6.1 The operator may use water that complies with an alternative water quality standard as determined by the operator provided-

a. the water quality standard is determined by an analysis of hazards and other risk factors; and

b. the suitability for processing of animal material or fitness for intended purpose of animal product is not adversely affected.

5.4.6.2 An operator must have a programme to ensure that the water coming into direct or indirect contact with animal material or product is water of the defined alternative quality standard.

How the alternative water quality standard is defined will affect how the operator ensures they are meeting this standard and what monitoring they need to perform.

5.4.6.3 An operator must implement a water reticulation management plan. This plan must include:

- systems to ensure that the water of an alternative quality that is reticulated throughout the premises or place is not adversely affected by the reticulation system so that the intended water quality is delivered at point of use; and
- systems to ensure that there is no unintentional mixing of water of different standards; and
- an action plan with appropriate sanitation procedures to be implemented in the event of non-compliance with the water reticulation plan; and
- details of any additional treatment implemented by the operator to make the water fit for purpose.

5.4.7 Clean seawater

5.4.7.1 Clean seawater (including ice and steam) that comes into direct, or indirect, contact with animal material or product being processed for animal consumption must be clean seawater at the point of use.

5.4.7.2 An operator must have a programme to ensure that the seawater coming into direct or indirect contact with animal material or product is clean seawater.

This programme should include a procedure for the visual assessment of the seawater.

There may be situations where clean seawater from one source is supplied to both rendering and human consumption processing operations. Where this occurs no sampling or testing (other that visual assessment) is required of the seawater being supplied to the rendering operation.

The Code of Practice: Processing of Seafood Products may require the seawater being supplied to the human consumption processing operation to be tested. If this is the case, the test results may be used by the rendering operator to show they are using clean water.

5.4.7.3 An operator must implement a water reticulation management plan. This plan must include:

- systems to ensure that the clean water that is reticulated throughout the premises or place is not adversely affected by the reticulation system so that the intended water quality is delivered at point of use; and
- systems to ensure that there is no unintentional mixing of water of different standards; and
- an action plan with appropriate sanitation procedures to be implemented in the event of non-compliance with the water reticulation plan; and
- details of any additional treatment implemented by the operator to make the water fit for purpose.

5.4.7.4 If clean seawater is used on fishing vessels it must only be taken from places that are of a distance offshore sufficient to ensure that the water quality is not at risk from pollution sources.

5.4.7.5 All water treatment equipment, including desalination plants, used on fishing vessels must be installed, maintained and operated in accordance with the manufacturer's instructions.

Mandatory requirements for all water categories

5.4.8 AC Spec 16 (non-complying water)

5.4.8.1 Where an operator:

- fails to comply with the water reticulation plan; or
- has reason to believe that the water is not fit for its purpose; or
- in the case of water from an independent supplier (e.g. local council), is advised by the supplier that the water is not fit for drinking by humans;

the operator must ensure that operations involving the water cease until they complete an assessment of the water quality that demonstrates that the water is still fit for its purpose and doesn't affect the fitness for purpose of animal material or product being processed.

The reason given by the independent supplier for the water not being fit for drinking by humans may not affect the fitness for purpose of the water. Where this is the case the operator should still undertake the assessment when advised by the supplier but operations requiring the use of water would not need to cease.

5.4.8.2 The requirements in 5.4.8.1 do not apply where an operator's risk management programme specifically provides a means for ensuring that water is still fit for its purpose at its point of use, despite the occurrence of an event listed in 5.4.8.1.

5.5 Procedures

Procedures for all water categories

5.5.1 Supply

Adequate supply of clean water, water of a determined alternative quality or clean seawater must be available and used for:

- cleaning of animal material and product contact equipment and surfaces;
- washing of hands of personnel involved in the handling of any animal product, packaging, and product contact equipment; and
- any other activity wherein water comes into direct or indirect contact with any animal material or product.

5.5.2 Handling and disposition of contaminated materials

When contamination with water of a lower quality than specified occurs, the following actions must be carried out by a suitably skilled person:

- the suitability for processing of animal material and/or the fitness for intended purpose of animal product of any affected animal material or product must be assessed;
- the suitability of affected product contact surfaces and affected packaging materials must be considered.

It is likely that the water quality would have to be of a significantly lower quality than that specified before the suitability for processing of raw material would be affected.

Procedures for:

- **Clean water** (supplied by the operator solely for use by the operator);
- Water of an alternative quality;
- Clean seawater

5.5.3 Management of reticulation system (i.e. reticulation management plan)

a. The water reticulation system within the premises must be designed, installed and operated in such a manner that prevents:

- cross connections between the water being used and water of a lower standard;
- stagnant water (i.e. no dead ends and unused pipes); and
- back flow that may cause contamination of the water supply.

b. Water pipes, storage tanks and other parts of the reticulation system must be maintained in good condition.

The reticulation system must be flushed (i.e. taps are opened at point-of-use to allow a significant flow of water to occur) when water is not used for an extended period, and after

any repairs to the system, to ensure that stagnant water, rust, scale or other material is flushed out of the system.

5.6 Monitoring

The responsible person must regularly check compliance to documented procedures.

5.7 Records

The operator must keep relevant records demonstrating compliance with documented procedures. These could include:

- completed *Water Supply Assessment Checklist* (except for clean water from an independent supplier);
- water management plan, if applicable;
- water testing results, if applicable;
- observations from monitoring and any water treatment applied;
- records of any corrective action taken (including restoration of control, product disposition and prevention of recurrence).

Refer to Part 2, section 17 of this COP for record keeping requirements.

6 Cleaning and sanitation

Amendment 0

September 2009

6.1 Purpose and scope

To ensure the effective maintenance, cleaning and sanitation of the premises, facilities and equipment so as to prevent or minimise the contamination of animal products.

6.2 Sources of hazards

The sources of hazards controlled under this programme are summarised in the table below.

Source	Examples of hazards
Facilities and equipment	Bacterial pathogens, e.g. *E.coli* spp., *Salmonella* spp.
Waste	Bacterial pathogens, e.g. *E. coli* spp., *Salmonella* spp.
Cleaning chemicals	Chemical residues
Cleaning implements (e.g. mops, rags)	Bacterial pathogens, e.g. *E.coli* spp.

6.3 Mandatory requirements

6.3.1 AP Reg 11

All operators must establish and carry out procedures to:

- ensure appropriate and adequate maintenance, cleaning, and sanitation of processing premises, facilities, essential services, and equipment (including conveyances); and
- manage waste.

6.3.2 AC Spec 21 (1), (2)

1. Only approved maintenance compounds may be used during processing operations or in the maintenance of processing areas, facilities and equipment.

2. Despite subclause (1), the operator may use an alternative maintenance compound provided the operator has determined by analysis that the compound and its intended use will not adversely affect the suitability for processing of animal material, or fitness for intended purpose of the animal product.

6.4 Procedures

6.4.1 All areas within the physical boundaries of the Risk Management Programme (RMP) must, at all times, be maintained in a condition that:

- enable the effective implementation of the RMP; and
- prevent direct or indirect contamination of animal products from pest, wastes, chemicals and other environmental contaminants.

6.4.2 The operator must develop and implement a documented cleaning and sanitation programme that covers the cleaning of equipment, facilities, the internal and external environment of the premises and amenities.

The introduction of water into rendered product has the potential to create conditions where bacteria e.g. *Salmonella* could grow. As a result wet cleaning in post thermal processing areas should only be carried out when absolutely necessary.

6.4.3 The cleaning and sanitation programme must include the following information:

- areas, facilities or equipment to be cleaned;
- cleaning procedures, including chemicals to be used;
- frequency of cleaning;

- people responsible for cleaning; and
- cleaning procedures and cleaning frequency that are appropriate for the area being cleaned.

Wet cleaning procedures should be used for raw material areas. These procedures should include a selection of the following steps - removing the gross soils, low pressure water flush, cleaning with the aid of a detergent, hot or cold water flush, sanitising and a water rinse.
Dry cleaning procedures should be used for post thermal processing areas. These procedures could include brushing, scraping and vacuuming.
A combination of wet and dry cleaning should be considered in thermal processing areas (where cooking and tallow separation occur).

6.4.4 Cleaning must be carried out in such a manner that will prevent the direct or indirect contamination of any animal product, packaging material; or previously cleaned areas, facilities or equipment.

Equipment used to transport raw material should be cleaned in a designated area after empting. This designated area should be located so as to prevent contamination of thermally processed products.

6.4.5 Once cleaning chemicals have been used, all animal material collected during cleaning must be treated as waste unless an assessment by a suitably skilled person determines that the material is still suitable for processing.

Animal material collected during the initial cleaning steps, prior to the use of cleaning chemicals, remains suitable for processing.
Material that has been contaminated with chemicals during the cleaning process is unlikely to be acceptable for reprocessing.

6.4.6 Workers must be adequately trained on the handling of cleaning chemicals and the implementation of the cleaning programme.

6.4.7 Adequate space must be available to allow effective cleaning in storage areas.

6.4.8 Meal storage areas must be kept dry and must be cleaned regularly by sweeping or vacuuming.

Meal storage areas may be wet cleaned when no meal is present provided the storage areas are adequately dried prior to meal being stored.

6.4.9 Cleaning implements and equipment must be maintained in a hygienic condition so that they do not provide a source of direct or indirect contamination to any animal product, packaging or product contact surface.

6.5 Monitoring

The responsible person must regularly check compliance to documented procedures and the effectiveness of the cleaning programme. The frequency of monitoring must be sufficient to give confidence that the cleaning and sanitation programme is operating effectively.

6.6 Records

The operator must keep relevant records demonstrating compliance with documented procedures. These could include:

- cleaning records;
- list of approved chemicals;
- training records; and
- verification of cleaning records (e.g. reality checks, chemical strength tests)

Refer to Part 2, section 17 of this COP for record keeping requirements.

7 Personnel competency, health and hygiene

Amendment 0

September 2009

7.1 Purpose and scope

To ensure that all personnel are competent and medically fit to perform their duties, and that they comply with good hygienic practices. Personnel include all workers, contractors providing services, and visitors.

7.2 Sources of hazards

The sources of hazards controlled under this programme are summarised in the table below.

Source	Examples of hazards
Person, particularly in post thermal processing areas	Bacterial pathogens, e.g. *Salmonella* spp., *E. coli* spp.
Clothing/footwear, particularly in post thermal processing areas	Bacterial pathogens, e.g. *Salmonella* spp., *E. coli* spp., *Clostridium* spp.
Personal items (e.g. jewellery, pens, hair clips)	Metal objects

7.3 Mandatory requirements

7.3.1 AP Reg 12

The operator must ensure that all personnel, including visitors, whose presence or action within the premises may result in contamination of animal product:

- wear appropriate protective clothing, where necessary;
- follow an appropriate personal hygiene routine; and
- behave in such a manner as necessary to minimise contamination of animal product, other inputs, packaging and the processing environment.

7.3.2 RMP Spec 15 (2)

The operator must document the competencies needed by:

- the day-to-day manager;
- those persons authorising all or part of the risk management programme; and
- those persons performing key tasks under the risk management programme including monitoring, corrective action, and operator verification.

7.3.3 RMP Spec 15(3)

The operator must keep records demonstrating that the competencies mentioned in 7.3.2 have been achieved and maintained.

7.3.4 AC Spec 22

The operator must take reasonable measures to ensure that a person (including any visitor or contractor) who is:

a. infected with, or a carrier of, an infectious disease in a communicable form as described in Section A, Part 1, of the First Schedule of the Health Act 1956, and that is likely to be transmitted through animal products or associated things; or

b. suffering from acute respiratory infection; or

c. suffering from boils, sores, infected wounds, or any other condition that cannot be adequately prevented from becoming a source of contamination;

does not work as a product handler in, or enter, an area where he or she may adversely affect the suitability for processing of animal material or the fitness for intended purpose of animal product.

The items listed above are not mandatory where the operator has determined that the worker does not adversely affect the suitability for processing of animal material or the fitness for intended purpose of animal product. Generally this requirement would only apply to workers handling product.

7.3.5 AC Spec 24(1)

The operator must ensure that the skills of persons involved in key tasks that could have a significant impact on the suitability for processing of animal material or the fitness for intended purpose of animal product are maintained on an ongoing basis.

7.3.6 AC Spec 24(2)

The operator must keep records demonstrating that skills identification, achievement and maintenance is being carried out effectively.

7.4 Procedures

7.4.1 Competencies

7.4.1.1 The day-to-day manager or person authorising all or part of the RMP must be familiar with the documented risk management programme and have the following competencies:

- knowledge in the application of HACCP principles, and hygienic procedures and practices documented in this code of practice;
- knowledge in regulatory requirements, including responsibilities, related to the effective development and implementation of the RMP;
- technical knowledge and experience in the particular operation; and
- ability to liaise and communicate effectively with workers and the regulator.

7.4.1.2 Workers performing key tasks including monitoring, corrective action, and operator verification must:

- have knowledge and skill in executing the particular task; and
- be familiar and able to consistently comply with hygienic practices and procedures.

7.4.2 Training

7.4.2.1 The operator must:

- inform new workers of their job description, health requirements, and hygienic practices and procedures before starting work; and
- provide ongoing supervision and/or training to ensure that new workers are adequately trained on their specific tasks and on hygienic practices and procedures.

Where appropriate, clear instructions on hygienic practices (e.g. hand washing, use of protective clothing) and on operational tasks should be posted in the premises to re-enforce the procedures.

A number of qualifications and unit standards are available under the New Zealand Qualification Authority (NZQA) framework which may form part of the training. These include:

National Certificate in Meat Processing (Associated Processes) with strand in Rendering

3106: Demonstrate knowledge of high temperature rendering systems used in the meat processing industry, level 2, credit 3

3107: Demonstrate knowledge of low temperature rendering systems used in the meat processing industry, level 2, credit 3

3108: Operate high temperature rendering process, level 3, credit 20

3109: Operate low temperature rendering process, level 3, credit 20

3110: Operate blood drying process, level 3, credit 12

3111: Prepare and dispatch rendered meat products, level 2, credit 5

3112: Complete rendering department cleaning programmes, level 2, credit 5

17687: Demonstrate knowledge of the meat industry standard regarding byproducts, level 3, credit 4

19456: Analyse the requirements for Meat Industry Standard 7: Byproducts, level 4, credit 8

These unit standards are being reviewed and will be updated and/or replaced in due course. Refer to the NZQA website for current qualifications and unit standards.

7.4.3 Health of workers

7.4.3.1 The operator must ensure that all employees, visitors and contractors understand relevant health and hygiene requirements.

A documented health policy may be useful, covering matters such as working with wounds, communicable diseases, and notification procedures for workers suffering from any illness or injury.

7.4.3.2 Workers involved in the processing and handling of finished product must inform the person responsible for operations if they are suffering from diarrhoea, acute respiratory infection; or is diagnosed with illness caused by *Salmonella*, *Shigella* spp., *E. coli* spp., *Campylobacter*, Hepatitis A virus infection.

7.4.3.3 A worker with any of the conditions listed in 7.4.3.2 must be restricted to work in areas and activities that will not lead to direct or indirect contamination of any finished product.

A person with any of the conditions listed in 7.4.3.2 may still work or enter areas as long as they do not work in a manner or enter an area where they may adversely affect the suitability for processing of animal material or the fitness for intended purpose of animal product. This procedure does not preclude personnel working in a rendering operation prior to being cleared to return to work in human consumption processing areas. The NZFSA Sickness Policy Template provides useful background information for managing ill staff. It should be noted that “acute respiratory infections” are not considered to include the common cold or ‘flu as these are not transmissible by food.

Contamination of any injury, wound, or cut with raw material or rendered product may pose a significant health risk. An operator’s health and safety practices would be expected to address this risk.

7.4.4 Hygienic practices

7.4.4.1 Personnel must maintain a level of hygiene appropriate to the area they are working in.

Personnel should thoroughly wash and dry hands and exposed portions of the arms with hand detergent and water: - before handling any exposed rendered product or rendered product contact material; - after using the toilet. When a water source is impractical to have within a certain area, alternative options for sanitising workers' hands may be considered. Personnel should not eat, drink, smoke, spit in any processing area. Where jewellery may be a source of a hazard it should be secure or contained within protective coverings (e.g. body jewellery covered by plasters), or removed.

7.4.4.2 Workers in post thermal processing areas must wash or clean their hands and personal equipment regularly and whenever they become grossly contaminated.

7.4.4.3 Personnel who enter any:

a. processing area, other than a post thermal processing area, must wear appropriate protective clothing;

b. post thermal processing area must wear appropriate protective clothing where their presence or action may result in contamination of rendered product; and

any protective clothing or personal equipment used must be visibly clean at the start of each day's operations and maintained in an appropriate condition for the particular processing area.

Protective clothing are garments worn as outer wear by persons present in a processing area and includes, but is not restricted to, overalls, aprons, leggings, gloves and footwear. In post thermal processing areas this may just be a laboratory coat worn over existing clothing.
When reusable protective clothing or personal equipment comes in direct contact with rendered animal product it is advisable to set aside an area for storage of the clothing or personal equipment when they are not in use.
Safety equipment should be made of materials which are readily cleanable unless it is covered with clean protective clothing.

7.4.4.4 Protective clothing must not be worn outside of work areas, amenities and general environs.

As noted in section 4, animal consumption rendering and human consumption processing may occur at the same premises. Where this occurs, controls on the amenities for personnel processing human consumption product are covered in the relevant human consumption Code of Practice. This COP may require these amenities to be physically separated from those for rendering personnel.

7.4.4.5 Protective clothing and footwear used in any area where dead mammals or birds are handled must not be worn in any other part of the premises.

7.4.4.6 Personnel must carry out a sanitary routine before commencing any procedure contacting animal product where the hygiene of the animal products is of a higher status than that which the worker has just left.

Personnel should be assigned to activities of similar hygienic status i.e. avoid unnecessary movement of staff from raw material to post thermal processing areas.
Consideration should be given to personnel changing from rendered product to human consumption activities. Controls on this would be covered in the relevant human consumption Code of Practice.
Operators should also consider the use of dedicated labelled e.g. “meal room” clothing (e.g. overalls, lab coats) for staff working in post thermal processing areas.

7.4.4.7 Personnel who move from a minimal risk raw material area into a processing area or post thermal processing area must behave in such a manner to minimise contamination of animal product, other inputs, packaging and the processing area or post thermal processing area.

7.4.4.8 Personnel who have been in a medium risk raw material area but have not handled raw material must disinfect or change their footwear and wash their hands prior to entering any processing area or post thermal processing area.

7.4.4.9 Personnel who **have been contaminated with** medium risk raw material in a raw material area must disinfect or change their footwear, change any other protective clothing that has been contaminated and wash their hands prior to entering any processing area or post thermal processing area.

7.4.4.10 All maintenance personnel must comply with the requirements for personal hygiene appropriate to the area they are operating in.

This includes following the appropriate sanitary routines when moving between areas of differing hygienic status.

7.4.5 Visitors and contractors

7.4.5.1 Visitors and contractors who wish to enter any processing area must comply with the operator's documented health requirements and follow all required hygienic practices.

Visitors and contractors who wish to enter a processing or packing area should sign a visitor's logbook on arrival.

7.4.5.2 First time visitors and contractors must report to the responsible person on arrival at the premises.

7.4.5.3 While in the premises, visitors and contractors must:

- be supervised by an assigned staff, who is responsible for ensuring that they follow hygienic practices and procedures; or
- have been informed of health requirements, and hygienic practices and procedures before starting work.

This allows for contractors who regularly work within the premises to work unsupervised if they have received appropriate training. When this occurs the operator should maintain records of the induction and training.

7.4.5.4 Visitors and contractors must not be allowed to handle exposed animal material or product in processing and storage areas unless they have complied with all the hygiene requirements for product handlers.

7.4.6 Handling and disposition of contaminated materials

When rendered product is contaminated from a worker's injury, wound or cut (e.g. blood) the operator must assess:

- the fitness for intended purpose of any affected animal product;
- the suitability of affected product contact surfaces and affected packaging materials.

Affected product contact surfaces may need to be cleaned and sanitised prior to reuse.

7.5 Monitoring

The responsible person must regularly check compliance to documented procedures.

The frequency and type of monitoring will depend on the nature of the operation and the degree of risk if hazards are uncontrolled. Monitoring options could include the following daily checks:
- Before processing: checks to confirm all staff are following correct procedures for wearing protective clothing, and for entering the processing areas;
- During processing: checks to confirm that that all staff are complying with requirements for personal hygiene and hygienic work practices.

7.6 Records

The operator must keep relevant records demonstrating compliance with documented procedures. These could include:

- any medical certificates;
- records of personnel induction and training including the competency level of individual staff members;
- records of any non-compliance or problems detected and any corrective action taken (including restoration of control, product disposition and prevention of recurrence).

Refer to Part 2, section 17 of this COP for record keeping requirements.

8 Control of chemicals

Amendment 0

September 2009

8.1 Purpose and scope

To ensure the proper use and storage of maintenance compounds so as to prevent or minimise the contamination of animal material or product, packaging, equipment, and the processing or storage environment. Maintenance compounds are chemicals used for cleaning or sanitising of equipment or surfaces, treating water, pest control, or the repair and maintenance of equipment.

This section applies to all chemicals used except where:

- a specific exemption has been provided in the current Approved Maintenance Compounds Notice; or
- they are listed in Schedule 7, "Substances generally recognised as safe feed additives in oral nutritional compounds or safe ingredients in oral gastrointestinal-acting microflora-enhancing compounds", of the Agricultural Compounds and Veterinary Medicines Regulations 2001 (ACVM Regs).

Note: under the Agricultural Compounds and Veterinary Medicines Act (ACVM Act) regime feed additives used in oral nutritional compounds must be listed in Schedule 7 of the ACVM Regs. Oral nutritional compound is an ACVM Act term meaning a substance ingested by an animal as feed, or a nutritional preparation intended for oral administration to an animal to achieve a nutritional benefit.

8.2 Sources of hazards

The sources of hazards controlled under this programme are summarised in the table below.

Source	Examples of hazards
Maintenance compounds (e.g. cleaning agents, pesticides, lubricants)	Chemical residues
Chemical containers	Chemical residues

8.3 Mandatory requirements

8.3.1 AP Reg 11(3)

Maintenance compounds must be stored, handled, and used in a manner that minimises contamination of animal material, animal product, packaging, other inputs, equipment, and the processing environment.

8.3.2 AC Spec 21 (1), (2)

1. Only approved maintenance compounds may be used during processing operations or in the maintenance of processing areas, facilities and equipment.
2. Despite subclause (1), the operator may use an alternative maintenance compound provided the operator has determined by analysis that the compound and its intended use will not adversely affect the suitability for processing of animal material, or fitness for intended purpose of the animal product.

8.3.3 AC Spec 21 (3)

All containers of maintenance compounds must be labelled in such a way as to clearly identify the maintenance compounds they contain and approved maintenance compounds must be identified using the name specified in the approval.

8.4 Procedures

8.4.1 A list of all maintenance compounds that are used and held in the premises must be maintained.

All chemicals should be checked upon purchase or receipt to confirm that they are approved or have been determined by the operator as being acceptable.

8.4.2 Chemicals must be kept in a designated area (e.g. shelf, cupboard, room) and kept separate from raw material, products, ingredients, or packaging. This area must be kept dry and maintained in a clean condition.

Containers of chemicals should be kept closed when not in use.

8.4.3 All containers of chemicals must be clearly labelled with the name of the chemical.

Where bulk chemical supplies are transferred to smaller containers for immediate use, the name of maintenance compound, as shown on the manufacturer's label, should be used on the container. For approved maintenance compounds this should also be the name listed in the current Approved Maintenance Compounds Notice or approval letter.

8.4.4 All chemicals must be used according to the directions of the manufacturer and any NZFSA approval condition. Directions for use must be readily available to the user (e.g. given in the label, posted on the wall or in product information data sheets).

When processing in an area has ceased for routine or programmed (e.g. off-season) maintenance the requirement to use either NZFSA approved (non-dairy) maintenance compounds or compounds determined to be acceptable for use by the operator no longer applies. Once this maintenance has been completed the affected parts of the room and affected equipment should be checked before processing re-commences to ensure that chemical residues have been removed.

8.4.5 Chemicals must be handled and used by or under the supervision of suitably trained or experienced personnel.

8.4.6 After the use of chemicals during routine or programmed maintenance, the affected parts of the room, equipment and packaging materials must assessed by the operator as being suitable for processing.

A wet cleaning to remove chemical residues may be necessary.

8.4.7 Empty chemical containers must not be re-used in any way that could contaminate animal material or product, packaging, equipment or the processing environment.

Disposal of containers should be in accordance with any manufacturer's instructions.

8.4.8 Handling and disposition of contaminated materials

When chemical contamination occurs, the operator must assess:

- the suitability for processing of any affected animal material and/or the fitness for intended purpose of any affected animal product;
- the suitability of affected product contact surfaces and affected packaging materials.

Affected product contact surfaces may need to be cleaned and sanitised prior to reuse.

8.5 Monitoring

The responsible person must regularly check compliance to documented procedures.

8.6 Records

The operator must keep relevant records demonstrating compliance with documented procedures. These could include:

- list of maintenance compounds that are used and held in the premises; and

- records of any non-compliance or problems detected, and any corrective action taken (including restoration of control, product disposition and prevention of recurrence).

Refer to Part 2, section 17 of this COP for record keeping requirements.

9 Pest control

Amendment 0

September 2009

9.1 Purpose and scope

To ensure effective control of pests so as to prevent or minimise the contamination of animal material, animal product, packaging, other inputs, equipment, and the processing environment. Pests include rodents, wild birds, insects, dogs and cats.

9.2 Sources of hazards

The sources of hazards controlled under this programme are summarised in the table below.

Source	Examples of hazards
Insects, rodents, birds, cats and dogs	Bacterial pathogen, e.g. *Salmonella*, *Campylobacter* spp., *E.coli* spp.
Pesticides	Chemical residues

9.3 Mandatory requirements

9.3.1 AP Reg 11 (1), (2)

Effective procedures must be established and carried out to minimise the exposure of animal material, animal product, packaging, other inputs, equipment, and the processing environment to hazards associated with pests.

9.3.2 AP Reg 10

Premises, facilities, equipment and essential services must be designed, constructed, located and operated to minimise the exposure of animal material and animal product to hazards and other risk factors from pests.

9.3.3 AP Reg 11(3)

Maintenance compounds must be stored, handled, and used in a manner that minimises contamination of animal material, animal product, other inputs, packaging, equipment, and the processing environment.

9.4 Procedures

The operator may employ a pest control person or agency to develop and implement a pest control system (e.g. set up traps, spraying programme) and monitor the premises. The operator is responsible for ensuring that the person or agency is competent to perform the task.

9.4.1 Pest control programme

The operator must document a pest control programme which includes the following information:

- the person or agency responsible for undertaking pest control activities;
- pest control procedures (e.g. prevention, monitoring, corrective action);
- frequency of inspection or monitoring; and
- location of bait stations and other pest traps.

Operators using a contracted pest control agency should also document procedures for addressing pest control problems that arise between scheduled agency visits.

9.4.2 Prevention of infestation and access of pests

9.4.2.1 Buildings and storage facilities (including water storage tanks) must be kept in good repair and condition to minimise pest access and breeding sites.

9.4.2.2 Holes, drains and other places where pests are likely to gain access must be kept sealed, or provided with screens or similar materials that prevent the entry of pests.

Mesh screens should be used on open windows, doors, ventilators and other openings in processing areas that may be kept open during operations, to prevent the entry of insects, birds and other pests. External doors should have rubber seals on the bottom of the doors.

9.4.2.3 External doors that are not screened must be kept closed at all times when not in use.

External doors may be self closing.

9.4.2.4 Internal and external areas of the premises must be kept clean and tidy. Food sources and breeding sites (e.g. long grass, bird's nest) in the external environment must be minimised.

Areas that are likely to attract flies and other insects should be sprayed, as necessary.

9.4.2.5 All conveyances, and equipment for handling, storage, or transport of animal material (including dead stock) intended for rendering must be maintained so as to minimise pest access and potential breeding sites.

Conveyances include vehicles, trolleys and trays. Conveyances and equipment should be covered during transport and holding except were this is it a requirement. Refer process control sections 11,12,13 and 14.

9.4.2.6 Waste material, which is unfit for any purpose and is awaiting disposal, must be regularly collected and disposed of.

External waste material bins should be kept in covered pest-proof containers. Consideration should be given to storing these bins away from the immediate rendering plant environs to avoid attracting insects and pests to the plant.

9.4.2.7 Pest infestations must be dealt with immediately.

9.4.3 Use of pesticides

9.4.3.1 Pesticides (rodenticides and insecticides) must be handled, used and stored according to the control procedures given in section 8: Control of chemicals.

9.4.3.2 Insecticides that have any residual activity (e.g. Type B) or are dispensed as continuous aerosols must not be used in any processing or storage area in a manner that could cause the contamination of animal product or product contact surfaces.

9.4.4 Use of pest traps

9.4.4.1 Pest traps (including rodent boxes, bait stations and electric insect traps) must be located where they do not present a risk of contamination to animal material or product.

9.4.4.2 Bait stations must not be located:

- in areas where exposed finished product is held; or
- inside any processing area except for use in bagged product storage areas. In these storage areas the bait stations must be located a sufficient distance from bagged product so there can be no possibility of contamination of the product.

The location of pest traps should be identified on a site or building plan, or other suitable record.
Bait stations should be located in areas where rodent activity is likely.
Wax bait blocks are preferable as they can be secured into rodent bait stations. The bait type should be changed occasionally to avoid it becoming ineffective.

9.4.4.3 Rodenticides must be used only in enclosed bait boxes.

9.4.4.4 Bait stations must be checked regularly for the following:

- correct location as indicated in the plan or record, and presence of bait. The box must be cleaned and re-baited with an approved rodent bait, as necessary;
- evidence of pest activity (e.g. nibbled bait, bait missing, droppings); and
- boxes are in good working condition.

The frequency for monitoring of traps should be determined relative to the type of trap and the degree of pest activity noted. Increased monitoring and appropriate corrective actions should be implemented when increased rodent activity is observed.
A minimum monitoring frequency of monthly is likely to be necessary.

9.4.4.5 Insect traps, which include ultra-violet lamps, pheromone traps and any form of attractant device, must:

- be constructed so they catch and secure insects in a suitable drawer, tray or adhesive mat which facilitates the capture and removal of insects;
- not cause any air-borne contamination; and
- be sited so there is no contamination from insects falling on to thermally processed product, packaging, or product contact surfaces.

9.4.5 Handling and disposition of contaminated materials

Where there is evidence of contamination from pests, the operator must assess:

- the suitability for processing of any affected animal material and/or the fitness for intended purpose of any affected animal product;

Options that may be considered for the affected animal material or product include reprocessing the affected animal product, fumigation or assigning an alternative disposition (e.g. use as fertiliser).

- the suitability of affected product contact surfaces and affected packaging materials.

Affected product contact surfaces may need to be cleaned and sanitised prior to reuse. Post thermal processing areas should be given additional consideration.

9.4.6 Monitoring

The responsible person must regularly check compliance to documented procedures and the effectiveness of the pest control programme.

The frequency and type of monitoring will depend on the nature of the operation and the degree of risk if hazards are uncontrolled. Monitoring could include: - visual checks of processing and product areas for any signs of vermin activity, and for evidence that rubbish and waste is properly managed; - checks on integrity of vermin proofing (e.g. screens, seals); - checks on bait stations.

9.5 Records

The operator must keep relevant records demonstrating compliance with documented procedures. These could include:

- observations from monitoring, including any evidence of pests;
- name and point of use of any pesticides used; and

- records of any corrective action taken (including restoration of control, product disposition and prevention of recurrence).

Refer to Part 2, section 17 of this COP for record keeping requirements.

10 Calibration

Amendment 0

September 2009

10.1 Purpose and scope

To ensure that measuring equipment is properly calibrated and maintained.

10.2 Mandatory requirements

10.2.1 AP Reg 14 (1)

All specified persons must ensure that measuring equipment that is used to carry out a critical measurement is properly calibrated and functions as intended.

AP Reg 14(2) states that a **critical measurement** means a parameter identified as critical in any:
- risk management programme, being a parameter of the nature of the parameters referred to in section 17(3)(c) of the Act in relation to points at which hazards of significant occur **[i.e. critical limits relating to a critical control point (CCP)]**; or
- specifications or regulated control scheme.

10.2.2 AC Spec 25 (1)

Measuring equipment, such as weighing scales, thermometers, pH meters, and flow meters, whether stand alone, or forming part of a piece of equipment, that is used to provide critical measurements, must-

a. have the accuracy, precision, and conditions of use appropriate to the task performed; and

b. be calibrated against a reference standard showing traceability of calibration to a national, or international, standard of measurement (where available), or (if no such

reference standard exists) be calibrated on a basis that is documented in, or incorporated by reference into, the risk management programme; and

c. be uniquely identified to enable traceability of the calibrations and to identify calibration status.

10.2.3 AC Spec 25 (2)

Minimum frequencies of calibration must be specified in the risk management programme for each piece of measuring equipment used to provide critical measurements, or used as reference standards, taking into consideration the following (as appropriate)-

a. the stability of the piece of equipment; and

b. the nature of the measurement; and

c. the manufacturer's instructions.

10.2.4 AC Spec 25 (3)

Safeguards must be in place to prevent unauthorised adjustments to the calibration of the measuring equipment, including movement of the equipment where this may effect the calibration.

10.3 Procedures

10.3.1 The operator must document a calibration programme for measuring devices that are used to provide critical measurements, such as temperature monitoring equipment relating to thermal processing units (e.g. cookers, driers).

It is strongly recommended that the operator also documents a calibration programme for any other measuring devices that are used, such as weighing scales, pH meters, and flow meters.

10.3.2 The calibration programme must include the following information:

- a description of each equipment (e.g. type of equipment, model);
- a means of identifying each equipment (e.g. serial numbers, indelible tags or other permanent means of identification);
- frequency of calibration required for each piece of equipment;

It is important to consider the frequency of use of the instrument, its stability and the degree of accuracy required. Some pieces of equipment (e.g. scales), which become inaccurate if moved, may require calibration after any such movements.

- calibration schedule (i.e. when the equipment was last calibrated and when the next calibration is due); and
- procedure for calibrating the instrument in accordance with the requirements of AC Spec clause 25(1)(b) or the name of the accredited calibrating agency or testing facility performing the calibration.

10.3.3 The operator must have procedures for performing in-house routine checks of measuring devices to ensure the accuracy is maintained.

The operator should have in-house quality control procedures capable of detecting changes in the accuracy of the device. These checks should be carried out against reference standards on a frequent basis. Examples of in-house quality control procedures include:
- use of check weights in the case of weighing scales;
- ice point checks in the case of thermometers expected to work in the range -40°C to 100°C;
- checks against buffered solutions in the case of pH meters; and
- any other checks recommended by the calibration laboratory.

10.3.4 Measuring devices that do not have a current calibration certificate or are faulty or inaccurate must not be used.

10.4 Monitoring

The responsible person must carry out regular checks for compliance with documented procedures and to demonstrate that equipment used remains within an acceptable range.

10.5 Records

The operator must keep relevant records demonstrating compliance with documented procedures. These could include:

- calibration records; and
- calibration certificates showing traceability to appropriate standard measurement.

Refer to Part 2, section 17 of this COP for record keeping requirements.

11 Process control – general requirements

Amendment 0

September 2009

11.1 Purpose and scope

To ensure that animal material and product is collected, processed and stored in a manner that minimises its deterioration, and will not adversely affect the suitability for processing of animal material, or fitness for intended purpose of the animal product.

The requirements for various stages of processing are covered in this section and the following sections:

- Section 12 - Raw material collection, transport and handling
- Section 13 – Thermal processing
- Section 14 – Post thermal process handling

These sections **do not** apply to collecting or processing of high risk raw material. This material must be handled In accordance with instructions and requirements specified by the Director-General in writing, refer Section 3.

11.2 Mandatory requirements

11.2.1 AC Spec 79

All process inputs, including ingredients, additives, processing aids, and packaging material, must be stored, handled, and transported so as to minimise any potential contamination or deterioration.

11.2.2 AC Spec 80

The operator must prevent access by unauthorised persons to controls used for the setting of process parameters.

11.2.3 The remaining mandatory requirements relating to process control are detailed in each specific section.

11.3 Procedures

11.3.1 Documented procedures

11.3.1.1 The operator must document procedures for process control and hygienic handling of products for animal material and product received, processed and held on the premises.

11.3.1.2 The documented procedures must cover:

- control measures (i.e. operating procedures, relevant processing parameters);
- monitoring procedures;
- corrective action to be taken when non-compliance occurs (including disposition of affected animal material and product); and
- records to be kept.

11.4 Monitoring and records

The operator must:

- carry out regular checks for compliance with documented procedures.
- keep relevant records demonstrating compliance with documented procedures.

Refer to Part 2, section 17 of this COP for record keeping requirements.

12 Process control – raw material collection, transport and handling

Amendment 0

September 2009

12.1 Purpose and scope

To ensure that animal material is collected, transported and handled in a manner that minimises its deterioration and will not adversely affect the suitability for processing of animal material.

Note:
- the requirements and procedures relating to the collection of animal material at human consumption processing premises are covered in appropriate Codes of Practice e.g. Code of Practice: Processing of Seafood Products;
- the transport requirements and procedures (e.g. AC Specs 84 – 87) only apply to rendering operators if the scope of their RMP includes transport.

12.2 Mandatory requirements

12.2.1 AP Reg 5

1. Animal material used for processing into animal product must be suitable for that purpose.

2. Where required by specifications, the supplier of animal material for processing into animal product must provide information, in accordance with the specifications, relating to the status of the animal material when it is presented for processing, namely, its-

   a. origin:

   b. nature:

c. description:

d. exposure to risk factors, if any.

3. The information provided must be accurate.

12.2.2 AP Reg 6

1. Taking into consideration its intended use, animal product must be free from-

   a. biological, chemical, and physical hazards in amounts that may be directly or indirectly harmful to humans or animals:

   b. extraneous objects, material, and substances of a kind not expected to be in animal product that is prepared or packed for trade in accordance with good trade practices:

   c. animal material in amounts that may be directly or indirectly harmful to humans and animals for which the animal product is intended.

2. For the purposes of subclause (1), specifications may specify-

   a. unacceptable hazards, objects, materials, and substances in relation to any type or class of animal product:

   b. acceptable or unacceptable levels of hazards, objects, materials, and substances in relation to any type or class of animal product.

12.2.3 AP Reg 9

The operator must ensure that animal material and animal product in their charge are processed and stored in a manner that minimises:

- the risks of contamination, spoilage or deterioration;
- the proliferation of pathogenic microorganisms; and
- the development of toxins.

12.2.4 AP Reg 17

All persons engaged in the carriage and delivery of animal material or animal product must as far as practicable ensure that the means of carriage and delivery are designed, made, maintained, and operated to minimise contamination or deterioration of animal material or animal product.

12.2.5 AC Spec 32

The animal product operator must ensure that bulk transportation units used for the transportation of unpackaged bulk animal material or product must be labelled with the information specified in clause 31, except where it is impractical to label the unit, then the information must be provided in accompanying documentation.

12.2.6 AC Spec 32A(2), (3) and (4)

2. Animal product operators who dispatch bulk animal material or product in bulk transportation units from a premises must ensure that the animal material or product is-

   a. contained in covered leak-proof bins or containers that are clearly labelled as not intended for human consumption; and

   b. identified in an acceptable manner; and

   c. denatured unless it is:

      i. dispatched for rendering and has been derived from sources referred to in clause 73(2)(a)-(e); or

      ii. minimal risk raw material derived from fish.

Denatured animal material or product is defined in **AC Spec 4(1)** as meaning animal material or product that is clearly identified as not suitable for human consumption by-
a. being hashed or hogged so that it is not recognisable as suitable for human consumption; or

b. having added an approved ink intimately mixed throughout the animal material or product; or
c. having crude carbolic acid intimately mixed throughout the animal material or product provided the animal product operator has determined by analysis that the intended use of the acid will not adversely affect the suitability for processing of the animal material, or fitness for intended purpose of the animal product; or
d. having cresylic disinfectant intimately mixed throughout the animal material or product provided the animal product operator has determined by analysis that the intended use of the disinfectant will not adversely affect the suitability for processing of the animal material, or fitness for intended purpose of the animal product; or
e. being treated in a manner approved by the Director-General in writing as resulting in denaturing equivalent in result to the means of denaturing described in paragraphs (a) to (d).

3. Despite subclause (2), the denaturing of bulk animal material or product for further processing, including for rendering, is not required where the animal material or product-

   a. is dispatched to premises operating under a risk management programme; and

   b. is contained in tamper evident leak-proof bins or containers that are clearly labelled as not intended for human consumption.

4. Animal product operators who dispatch bulk animal material or product in bulk transportation units from their premises must have fully documented systems of identification and security for that animal material or product.

12.2.7 AC Spec 73

1. Supplies of medium risk raw material must be **denatured** to ensure that they cannot be mistaken as being fit for any other purpose prior to dispatch for rendering.

2. Despite subclause (1), the denaturing of medium risk raw material is not required where the animal material or product-

   a. is derived from fish or poultry being processed for human consumption; or

b. is derived from a dual operator butcher, a homekill operation or a recreational service provider; or

c. is derived directly from premises operating under the Food Act 1981; or

d. is derived from mammals and birds that have died in the field and is transported directly to the rendering operation; or

e. is derived from the processing of hides or skins; or

f. is transported in accordance with the requirements of clause 32(A)(3).

Mandatory Requirements - Transport

12.2.8 AC Spec 84

1. Transportation units and loading equipment must be designed, constructed, equipped and operated to maintain the status of the animal material as suitable for processing or the animal product as fit for intended purpose and to minimise hazards and other risk factors.

2. Transportation units must be constructed from materials that will maintain animal material as suitable for processing or animal product as fit for intended purpose.

3. If the transportation unit provides the means by which animal material or product is refrigerated, the unit must be designed, constructed and equipped to ensure that the specified temperatures are achieved and maintained throughout transportation.

4. Temperature measuring devices used to measure critical temperatures must be calibrated and located to measure the internal temperature of the transportation unit at the warmest point.

12.2.9 AC Spec 85

1. The hygiene and maintenance of the transportation unit and loading equipment must be such that contamination and deterioration of animal material or product is minimised.

2. Hygiene and behaviour of persons involved in transportation of animal material or product must be such that contamination and deterioration of animal material or product from this source is minimised.

3. Reasonable measures must be taken to ensure that exposed animal material or product is not handled by any person with any condition or illness that could adversely affect the suitability for processing of animal material, or the fitness for intended purpose of animal products.

12.2.10 AC Spec 86

1. Transport operators who transport animal material during primary processing must ensure that animal material that is suitable for processing into pet food is not transported together with any other animal material or product, which is not suitable for processing into pet food, or together with any other thing.

2. Transport operators must ensure that all transport units used for-

   a. transporting goods other than animal material or product; or

   b. transporting animal material or product that is not suitable for processing into pet food;

   c. are adequately cleaned before animal material covered by subclause (1) is transported.

3. Transport operators, in circumstances other than those in subclause (1), may transport animal material or product together with any other animal material or product or any other thing that may be a source of contamination provided the animal material or product is adequately:

   a. separated from the source of contamination; or

b. protected in a manner that is reasonably capable of preventing cross-contamination.

4. Evidence of the maintenance of the preservation temperature, (if required) during transportation, must be available for verification to ensure that suitability for processing of the animal material or fitness for intended purpose of the product is maintained.

5. Determination of animal material or product temperature and the taking of any samples must be carried out in such a manner that contamination of that animal material or product is minimised.

6. The transport operator must have a documented contingency plan to deal with any failure to maintain preservation temperature during transportation that may affect suitability for processing of the animal material or fitness for intended purpose of the animal product, including-

   a. immediate notification of the person who has responsibility for the animal material or product; and

   b. actions to prevent recurrence.

7. The transport operator must ensure that persons transporting animal material or product are aware of the relevant specifications and are adequately trained.

12.2.11 AC Spec 87

The transport operator must comply with the records requirements of clause 34(2), namely:

Records must be-

a. accessible to the recognised verifier, the recognised verifying agency, animal product officers and the Director-General and any other person authorised by the Director-General; and

b. retained for a period of at least 4 years or other period where provided for in this notice; and

c. retrievable within 2 working days.

12.3 Procedures

12.3.1 Collection and transport

12.3.1.1 Raw animal material must be transported to the rendering operation in a timely manner so as to avoid excessive deterioration.

The point at which deterioration becomes excessive is subjective. Excessive deterioration causes a number of issues for rendering operators including an adverse affect on the quality of the resulting product and increased odours from the process. These issues tend to appear prior to any issues relating to product safety. As a result excessive deterioration has not been defined.
In New Zealand it is common practice to accumulate animal material at the source (e.g. slaughter and dressing premises) prior to dispatch to the rendering operation.
Other factors also guide rendering operators to minimise the holding of raw material prior to rendering. Examples of this are an adverse impact on the quality of the final product (e.g. increased free fatty acid (FFA) content) and odour from the rendering process.

12.3.1.2 Vehicles and other equipment used for collection and transport of raw material must be cleaned prior to use.

Vehicles and other equipment may be cleaned at any time from immediately after the previous use until just before being used.

12.3.2 Receipt and unloading of animal material and products

12.3.2.1 All incoming products must be checked for compliance to the mandatory requirements appropriate to the animal material or product (e.g. denatured, security) and any agreed specifications.

Animal material should be handled on a “first in, first out” basis except where the stability of the animal material allows otherwise.
The operator should establish procedures for the handling of excessively deteriorated animal material.

12.3.2.2 All documentation accompanying incoming animal material and products must be checked for completeness and accuracy including information necessary for the effective identification, traceability and inventory control of products.

12.3.2.3 All consignments must be clearly identified and/or label to allow for traceability of the animal material or product.

For unpackaged bulk animal material or product the truck registration may be used for identification.
When it is impractical to label the bulk transportation unit the required information, specified in AC Spec 31, may be provided in accompanying documentation.

12.3.2.4 Relevant details from all consignments must be entered in the inventory control system.

12.3.3 Handling of animal material and products

12.3.3.1 When equipment that is used to prepare dead stock for rendering is used elsewhere in the rendering plant its use elsewhere must be in a manner that minimises the risk of contamination of rendered animal product.

Where an operator has a dedicated area for preparing dead stock for rendering the operator may choose to use dedicated equipment (e.g. knives, steels) to handle dead stock during its preparation for rendering. This equipment would then not be used outside that area.

12.3.3.2 When present, metal detectors must be used in accordance with the manufacturer's instructions.

Metal detectors are used to protect subsequent equipment e.g. grinding equipment from damage. Metal detection will remove larger pieces of metal (e.g. knives, hooks) but will not eliminate metal springs. This is a particular issue for industry as some drench capsules are fitted with fine metal springs. Metal detectors should be calibrated at appropriate frequencies using test metals that are similar to those found in the premises, and calibration records should be kept.

12.3.3.3 Grinding equipment, such as hashers or hoggers, used to process medium risk raw material must be maintained so that the required particle size is achieved.

Particle size is one of the parameters described in the validation of thermal processes applied to medium risk raw material. Maintaining the grinding equipment also minimises it being a source of metal hazard.

12.4 Monitoring

The responsible person must carry out regular checks for compliance with documented procedures.

12.5 Records

The operator must keep relevant records demonstrating compliance with documented procedures. These could include:

- monitoring checksheets;
- documentation accompanying incoming consignments.

Refer to Part 2, section 17 of this COP for record keeping requirements.

13 Process control – thermal processing

Amendment 0

September 2009

13.1 Purpose and scope

To ensure that animal material and product is thermally processed to destroy all vegetative bacteria, viruses and protozoa, and inactivate chemical substances that are potentially harmful if consumed by animals.

This Code of Practice covers rendering in general, including the rendering of minimal risk raw materials, which is a common input into fish meal and oil processing.
Minimal risk raw material is animal material or product that does not result in any direct or indirect harm to animals on consumption. Therefore it could be directly consumed by animals and any decision to render this material is a commercial decision made by an operator. As a result the requirements relating to the thermal processing of minimal risk raw material are not as onerous as those for medium risk raw material.
The requirements that only relate to the thermal processing of medium risk raw material are clearly identified in this section.

13.2 Mandatory requirements

13.2.1 AP Reg 6

1. Taking into consideration its intended use, animal product must be free from-

   a. biological, chemical, and physical hazards in amounts that may be directly or indirectly harmful to humans or animals:

   b. extraneous objects, material, and substances of a kind not expected to be in animal product that is prepared or packed for trade in accordance with good trade practices:

c. animal material in amounts that may be directly or indirectly harmful to humans and animals for which the animal product is intended.

2. For the purposes of subclause 1, specifications may specify-

a. unacceptable hazards, objects, materials, and substances in relation to any type or class of animal product:

b. acceptable or unacceptable levels of hazards, objects, materials, and substances in relation to any type or class of animal product.

13.2.2 AP Reg 9

The operator must ensure that animal products in their charge are processed and stored in a manner that minimises:

- the risks of contamination, spoilage or deterioration;
- the proliferation of pathogenic microorganisms; and
- the development of toxins.

13.2.3 AC Spec 23(1)(e)

An animal product operator's risk management programme must make provision, where appropriate having regard to the nature of the risk management programme operations, for the following-

a. in the case of rendering medium risk raw material, for any process description, as it relates to sterilisation, to be confirmed as valid by a suitably competent person with appropriate expertise in this area.

13.2.4 AC Spec 37(2)

Medium risk raw material must be further processed to eliminate any hazard to the intended consumer prior to sale for animal consumption.

13.2.5 AC Spec 72

1. Medium risk raw material must be subjected to a thermal process, or otherwise treated to destroy all vegetative bacteria, viruses and protozoa, and inactivate chemical substances that are potentially harmful if consumed by animals.

2. The operator must ensure thermal processing or other treatment has been confirmed as valid by a suitably competent person to demonstrate compliance with subclause (1).

13.2.6 AC Spec 74(1)

The operator must ensure all rendering operations result in product which is fit for its intended purpose.

13.2.7 AC Spec 82

1. Animal products from tuberculous animals (including reactor animals) including offals and blood must be thermally treated before being eligible for animal consumption as pet food.

2. Thermal treatment must achieve a temperature of not less than 62.5ºC for not less than 30 minutes at the thermal centre of the product, or an equivalent treatment to ensure destruction of the TB organism.

13.3 Procedures

13.3.1 The operator must establish and document a schedule for thermal processing (including time and temperature parameters) for all medium risk material, except for material derived from seafood, which will subject all material to a thermal process that reaches a temperature of at least 90ºC for at least 10 minutes at all points in the raw material.

13.3.2 Despite 13.3.1, blood meal may be produced in a ring drier, vertical flash drier or equivalent drying system that achieves the following:

- Coagulation must involve heating to 88-92ºC for at least 5 seconds;
- During any dwell time before drying, but not exceeding 35 minutes, the coagulated blood must be kept at a temperature of 60-65ºC or hotter;
- Coagulated blood must be fed into the drier where the combustion temperature is not less than 350ºC and the exit air temperature is not less than 90ºC.

NZFSA identified that further investigation is required to determine what the current parameters for medium risk material (excluded material derived from seafood) achieve and establish the minimum necessary parameters. This investigation is identified as an industry issue project by the Meat Industry Association, who has assigned it a low priority.

13.3.3 For medium risk material derived from seafood the operator must establish and document a schedule for thermal processing (including time and temperature parameters) that will subject all material to a thermal process that destroys all vegetative bacteria, viruses and protozoa, and inactivates chemical substances that are potentially harmful if consumed by animals.

13.3.4 The operator must validate thermal processes applied to medium risk raw material and must clearly describe:

- the factors affecting the destruction of vegetative bacteria, viruses and protozoa, and inactivation of chemical substances e.g. raw material particle size, moisture, pressure applied, temperature achieved, product inflows and residency times; and
- acceptable limits for each factor.

The operator should discuss how they intend to validate their thermal process with the suitably competent person (with appropriate expertise in this area) who is required to validate the process, as it relates to sterilisation.
Historically these validations have been undertaken by AgResearch but there is nothing

precluding other people who are suitably competent with appropriate expertise in this area from performing the validation.

13.3.5 The operator must ensure that the thermal process is operated in accordance with the validated process and procedures.

13.3.6 Equipment for the control and accurate monitoring of temperatures and other thermal processing parameters (e.g. time) used when processing medium risk raw material must operate at all times while thermal processing facilities are in use.

Medium risk material that has been subject to a thermal process but the time/temperature requirements were not met will generally be reprocessed. Alternative dispositions such as treating as waste, which is unfit for any purpose, may be used.

As mentioned in section 3, there are no specified time / temperature processing parameters for minimal risk raw material in this COP.
Operators processing minimal risk raw material should provide equipment for the control and monitoring of temperatures and other thermal processing parameters (e.g. time) and operate this while thermal processing facilities are in use.

13.3.7 The operator must maintain security over the access to the programming of computer controlled devices. This must include maintaining a register of all programmes and the staff who have access to programming the devices.

This requirement is intended to minimise unauthorised access to, and corruption of, the programme parameters.
Systems that are under computer control should be verified using calibrated measuring devices.

13.3.8 Any vehicle, equipment or conveyance used in a medium risk raw material area must be thoroughly cleaned and sanitised before it can be used in a post thermal processing area.

Any vehicles, equipment or conveyance used in a minimal risk raw material area should be thoroughly cleaned and sanitised before being used in a post thermal processing area.

13.3.9 Meals must be dried sufficiently to prevent the growth of any post-drying microbiological contaminants and the deterioration of the product during storage.

Drying meals to a moisture content of 10% or less will achieve this requirement.

13.4 Monitoring

The responsible person must carry out regular checks for compliance with documented procedures. These could include:

- monitoring checksheets;
- CCP records; and
- corrective action reports.

13.5 Records

The operator must keep relevant records demonstrating compliance with documented procedures.

Refer to Part 2, section 17 of this COP for record keeping requirements

14 Process control – post thermal process handling

Amendment 0

September 2009

14.1 Purpose and scope

To ensure that animal material and product is processed and stored in a manner that minimises its deterioration, and will not adversely affect the suitability for processing of animal material, or fitness for intended purpose of the animal product.

14.2 Mandatory requirements

14.2.1 AP Reg 9

The operator must ensure that animal products in their charge are processed and stored in a manner that minimises:

- the risks of contamination, spoilage or deterioration;
- the proliferation of pathogenic microorganisms; and
- the development of toxins.

14.2.2 AP Reg 17

All persons engaged in the carriage and delivery of animal material or animal product must as far as practicable ensure that the means of carriage and delivery are designed, made, maintained, and operated to minimise contamination or deterioration of animal material or animal product.

14.2.3 AC Spec 74

1. The operator must ensure all rendering operations result in product which is fit for its intended purpose.

2. To maintain the fitness for intended purpose of rendered animal product, the operator must ensure that after treatment animal product is protected from recontamination and deterioration.

14.3 Procedures

14.3.1 Use of additives

14.3.1.1 Only additives listed in Schedule 7, "Substances generally recognised as safe [GRAS] feed additives in oral nutritional compounds or safe ingredients in oral gastrointestinal-acting microflora-enhancing compounds", of the Agricultural Compounds and Veterinary Medicines Regulations 2001 (ACVM Regs) may be added to rendered products that are intended for animal consumption.

Antioxidants listed on the GRAS register include: - Butylated hydroxyanisole (BHA); - Butylated hydroxytoluene (BHT); - Ethoxyquin; - Tocopherols. Dimethylpolysiloxane, used as a defoaming agent, is also listed on the GRAS register.

14.3.1.2 All additives must be used in accordance with Schedule 7 of the Agricultural Compounds and Veterinary Medicines Regulations 2001 (ACVM Regs) and manufacturers' instructions.

Schedule 7 of the ACVM Regs places limitations on the use of additives such as the amount permitted in the final feed.

14.3.1.3 Additives must be:

a. stored in accordance with instructions provided on the label and/or by the supplier;

Additives should be checked before use to ensure they are within their recommended shelf life requirements (where relevant).

b. kept in a designated area (e.g. shelf, cupboard, room) and kept separate from chemicals. This area must be kept clean and dry and maintained in a clean condition.

c. stored in containers that are clearly labelled with the name of the additive.

14.3.2 Minimising condensation

14.3.2.1 All handling and storage equipment such as conveyors and bins must be adequately ventilated to minimise condensation.

Insufficient ventilation is likely to lead to condensation inside the handling and storage equipment. To minimise condensation focus should be placed on: - cooling meal quickly; and - ventilating areas where heat is added or retained, i.e. at the exit of the press or dryer, after milling, any conveying system where the heat of the product is greater than 30ºC higher than the surrounding environment. Special care should be taken at the pressing step. Moisture released from the choke of the press may lead to a build-up of moist meal and the potential for growth of *Salmonella* at the earliest post cooking point in the process. Combining sufficient condensation, warmth and meal with bacterial contamination is likely to create an endemic contamination “hot spot”, which will result in ongoing contamination of passing meal.

14.3.3 Handling

14.3.3.1 Products must be handled and stored in such a manner that:

- minimises deterioration of products;
- minimises damage to packaging;
- facilitates effective cleaning; and
- facilitates effective inventory control.

14.3.3.2 Any vehicle, equipment or conveyance used in a medium risk raw material area must be thoroughly cleaned and sanitised before it is used in a post thermal processing area.

14.3.3.3 Products must be adequately protected from the elements and environmental contaminants during loading.

14.3.3.4 All documentation accompanying outgoing products must be complete and accurate, and provide the necessary information for the effective identification and traceability of the products.

14.4 Monitoring

The responsible person must carry out regular checks for compliance with documented procedures.

14.5 Records

The operator must keep relevant records demonstrating compliance with documented procedures. These could include:

- monitoring checksheets; and

- corrective action reports.

Refer to Part 2, section 17 of this COP for record keeping requirements.

15 Ruminant protein controls

Amendment 0

September 2009

15.1 Purpose and scope

To ensure that operators:

- clearly label any animal product that contains ruminant protein in accordance with the Biosecurity (Ruminant Protein) Regulations 1999; and
- who are required to have a ruminant protein control programme under the Biosecurity (Ruminant Protein) Regulations 1999 include this as a supporting system with their RMP.

The Biosecurity (Ruminant Protein) Regulations 1999 aim to preserve New Zealand's BSE-free status and manage the risk of a BSE outbreak. The regulations prohibit the feeding of ruminant protein (except dairy produce) in any form to ruminant animals. One of the objectives of these regulations is to minimise the risk of contamination of feed intended for ruminants in feed mills that utilise ruminant protein for other purposes.
Biosecurity New Zealand administers the Biosecurity (Ruminant Protein) Regulations 1999. The majority of the information given in this section has been obtained from their website. This has been provided to assist operators but operators are responsible for ensuring that they are familiar and comply with the current ruminant protein control requirements.
General information on the ruminant protein to ruminants feeding ban is available on the Biosecurity New Zealand web site.
The Biosecurity (Ruminant Protein) Regulations 1999 are available at http://www.legislation.govt.nz/. These regulations also include requirements on irrigation with wastewater from premises where ruminant protein is rendered, stored or used.

15.2 Mandatory requirements

15.2.1 AC Spec 82A (2), (3), (4), (5), (6)

2. Animal product operators must clearly label any animal product which contains ruminant protein in accordance with the Biosecurity (Ruminant Protein) Regulations 1999.

3. For the purposes of subclause (2), tallow is considered to be protein free if the maximum level of insoluble impurities in the tallow does not exceed 0.15% by weight.

4. When ruminant animal material and non-ruminant animal material are processed in the same premises separate dedicated lines for each animal material must be used.

5. Despite subclause (4), ruminant animal material and non-ruminant animal material may be processed in a common processing line, provided all resulting animal product is clearly labelled as containing ruminant animal material.

6. Animal product operators who are required to have a ruminant protein control programme, as required under the Biosecurity (Ruminant Protein) Regulations 1999, must include this as a supporting system within their risk management programme.

15.3 Biosecurity (Ruminant Protein) Regulations 1999 definitions

Not all definitions have been included here. Only those definitions necessary to explain how rendering operators fit within the Biosecurity (Ruminant Protein) Regulations 1999 have been included.

feed—

a. means any matter produced as, or as part of, food for animals in premises that produce, render, or utilise ruminant protein; but

b. does not include—

i. protein-free tallow (if the maximum level of insoluble impurities does not exceed 0.15% by weight):

ii. any derivative of the tallow described in subparagraph (i):

iii. rennet:

iv. dicalcium phosphate (if it contains no trace of protein or fat):

v. peptides with a molecular weight of less than 10000 dalton:

vi. amino acids:
vii. pet food packaged for retail sale and labelled for feeding to dogs or cats

feed supplier—
a. means a person who produces, trades in, or distributes feed; and
b. includes a person who redesignates, as food for animals,—
i. any food for human consumption; or
ii. any byproduct.

operator [B(RP)Regulations 1999 definition] means the occupier of premises where ruminant protein is rendered, used, or stored and where—
a. Non-ruminant mammalian, avian, or fish tissue is rendered for feeding to ruminants; or
b. Feed intended for ruminants is produced:

ruminant protein means protein derived from the tissue of a ruminant, except dairy produce; and for this purpose—
a. Tissue includes blood; and
b. Dairy produce has the same meaning as in section 2 of the Dairy Industry Act 1952.

15.4 Summary of mandatory requirements and procedures

15.4.1 Labelling

Any rendering operator who processes ruminant protein is required to meet labelling requirements under the Biosecurity (RP) Regulations 1999.

Information on the labelling requirements that operators must meet under the Biosecurity (RP) Regulations 1999 are explained on the following Biosecurity New Zealand web pages:
- Labelling Requirements for Feed and Fertiliser; and
- Ruminant Feed-Guide for Feed Retailers and Distributors,
from which the following has been repeated:

Feed

- All feed that **contains ruminant protein** must display the following label on the front of the feed bag:

"NOTICE: NOT TO BE FED TO SHEEP, CATTLE, DEER, ALPACAS, GOATS OR OTHER RUMINANT ANIMALS"

- Feed that **does not contain ruminant protein** must display one of the following notices on the feed bag:

"NOTICE: SUITABLE FOR FEEDING TO (insert ruminant species or type)"

"NOTICE: SUITABLE FOR INCLUSION IN FEED INTENDED FOR RUMINANT ANIMALS"

There can be **no variation** to the words or phrases on the label.

Fertiliser

Anyone producing, selling, or distributing fertiliser that contains ruminant protein must display the following notice on the packaging:

"NOTICE: NOT TO BE FED TO SHEEP, CATTLE, DEER, ALPACAS, GOATS OR OTHER RUMINANT ANIMALS"

Labelling Specifications

a. Packaging

Labels on feed and fertiliser packaging must be:

- clearly visible,
- legible,
- fade-resistant,
- permanently stamped, attached or marked on the packaging, and
- large – occupy at least 5% of the total area covered by all labelling of the feed or the fertiliser. The phrase 'total area covered by all labelling' means the area covered by all lettering that is printed on the package (front, back, top, bottom and the sides), including the area covered by lettering in pictures, logos and graphics on the package.

b. Invoices and Waybills

Invoices, waybills and any supporting documentation that accompany feed and fertiliser that is sold in bulk must be clearly stamped, labelled or marked with the notice that would have been applied on packages if sold bagged. The information notice must be clear,

legible and large – at least 5% of the total area covered by all the lettering on the invoices and the waybills.

The Biosecurity New Zealand Labelling Requirements for Feed and Fertiliser web page also includes a number of frequently asked questions. One of these questions is:
"What type of notice should appear on a feed bag that does not contain ruminant protein and will be fed to non-ruminant animals?"
The answer given is "the type of notice will depend on how the non-ruminant feed is produced." One example given is that if the feed is manufactured in premises that do not render, use or store ruminant protein – the Biosecurity (RP) Regulations 1999 do not apply and the feed bags do not need to carry any notice. However, to help buyers to make an informed decision, it is recommended that the bags be labelled 'can be fed to ruminants'.

15.4.2 Ruminant Protein Control Programmes

15.4.2.1 Rendering operators must operate under a registered Ruminant Protein Control Programme (RPCP) if they fall within the **operator [Biosecurity (RP) Regulations 1999]** definition above.

This would mean that an operator answers yes to both the following questions:
- Do you, even occasionally, render ruminant tissue?
- Do you render non-ruminant tissue (such as poultry meal, feather meal, fishmeal etc.) that is sold as suitable for feeding to ruminants?

15.4.2.2 The ruminant protein control programme must be included as a supporting system within the rendering operator's risk management programme.

Information on ruminant protein control programmes (RPCPs) is available on the Biosecurity New Zealand web site. This requires operators to meet specific RPCP eligibility criteria relating to dedicated ruminant feed processing line including:
a. complete physical separation of feed transfer lines and feed processing equipment used for producing feeds for ruminants from those used for producing non-ruminant feeds containing ruminant protein;

b. physical separation from arrival at the premises of ingredients to bulk out load or bagged packing, as well as during storage;

[The feed processing equipment referred to above includes, but is not limited to, load-in bins, weigh batch mixer, press bins, press, augers, chain drags, elevators, buckets, paddles, mixers, blenders, dump hopper, bagging machines and storage silos.]
c. if not adequately physically separated, intake pits for risk materials with barrier(s) of appropriate design and dimensions between it/them and the intake lines for ruminant feed ingredients. This is to prevent wind-borne contamination;
d. application of due diligence to prevent contamination of ruminant feed during their transport at both pre-mill as well as post-mill stages;
Production of both ruminant and non-ruminant feeds on the same premises, within the same building, is acceptable so long as physical separation of feed transfer lines and feed processing equipment is achieved.

15.5 Records

Regulation 15 of the Biosecurity (RP) Regulations 1999 outlines the record keeping requirements for feed suppliers.

Refer to Part 2, section 17 of this COP for record keeping requirements.

16 Packaging and labelling

Amendment 0

September 2009

16.1 Purpose and scope

To ensure that packing of products results in minimal contamination from the packaging materials as a consequence of their composition, use, handling or storage.

To ensure that products are clearly and accurately labelled, and comply with relevant legislation.

16.2 Mandatory requirements

16.2.1 AP Reg 8

Animal product must not be associated with a false or misleading representation of any kind concerning its, fitness for intended purpose, nature, origin, composition, ingredients or other constituents, proportion of ingredients or other constituents.

16.2.2 AP Reg 16

All risk management programme operators, operators of animal material depots, and other categories of person specified in specifications for the purposes of this regulation must ensure that any packaging materials (including reusable packaging and inner and outer packaging of any kind) used for animal material, animal product, and associated things are designed, made, stored, and used in a manner that-

a. maintains the status of the animal material as suitable for use in processing; and

b. maintains the status of the animal product as fit for its intended purpose; and

c. minimises contamination of the animal material or animal product.

16.2.3 AC Spec 26

1. The composition and, where appropriate, the conditions of use of packaging must either:

   a. comply with the requirements specified in the current US Code of Federal Regulations, Title 21, Parts 170–199 (21 CFR 170–199), incorporated by reference into this notice under clause 82B, which Code applies equally to coatings and linings of containers and cartons where these are the direct product contact surface; or

   b. comply with the requirements specified in the current "Australian Standard for Plastics Materials for Food Contact Use, Australian Standard AS2070-1999", which is incorporated by reference into this notice under clause 82B; or

   c. be determined by the operator to be suitable for use, based on evidence provided by the packaging manufacturer and an analysis an analysis of hazards and other risk factors from the packaging.

2. Where the packaging complies with the requirements of subclause (1)(a) or (b), the risk management programme must state the full reference to the regulation or standard with that the packaging complies.

3. If the packaging is damaged such that suitability for processing of animal material or fitness for intended purpose of animal product may be affected, the animal material or product must be-

   a. handled in a manner that minimises contamination and the damage to the packaging rectified; or

   b. be appropriately disposed of.

4. Any packaging material that is reused or recycled must be fit for purpose.

16.2.4 AC Spec 28(1)

Mandatory labelling must be clear, legible, indelible, and use terms that are commonly used in the English language or other language approved by the Director-General.

16.2.5 AC Spec 28(2)

No animal material, animal product or packaging material to which this notice pertains may be labelled or marked in any way that could be misleading as to-

a. the intended purpose of any animal material, animal product or packaging material; or

b. the fitness of any animal material or product for animal or human consumption; or

c. the fitness of any animal material or product for processing for animal or human consumption; or

d. the nature of any animal material, animal product or packaging material.

16.2.6 AC Spec 28(3)

If the suitability of animal material for processing or the fitness of animal product for its intended purpose changes after it has been identified, all labelling and accompanying documentation must be amended, updated or replaced to reflect the new status of the animal material or product. This must be carried out at the earliest opportunity, and must be prior to the release of the animal material or product from the premises.

16.2.7 AC Spec 28(4)

All animal material or product that contains animal material or product derived from live animals imported into New Zealand must be identified as such.

16.2.8 AC Spec 29(1)

Operators must ensure all animal material or product intended for animal consumption are clearly identified to indicate that material or product is not intended for human consumption when it leaves the premises.

16.2.9 AC Spec 29(2), (3)

2. Operators of premises who also process animal material or product for human consumption in the same premises, must clearly identify animal material or product for animal consumption when it enters and while it is in the premises. The identification must clearly indicate that material or product is not for human consumption.

3. Operators of premises described in subclause 2 must keep all animal material or product intended for animal consumption separate until suitably packaged, from the processing, packing and handling of animal material or product intended for human consumption.

16.2.10 AC Spec 31

An operator must ensure transportation outers containing animal material or product for animal consumption when leaving the premises are labelled to clearly identify-

a. the contents are not intended for human consumption;

b. the animal material or product name or description;

c. storage directions where necessary to maintain the fitness for its intended purpose,

d. lot identification, where applicable; and

e. the name and address of the operator.

16.2.11 AC Spec 32

The animal product operator must ensure that bulk transportation units used for the transportation of unpackaged bulk animal material or product must be labelled with the information specified in clause 31, except where it is impractical to label the unit, then the information must be provided in accompanying documentation.

16.2.12 AC Spec 82A(2), (3)

2. Animal product operators must clearly label any animal product which contains ruminant protein in accordance with the Biosecurity (Ruminant Protein) Regulations 1999.

3 For the purposes of subclause (2), tallow is considered to be protein free if the maximum level of insoluble impurities in the tallow does not exceed 0.15% by weight.

16.3 Procedures

16.3.1 Packaging

16.3.1.1 Packaging material must be protected from contamination during handling, transport and storage.

16.3.1.2 Packaging material must be dispensed, during the packing of products, in a manner that protects the materials and the product from contamination.

Outer protective covering materials should not be removed until immediately before the packaging material is taken into the area where it will be used.

16.3.1.3 Packaging must effectively protect the product from contamination during the handling, transport and storage of the product.

Reusable containers must comply with the requirements for cleaning and sanitation outlined in section 6.

16.3.1.4 When the packing of packaged product becomes damaged steps must be taken to minimise product contamination resulting from the damage. Consideration should be given to storing the affected product in a separate area or repacking.

16.3.2 Labelling

The operator must develop labelling procedures to ensure that:

- all information printed on a label or on packaging is correct and accurate; and
- the correct label is applied to the appropriate product; and
- where product can not be practicably be labelled, all information provided in accompanying documentation is correct and accurate.

Labelling requirements relating to ruminant protein are explained in section 15.

16.4 Monitoring

The responsible person must regularly check compliance to documented procedures.

16.5 Records

The operator must keep relevant records demonstrating compliance with documented procedures. These could include:

- daily checklists;
- register of packaging suppliers;
- supplier guarantees for packaging;
- label checklists;

Refer to Part 2, section 17 of this COP for record keeping requirements.

17 Document control and record keeping

Amendment 0

September 2009

17.1 Purpose and scope

To ensure that all RMP documents, including records, are managed under a document control system that meets the requirements of the Animal Products Act 1999.

17.2 Mandatory requirements

17.2.1 RMP Spec 19 (1)

Every document or part of a document that forms part of a risk management programme must be:

a. legible;

b. dated or marked to identify its version;

c. authorised (signed) prior to use, either directly or within the document control system, by:

   i. the operator,

   ii. the day-to-day manager of the programme, or

   iii. a person nominated to do so in the programme's document control system; and

d. available in a readily accessible form when required to any person with responsibilities under the programme.

17.2.2 RMP Spec 19 (2)

The operator must have procedures for effective control of the documents that form the risk management programme including how:

a. significant and minor amendments are made to the risk management programme so that the programme is current and reflects the actual operation;

b. the amendments, or the nature of the amendments to the programme are identified or described; and

c. documents are authorised prior to issue and use; and

d. all amended parts of the risk management programme are replaced with the current versions at all distribution points without unnecessary delay after authorisation and, where necessary, registration in accordance with section 25 of the Act.

17.2.3 RMP Spec 19(3); AC Spec 34(2)

The operator must retain for four years, one copy of all obsolete documents from a registered risk management programme in a manner that protects the documents from damage, deterioration or loss, and prevents confusion with current documents.

17.2.4 RMP Spec 19(4); AC Spec 34(2)

The operator must ensure that the registered risk management programme and all reference material relating to the risk management programme, and any archived documents are readily accessible, or can be retrieved and made available within two working days of any request to:

a. recognised persons; and

b. animal product officers; and

c. the Director-General; and

d. persons authorised by the Director-General.

17.2.5 RMP Spec 20(1); AC Spec 34(2)

The operator must include record keeping procedures in the risk management programme to ensure that all records necessary to demonstrate compliance with the documented programme are

a. legible, and

b. stored for four years, or for the shelf life of the product to which the records relate (whichever is longer), in a manner which protects the records from damage, deterioration or loss; and

c. can be retrieved and made available to persons defined in subclause (3) [of the RMP Spec] within two working days of any request.

17.2.6 RMP Spec 20(2)

Records relating to the risk management programme's monitoring, corrective action and operator verification activities must include:

a. the date and where appropriate the time of the activity;

b. a description of the results of the activity; and

c. a means to identify the person or persons who performed the activity.

17.2.7 RMP Spec 20(3)

The operator must make all records relevant to the risk management programme available to the following persons on request:

a. recognised persons;

b. animal product officers;

c. the Director-General; and

d. persons authorised by the Director-General.

17.3 Procedures

17.3.1 Record keeping

17.3.1.1 All Good Operating Practice (GOP) and processing records must be kept, including inventories of raw materials and finished products.

Records may be kept in a logbook, record form, checklist or electronically.

17.3.1.2 Electronic records must be backed up and protected from corruption, damage or loss. The person entering the data must be identified according to systems developed for the protection of electronic records.

17.3.1.3 Records must:

- accurately reflect the observations made;
- facilitate verification; and
- be documented on permanent materials.

Consideration should be given to the type of materials used for recording and their durability (pen does not write well on wet paper), its suitability for storage (thermal papers can fade over time). Pencil is not suitable for recording information because it is easy to erase or alter.

17.3.1.4 Any alterations made to records must be made alongside the original entry and initialled by the person amending the record.

The use of white out products (such as Twink ^{TM}) is not acceptable as it is not possible to see what the original entry was.

17.3.1.5 The manner in which the date and time are documented in the record must be appropriate to the activity being monitored. For some observations (e.g. process temperatures) the exact date and time must be recorded. However, for other observations (e.g. checking compliance with protective clothing requirements) a more general record over a specified time period may be acceptable.

17.3.2 Document control

17.3.2.1 The operator must keep a register of all RMP documents showing the current version and/or date of issue. This register must include the site plan and all record forms (e.g. blank check sheets used for monitoring and other operator verification activities).

It is common practice to include both the version number and date of issue of each RMP document. If more than one controlled copy of the RMP is issued, each set of documents should have additional identification showing the copy number. The operator should maintain a register of controlled copies showing who is responsible for each copy. Authorisation of version control may be shown in several ways, including: - signature and date on the cover page of each RMP document; - initials and date in the header or footer of every page; - signature and date on the document register.

17.3.2.2 Details of all amendments must be recorded in an amendment register.

The amendment register may be presented in a table with the following headings: document name or reference, details of the amendment, reason for amendment, date of change, person approving the amendment.

17.3.2.3 Amendments to RMP documents must be clearly identified.

Options for identifying amendments include use of *italics*, highlighting the amended text, or identifying the amended section(s) in the amendment register.

17.3.2.4 Electronic versions of RMP documents must be protected with an effective back up system.

Operators may wish to keep electronic copies off site in case of major loss.

17.4 Monitoring

The responsible person must regularly check compliance to documented procedures.

The operator should check, at least annually, that the documented procedures are appropriate.

17.5 Records

The operator must keep relevant records demonstrating compliance with documented procedures. These could include:

- amendment records;
- up to date list of documents; and
- record forms.

Record keeping requirements are outlined earlier in this section.

18 Traceability and inventory control

Amendment 0

September 2009

18.1 Purpose and scope

To ensure that traceability and inventory control systems are developed and implemented effectively.

18.2 Mandatory requirements

18.2.1 AP Reg 18 (1)

All operators of risk management programmes, all exporters, and all other categories of person required by specifications to do so, must have a tracking system that:

- allows for the identification of animal material and animal product; and
- enables the movement of the animal material and animal product to be traced from the supplier and the operator's business premises to the next recipient of the animal material or product.

18.2.2 AC Spec 34(3)

An inventory control programme must be documented for animal material or product and records maintained.

18.2.3 AC Spec 35

The consigning operator must have a documented tracking system that allows for the identification and traceability of animal material or product from the supplier, on to the animal product operator's business premises and then to the next recipient of the animal material or product, in accordance with the requirements of regulation 18 of the Animal Products Regulations 2000, or any successor to that regulation.

18.3 Procedures

18.3.1 The operator must document systems for tracking and control of inventory of animal material and products processed and/or stored within the boundaries of the RMP.

18.3.2 Inventories must be maintained for all animal materials and products, including non-compliant animal materials and products.

18.3.3 All outgoing products must be clearly identified and accompanied by appropriate documentation.

18.4 Monitoring

The responsible person must regularly check compliance to documented procedures.

18.5 Records

The operator must keep relevant records demonstrating compliance with documented procedures. These could include:

- production records;
- inventory records including receipt and dispatch of materials and products; and

- records of observations from monitoring and any corrective action taken (including restoration of control, product disposition and prevention of recurrence).

Refer to Part 2, section 17 of this COP for record keeping requirements.

19 Handling of non-complying products, and recall

Amendment 0

September 2009

19.1 Purpose and scope

To ensure that non-complying products are handled in a manner that facilitates their identification and traceability, and prevents contamination and deterioration of other products.

To ensure a system is in place for the recall, from distribution or sale, of products that are not fit for intended purpose.

19.2 Mandatory requirements

19.2.1 RMP Spec 14 (1)

For the purposes of section 17(2)(c) of the Act where, due to the nature of the animal material or animal product it is possible to recall it from trade, distribution or consumers, a risk management programme must contain a recall procedure, including:

a. the criteria for deciding when a recall will be initiated; and

b. how retrieval and disposition of the relevant animal material or animal product will be managed.

19.2.2 RMP Spec 14(2)

A risk management programme must contain a system for notifying the following people as soon as possible when animal product is recalled from trade, distribution or from consumers because it is not or may not be fit for its intended purpose:

a. the Director-General; and

b. the recognised risk management programme verifier or recognised risk management programme verifying agency.

19.2.3 RMP Spec 13(3)(a)

A risk management programme must contain a procedure for notifying the recognised risk management programme verifying agency in writing, without unnecessary delay, when there is any significant concern about the fitness for intended purpose of animal material or animal product.

19.3 Procedures

19.3.1 Non-complying animal material or products (e.g. damaged, spoiled, deteriorated or contaminated products) must be:

- clearly identified, separated from other products; and

Non-complying animal material or products should ideally be separated from other animal material and products by holding them in a separate room.

- assessed by a competent person, who will determine the appropriate disposition of the product;

In certain cases the assessment may need to be undertaken by the regulator. Non-complying animal material or product should be held within the premises until the disposition has been determined.

- included in the inventory.

19.3.2 Operators must designate a person to take overall responsibility for any recall of animal product and allocate recall tasks to appropriately skilled people.

The person with overall responsibility may be the day-to-day manager of the RMP or a person at a senior level of responsibility within the operation. For more information on establishing and implementing recall procedures, refer to the recalls section of the RMP Manual.

19.4 Monitoring

The responsible person must regularly check compliance to documented procedures.

Following a recall, the operator should review the procedures to determine their effectiveness and make changes, if necessary.

19.5 Records

The operator must keep relevant records demonstrating compliance with documented procedures. These could include:

- inventory;
- incident reports; and
- recall records.

Refer to Part 2, section 17 of this COP for record keeping requirements.

20 Operator verification and other operational requirements

Amendment 0

September 2009

20.1 Purpose and scope

To verify compliance to documented procedures and to confirm the effectiveness of the RMP by ensuring that operator verification, including internal audits, are undertaken at the required frequencies.

To ensure that other operational requirements (i.e. notification, amendments) are met by the operator.

20.2 Mandatory requirements

20.2.1 RMP Spec 16

1. A risk management programme must specify an operator verification system including –
   a. the activities to be performed in relation to the risk management programme, and their frequency;
   b. any actions to be taken when all or part of the risk management programme is not effective; and
   c. any recording and reporting requirements.
2. A risk management programme must contain a mechanism for ensuring that, wherever possible, persons carrying out operator verification are independent of the activities being verified.

20.2.2 RMP Spec 13(1)

A risk management programme must contain a procedure for notification of the Director-General in writing, without unnecessary delay, of any change to the name or position or designation of the person(s) responsible for the day-to-day management of the programme.

This change will be a minor amendment to the RMP and the notification should be sent to the Programme Manager (Production and Processing), Approvals and ACVM Group by email or letter.

20.2.3 RMP Spec 13(2)

A risk management programme must contain a procedure for notification of the Director-General of any emerging, new or exotic biological hazards or new chemical hazards that come to the operator's attention in relation to the programme as soon as practical after their discovery.

The requirement to notify the Director-General may be met by notifying the recognised RMP verifying agency or the NZFSA Standards Group directly.

20.2.4 RMP Spec 14(2)

A risk management programme must contain a system for notifying the following people as soon as possible when animal material or animal product is recalled from trade, distribution or from consumers because it is not or may not be suitable for its intended purpose-

a. Director-General; and

b. the recognised risk management programme verifier or recognised risk management programme verifying agency.

20.2.5 RMP Spec 13(3)

A risk management programme must contain a procedure for notifying the recognised risk management programme verifying agency in writing, without unnecessary delay, of the following issues relating to the operation of the programme:

a. any significant concern about the fitness for intended purpose of animal material or animal product:

b. where the cumulative effect of minor amendments necessitates the registration of a significant amendment to the risk management programme as provided in section 25 of the Act:

c. where the risk management programme is no longer considered to be effective:

d. where the premises identified as being used by the programme are not or no longer suitable for their use:

e. where anything within the physical boundaries of the programme is used for additional purposes or by other operators and the programme has not adequately considered relevant hazards or other risk factors.

20.2.6 RMP Spec 22 (1)

The following activities that result in changes to the risk management programme require registration as an amendment in accordance with section 25 of the Act (except where they are done on a trial basis and the affected animal material or animal product is not traded):

a. making major alterations to the processing facilities or equipment which may impact on fitness for intended purpose of the animal material or animal product:

b. relocating processing operations to a new physical address (except where this is already permitted for mobile premises and vessels):

c. processing animal material or animal product that is not covered by the risk management programme, except:

i. where the product and process are similar, and

ii. a documented risk factor identification and hazard analysis has shown that all risk factors associated with that animal material or animal product are already adequately addressed by the risk management programme:

d. setting up a new process or process modification that is not covered by the risk management programme, except:

i. where the process or process modification is similar to existing processes, and

ii. a documented risk factor identification and hazard analysis has shown that all risk factors associated with that process are already adequately addressed by the risk management programme:

e. making any other changes that introduce new risk factors, or adversely impact on existing risk factors:

f. merging two or more registered risk management programmes:

g. splitting a registered risk management programme into two or more risk management programmes:

h. adding a business to a multi-business risk management programme except where the Director-General's approval under section 17A of the Act applies to a type of business, premises or place rather than to specific businesses.

20.2.7 AC Spec 75

Thermally processed meal products for animal consumption must be subjected to microbiological surveillance to determine the effectiveness of both the thermal treatment and the prevention of recontamination.

20.3 Procedures

20.3.1 Internal audits

20.3.1.1 Internal audits must be undertaken by the person responsible at an appropriate frequency to ensure compliance with the documented RMP, including GOP and process control procedures, and to identify and correct any problems.

20.3.1.2 A review of the RMP must be undertaken at least annually.

The review of the entire RMP may be undertaken as a single operation or it may be staggered throughout the year based on an established timetable (e.g. review specified parts of the RMP each month).

20.3.1.3 The RMP must also be reviewed when:

- significant changes are made to the product, process or premises; or
- the RMP or parts of it are not working effectively.

Indications that the RMP or parts of it are not working effectively include: - a series or trend of non-compliance or out of specification product test results; - customer complaints; - product recall; - failed external verification audit.

20.3.1.4 Observations made during the internal audit and corrective actions taken must be recorded.

a. Operators should first review their procedures and systems to ensure that these systems comply with all regulatory requirements, especially those requirements that have been updated.
b. Internal audits should consist of a review of records, reality checks, and confirmation that deficiencies or non-compliances identified from the last audit have been rectified, and a review that the systems are still being followed.
c. Records should be reviewed for:
- completeness and accuracy of required information;
- documentation of corrective actions;
- any trends, new hazards, recurring problems; and
- compliance with documented control procedures.
d. Reality checks should include observation of:
- workers' performance and compliance with documented hygienic procedures and operating procedures,
- compliance with process parameters such as processing times and temperatures, and
- hygienic status of the premises internal and external environment, facilities and equipment.
e. All deficiencies found at previous audits should be followed up.

20.3.1.5 When ongoing or recurring non-compliances occur, the operator must:

a. investigate to determine possible causes of non-compliance;

b. take appropriate corrective actions to regain control and prevent recurrence of the problem;

c. increase surveillance of the system; and

d. review the RMP or the relevant GOP programme and make necessary changes.

20.3.2 Amendments to the RMP

20.3.2.1 Significant amendments to the RMP must be evaluated and registered.

20.3.2.2 When the operator determines that an amendment is not significant, changes may be made at any time to update the RMP document(s).

Guidelines for determining significant amendments and for deciding whether an amendment is significant or minor are documented in Appendix G of the RMP Manual. The Manual also provides examples of significant and minor amendments. If there is still some doubt as to whether proposed changes are significant or not, you should contact an RMP evaluator or the RMP Help Desk.
The document control procedure may also allow for small changes to be made by hand. In such cases, the nominated person should sign and date the changes to indicate they are legitimate. This may occur at the time of annual review or more often as required.

20.3.3 Microbiological surveillance

Salmonella is ranked as one of the three most important foodborne pathogens in New Zealand, second only to Campylobacter. As a result NZFSA launched a *Salmonella* Risk Management Strategy in April 2009. This Strategy includes the following three strategic goals in relation to non-typhoid *Salmonella*:
- to achieve a 30% reduction in reported annual incidence of foodborne salmonellosis after five years
- to detect and control exotic genotypes that are known to be more virulent and/or have multiple antibiotic resistance, and that require specific risk management strategies
- to support market access.

The Strategy has begun with a primary focus on intelligence gathering from a wide range of food sectors. This information will help shape the strategy's future direction and will form scientifically robust interventions at appropriate points of the food chain. Interventions or additional controls may be considered necessary for the control of *Salmonella* in animal feeds intended for food producing animals. Where this is the case it may result in additional controls on rendering operations.
Any proposed changes to the current rendering requirements will be subject to consultation with the industry.

20.3.3.1 Rendered meals, derived from medium risk raw material, that are intended for animal consumption must be subject to routine post-production testing for *Salmonella*. This testing must be carried out at least weekly on rendered meals from rendering premises. Test results must be retained at processing premises.

20.3.3.2 The weekly rendered meal sample must be a composite of samples of approximately 250g collected on every production day.

20.3.3.3 The daily production samples must be taken at load-out or bagging. If neither of these processes occurs, the sample must be collected from bulk storage bins.

Following periods of plant shutdown, or plant cleaning, when *Salmonella* testing has not been carried out on a weekly basis, any operator may undertake environmental testing after the shutdown or plant cleaning.

20.3.3.4 The product must be tested against the microbiological criteria of ***Salmonella***: absence in 25 g: n=5, c=0, m=0, M=0 (i.e. not detected / 25g.) where:

n - means the number of units comprising the sample;

m - means the threshold value for the number of bacteria (the result is considered satisfactory if the number of bacteria in all sample units does not exceed m);

M - means the maximum value for the number of bacteria (the result is considered unsatisfactory if the number of bacteria in one or more sample units is M or more);

c - means the number of sample units the bacterial count of which may be between m and M, (the sample still being considered acceptable if the bacterial count of the other sample units is m or less).

20.3.3.5 All laboratories performing analyses for *Salmonella* must have International Accreditation New Zealand (IANZ) accreditation for the analysis of *Salmonella* in accordance with the test method identified in the LAS (Laboratory Accreditation Scheme).

It is recommended that other microbiological testing should be done by an IANZ (International Accreditation New Zealand) or LAS (Laboratory Accreditation Scheme) accredited laboratory.

20.3.3.6 Where any sample is positive for *Salmonella* the operator must:

- conduct an immediate review of hygienic procedures focusing on potential post thermal processing contamination; and

The review should include: - environmental sampling to assist in pinpointing the source of contamination. This should include problem areas such as drains, cracks and crevices; - reassessing access to post thermal processing areas; - processing and product handling procedures; - cleaning and sanitising programmes; - design and construction.

- consider the fitness for intended purpose of the animal product.

The operator may consider: - advise the buyer; - the additional of an antimicrobial agent e.g. Salkil or Sal-curb™; - diverting to an alternative end use; or - reprocessing.

20.3.4 Moisture content

20.3.4.1 Moisture content measurements must be performed by a suitably skilled person using documented methodologies (including calibration procedures) and/or calibrated equipment.

20.3.5 Notification procedures

20.3.5.1 The day-to-day manager of the RMP must contact the NZFSA without delay when it is necessary to notify the Director-General for reasons specified in RMP Spec 13(1) and 13(2), and (refer to sections 20.2.2 and 20.2.3 of this document).

Such notifications should be sent to the Programme Manager (Production and Processing), Approvals and ACVM Group.

20.3.5.2 The day-to-day manager of the RMP must notify the recognised risk management programme verifying agency in writing (e.g. by email or letter) as required by and for reasons specified in RMP Spec 13(3) (refer to section 20.2.5 of this document).

20.4 Monitoring

The responsible person must regularly check compliance to documented procedures.

20.5 Records

The operator must keep relevant records demonstrating compliance with documented procedures. These could include:

- internal audit reports;
- RMP review records;
- other information or evidence relating to operator verification activities (e.g. test results);

- copies of any communication sent to the NZFSA or the recognised RMP verifying agency; and
- records of any corrective action taken (including restoration of control, product disposition and prevention of recurrence).

Refer to Part 2, section 17 of this COP for record keeping requirements.

Generic RMP Model for Rendering

Prelims

Amendment 0

September 2009

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IMPORTANT DISCLAIMER

Every effort has been made to ensure the information in this report is accurate.

NZFSA does not accept any responsibility or liability whatsoever for any error of fact, omission, interpretation or opinion that may be present, however it may have occurred.

Website

A copy of this document can be found at http://www.nzfsa.govt.nz/animalproducts.index.htm

Review of the RMP Model

This RMP Model will be reviewed, as necessary, by the NZFSA. Suggestions for alterations, deletions or additions to this code of practice, should be sent, together with reasons for the change, any relevant data and contact details of the person making the suggestion, to:

Assistant Director (Production and Processing)
Standards Group
New Zealand Food Safety Authority
P O Box 2835
Wellington
Telephone: 04 894 2500

Amendment Record

It is important that this publication is kept up-to-date by the prompt incorporation of amendments.

To update this publication when you receive an amendment, remove the appropriate outdated pages, destroy them, and replace them with the pages from the new issue. Complete instructions will be given on the covering letter accompanying the amendment. File the covering letter at the back of the publication and sign off and date this page.

If you have any queries, please ask your local verifier.

Amendment No.	Date	Initials	Amendment No.	Date	Initials
1			4		
2			5		
3			6		

1 Introduction

Amendment 0

September 2009

1.1 Purpose of this document

This generic Risk Management Programme (RMP) model has been developed by the New Zealand Food Safety Authority, in consultation with industry, to assist rendering operators in the development of their RMP. It shows how HACCP principles can be applied and how RMP components could be written for a rendering operation. It is emphasised that this generic RMP model is not intended to represent the outcome of a complete RMP. Operators may develop their RMPs based on this model but they are expected to customise their RMP to their specific products, processes and premises.

This generic RMP model has been developed based on New Zealand requirements only. Exporters must ensure that they meet overseas market access requirements relevant to their product and process. In particular, exporters must be aware of specific market time/temperature requirements for rendering and drying.

The application of HACCP principles in this generic RMP model has been based on scientific information, industry surveys and industry data provided.

This generic RMP model replaces the Draft *Generic HACCP Plan for Rendering* published as part of *A Guide to HACCP Systems In The Meat Industry*. Its content and format have been updated to comply with the requirements of the Animal Products Act 1999 and associated legislation, particularly the Animal Products (Risk Management Programme Specifications) Notice 2008. RMP components that are not covered in a HACCP plan (e.g. management authorities and responsibilities, identification of hazards to animal health and risk factors associated with wholesomeness and false or misleading labelling) are included in this generic RMP model.

1.2 Contents of this generic RMP

Table 1 summarises the required components of an RMP, and indicates whether the particular component is covered or not in this generic RMP model. **For practical reasons, not all requirements regarding the documentation of the RMP are covered in this generic RMP.**

A brief instruction or explanation about the RMP component is given for each section in this model, followed by a worked example presented as a form or table. **Instructions and explanations are not part of the RMP and should be removed by the operator when preparing their own RMPs based on this generic model.** Operators do not need to follow the format used in this generic model but it is important that all required information is documented clearly in their RMP.

Supporting systems must be documented and form part of the RMP. A list of recommended supporting systems is given in this generic model, however, examples of documented supporting systems are not provided. Guidance on the documentation of supporting systems is given in Part 2 of the Code of Practice (COP).

A comprehensive discussion of the RMP requirements and components is given in the *Risk Management Programme Manual*, which is available on the NZFSA website.

Table 1: RMP components

Components	Section of this generic RMP Model
Operator, Business and RMP identification	Form 1
List of RMP documents	A list of the documents comprising the RMP, with their date and version, must be included in the RMP. An example is not shown in this generic RMP.
Management authorities and responsibilities	Form 2
Scope of the RMP	Form 3
Product description	Form 4
Process description	Form 5
Good Operating Practice (Supporting systems)	A list of recommended supporting systems is given in section 2.6. The supporting systems must be documented in the RMP Examples are not given in this generic RMP. Refer to Part 2 of the COP.
Application of HACCP (identification, analysis and control of hazards to animal health)	Forms 6, 7A, 7B, 7C and 8

Components	Section of this generic RMP Model
Identification and control of other risk factors (wholesomeness, false or misleading labelling)	Forms 9 and 10
Identification and competency of responsible persons	This must be documented in relevant sections of the RMP. Records of competencies are expected to be documented in a supporting system. An example is not shown in this generic RMP. Refer to Part 2 of the COP.
Recall procedures	This must be documented in a supporting system. An example is not shown in this generic RMP. Refer to Part 2 of the COP.
Corrective action procedures for unforeseen circumstances	This must be documented in a supporting system. An example is not shown in this generic RMP. Refer to Part 2 of the COP.
Notification requirements	This must be documented in a supporting system. An example is not shown in this generic RMP. Refer to Part 2 of the COP.
Operator verification	Form 11
Provision for external verification	RMP Specification 2008, Clause 17 should be copied or referenced in the RMP.
Document control and requirements for records	This must be documented in a supporting system. An example is not shown in this generic RMP. Refer to Part 2 of the COP.
Checks and validation of the RMP	Refer to the RMP Manual.

2 Generic RMP for rendering

Amendment 0

September 2009

2.1 Operator, business and RMP identification

The name and address of the business operator must be documented in the RMP. The unique business identifier and the RMP identifier should also be included in this section of the RMP to assist in the traceability of documents.

Form 1: Operator, business and RMP identification

Information required	**Details**
Business identifier	*e.g. BPW1000*
RMP no.	*e.g. 01, 02*
Name of the operator	*Legal name of the business operator (i.e. the owner of the business)*
Address of the operator	*Business address of the operator (e.g. postal address of head office)*
Electronic address of the operator	*Email address of the operator*
Name of the business(es) covered by the RMP	*The registered company name, if different from the operator*
Physical address of the premises	*Location of the premises, if different from the operator's address*

2.2 Management authorities and responsibilities

The operator must document details of the person who is responsible for the day-to-day management of the RMP. It is recommended that a deputy be designated who can take over from the day-to-day manager, when necessary.

Form 2: Management authorities and responsibilities

Authority/responsibility	**Details**
Day-to-day manager	*Give name or, preferably, give position or designation*
Deputy for day-to-day manager	*Give name or, preferably, give position or designation*

2.3 Scope of the RMP

The operator must clearly define the coverage and application of the RMP.

Form 3: Scope of the RMP

Elements	Description/Details
Physical boundaries	Physical boundaries indicated on site plan given in Appendix xx. *Attach an accurate site plan. Ensure that amenities and external areas that may be a source of hazards and other risk factors are considered when establishing the physical boundaries. The site plan should also show any areas within the boundaries that are excluded from the RMP*
Risk factors covered by the RMP	Risk factors associated with: • Animal health (for products intended for animal consumption) • Wholesomeness • False or misleading labelling
Animal material being processed	• Meat (various species) and poultry material - trimmings, fat, offal, gastrointestinal tract, bone • Whole fish and fish material • Blood (various species)
Products [1, 2]	• Tallow • Fish oil • Meat & bone meal • Fish meal • Dried blood
Process [1]	From receipt of raw materials, to rendering, drying, storage and dispatch of the products Principal processing category: Rendering
Exclusions [3]	Identify those materials, products or activities excluded from the RMP, and the alternative regulatory regime they are under

1. The products and processes covered by this generic RMP are examples only based on a typical New Zealand rendering operation. The operator must ensure that their RMP accurately reflects their own products and processes.

   The hazard analysis shown in this generic RMP only covers the processing of meat & bone meal, tallow and dried blood to provide examples of how hazard analysis can be done. The operator must ensure that their RMP includes a hazard analysis for all products or product groups, and processes covered by their RMP.

2. Products should be listed either individually or as product groups with similar characteristics, processes and intended purpose. The list should be as specific as necessary for proper identification of hazards and their control, but at the same time should allow flexibility in terms of other products of the same group that can be processed without the need for a significant amendment.

3. If there is any animal material or animal product processed within the physical boundaries of the RMP but excluded from the scope of the RMP, the operator must identify the material or product, the alternative regulatory regime that they are under, and explain how the interfaces between regimes are managed. The operator must also document authorities and responsibilities, and the management of interfaces in relation to any activity undertaken by another person within the physical boundaries of the RMP.

2.4 Product description

The operator must describe the animal products covered by the RMP. This may be either individually or as product groups with similar characteristics, processes and intended purpose. The product description must include the intended use and consumer, any regulatory limit relevant to the product, and any operator-defined limits. Other information such as company specifications for packaging, labelling, and shelf life may be included under the product description, but these are not considered as operator-defined limits.

At present, no regulatory limit has been defined for any rendered product.

Form 4: Product descriptions and intended purpose

Product name	Intended consumer and use		Operator-defined limits	Packaging	Labelling
	Consumer	Use			
Tallow	Animals (used for food production or pets)	Direct use as animal feed or pet food As an ingredient in animal feed or pet food	No vegetative forms of bacterial pathogens in the product by subjecting the product to a thermal process of ≥ 90ºC for ≥ 10 min[1]	As per regulatory and company specifications Refer to supporting system xx.	As per regulatory and company specifications Refer to supporting system xx.
	-	Industrial use e.g. for further processing into soap			
Fish oil	Animals (used for food production or pets)	Direct use as animal feed or pet food As an ingredient in animal feed or pet food	Peroxide value[2]	As per regulatory and company specifications Refer to supporting system xx.	As per regulatory and company specifications Refer to supporting system xx.

Product name	Intended consumer and use		Operator-defined limits	Packaging	Labelling
	Consumer	**Use**			
Meat and bone meal	Animals (used for food production or pets)	Direct use as animal feed or pet food As an ingredient in animal feed or pet food	No vegetative forms of bacterial pathogens in the product by subjecting the product to a thermal process of ≥ 90ºC for ≥ 10 min[1] Moisture content.[3]	As per regulatory and company specifications Refer to supporting system xx.	As per regulatory and company specifications Refer to supporting system xx.
	-	Industrial use e.g. fertiliser			
Fish meal	Animals (used for food production or pets)	Direct use as animal feed or pet food As an ingredient in animal feed or pet food	Moisture content.[3]	As per regulatory and company specifications Refer to supporting system xx.	As per regulatory and company specifications Refer to supporting system xx.
	-	Industrial use e.g. fertiliser			
Dried blood	Animals (used for food production or pets)	Animal feed or pet food For further processing into animal feed or pet food	No vegetative forms of bacterial pathogens in the product by subjecting the product to a thermal process: - using blood drying specific parameters specified in Part 2 of the COP; or - of ≥ 90ºC for ≥ 10 min[1]	As per regulatory and company specifications Refer to supporting system xx.	As per regulatory and company specifications Refer to supporting system xx.
	Industrial use	Fertiliser			

1. The requirements outlined in the Animal Products (Specifications for Products Intended for Animal Consumption) Notice 2006 (AC Spec) clause 72(1) " … subject to a thermal process, or otherwise treated to destroy all vegetative bacteria, viruses and protozoa, and inactivate chemical substances that are potentially harmful if consumed by animals." can be achieved by subjecting product to a thermal process of ≥ 90ºC for ≥ 10 min. NZFSA identified that further investigation is required to determine what the current parameters achieve and establish the minimum necessary parameters. This investigation is identified as an industry issue project by the Meat Industry Association, who has assigned it a low priority.

   Operators who wish to propose alternative parameters need to confirm them as valid and show that the AC Spec clause 72(1) will be achieved on an ongoing basis.

2. The operator should define a peroxide value for fish meal. The peroxide value provides an indication of the rancidity of the oil, i.e. a measure of oxidation.

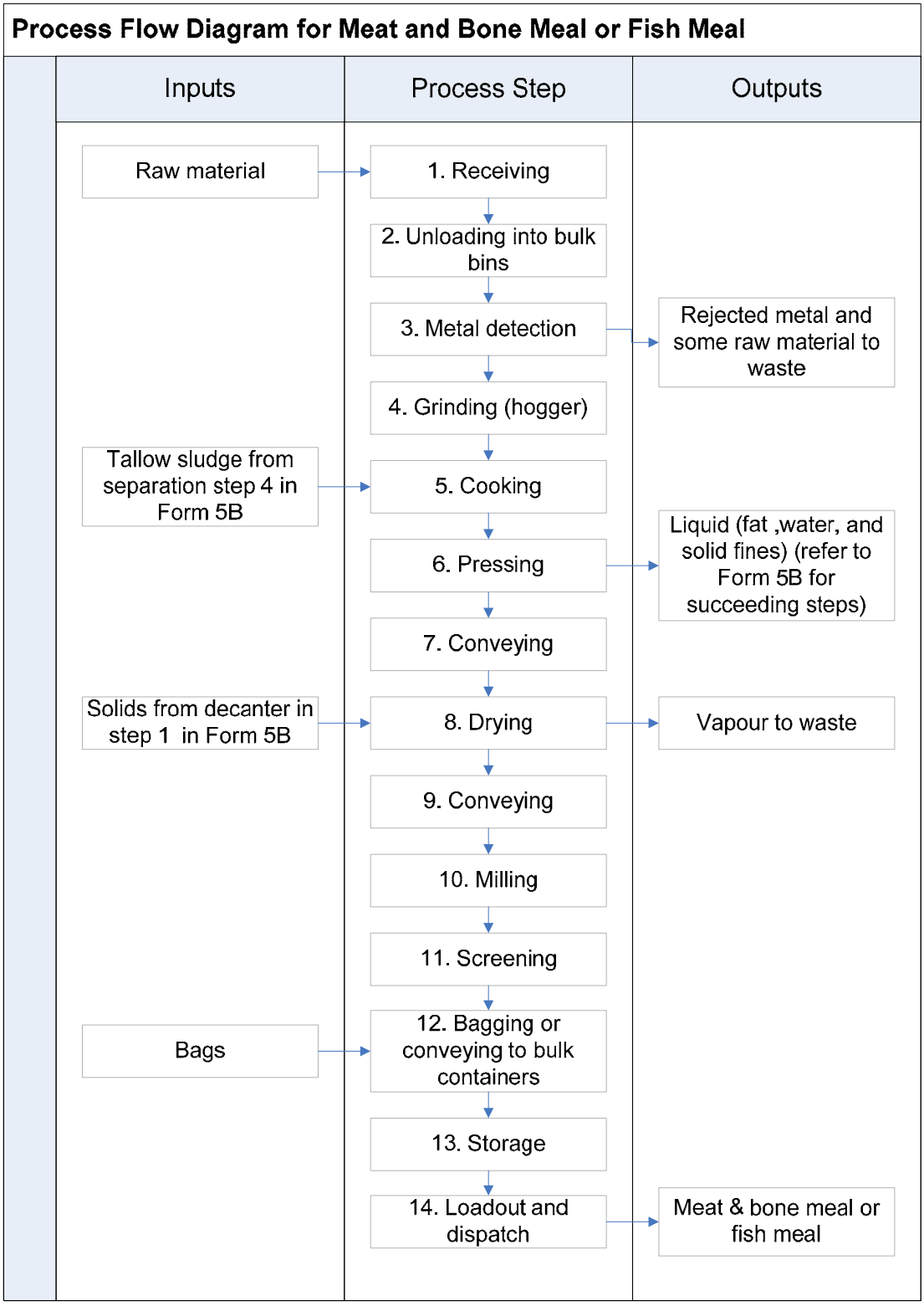
3. The operator should define a moisture content for meat & bone meal and fish meal. The control measure for achieving this limit can be a CCP or under GOP. Part 2 of the COP includes a procedure that meals must be dried sufficiently to prevent the growth of any post-drying microbiological contaminants and the deterioration of the product during storage. This includes sufficient drying to control mould formation. In addition, the COP provides guidance that meals dried to a moisture content of 10% or less will comply with that procedure. If the operator establishes an operator-defined limit greater than 10% moisture content, then justification must be provided in the RMP to show that the moisture content given is adequate to prevent microbiological growth in the product during storage.

2.5 Process description

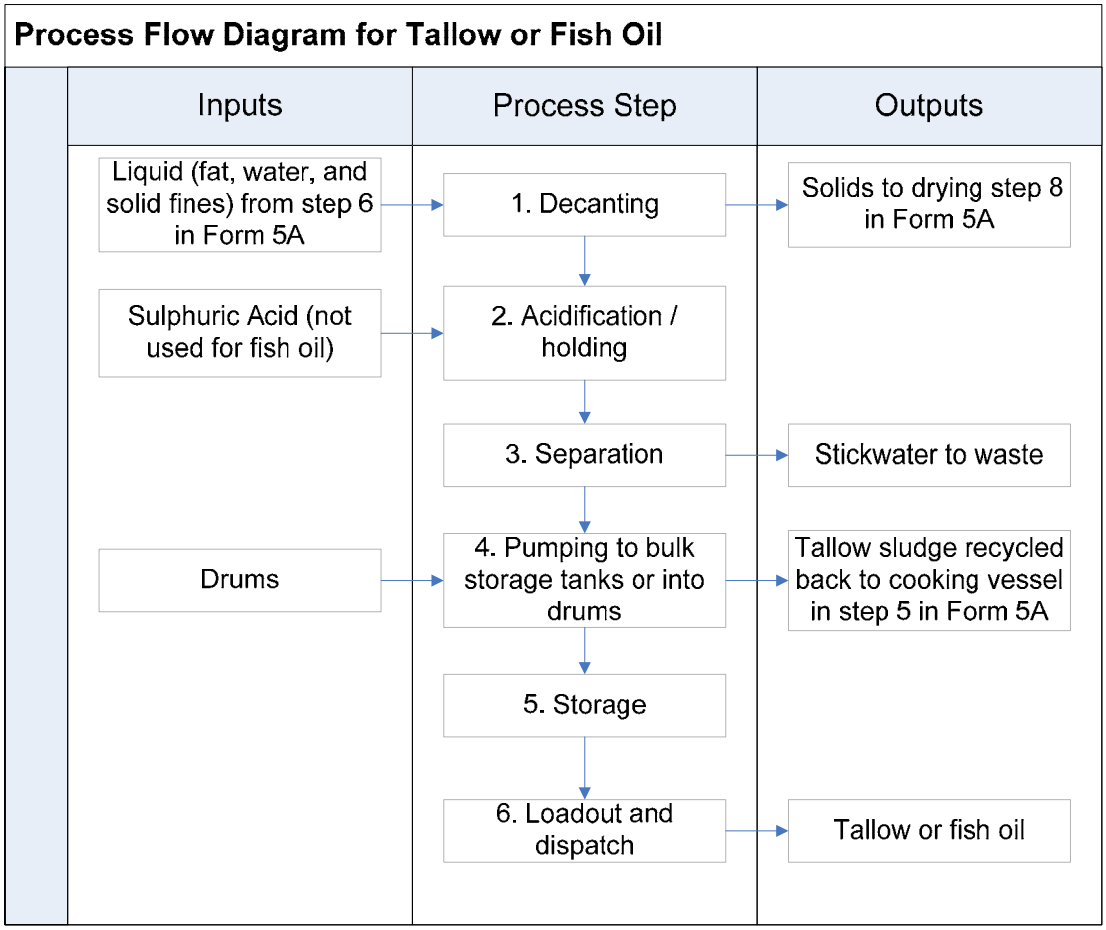
The processes covered in the RMP must be described accurately. This is usually done using process flow diagrams. There is no prescribed format to be used but the process flow should set out all steps in the process sequentially, and show relevant inputs and outputs. The process flow(s) must show the full extent of the process for all products covered by the RMP (i.e. up to dispatch of each product or product group, including any rework or recycling steps).

It should be noted that the examples given in this generic RMP are simplified presentations of the key steps based on a generic process. Only the main rendering processes are shown as examples in Form 5A – 5C.

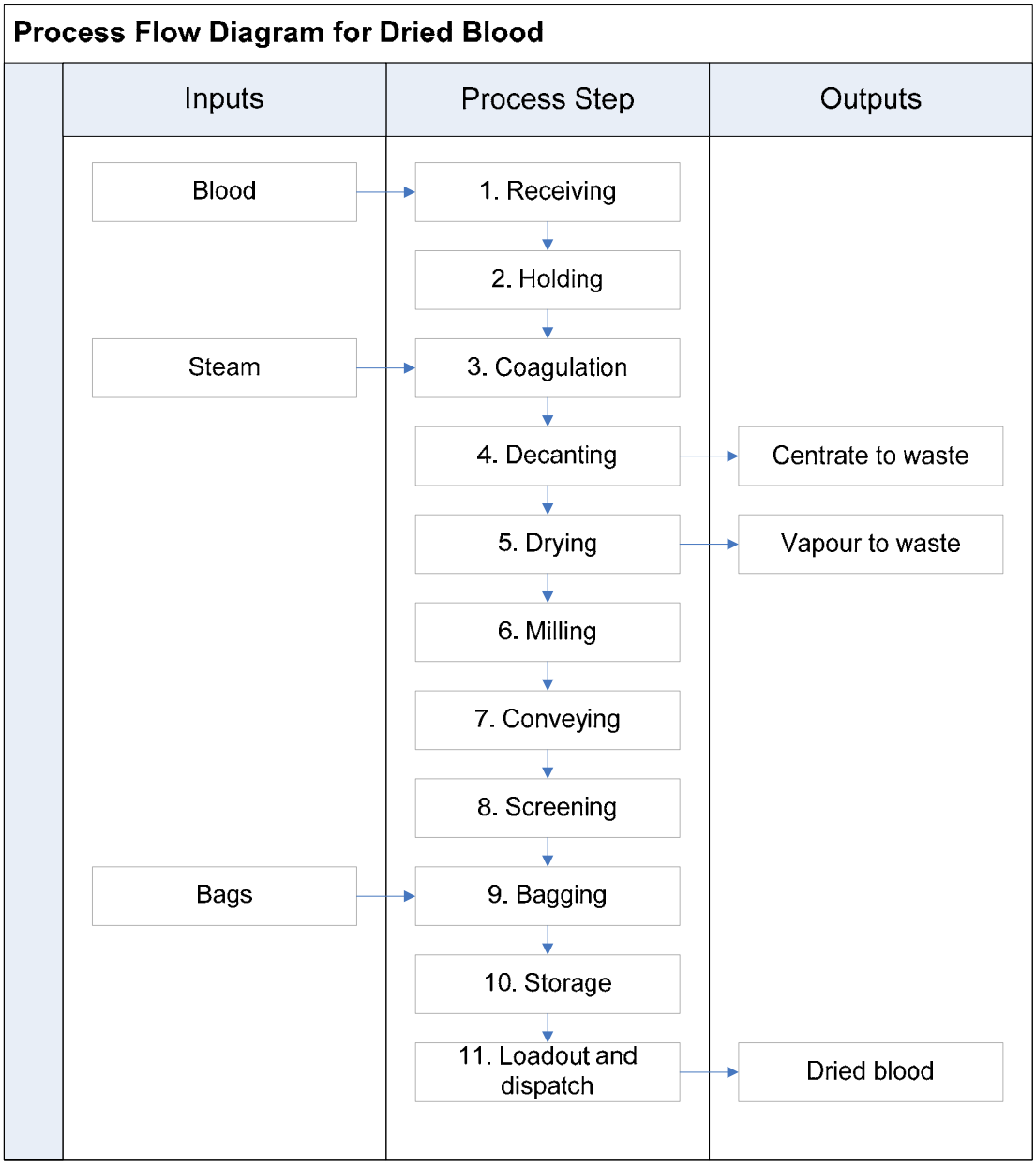
Form 5A:


Process Flow Diagram for Meat and Bone Meal or Fish Meal
Inputs
Process Step
Outputs
Raw material
1. Receiving
2. Unloading into bulk bins
3. Metal detection
Rejected metal and some raw material to waste
4. Grinding (hogger)
Tallow sludge from separation step 4 in Form 5B
5. Cooking
6. Pressing
Liquid (fat ,water, and solid fines) (refer to Form 5B for succeeding steps)
7. Conveying
Solids from decanter in step 1 in Form 5B
8. Drying
Vapour to waste
9. Conveying
10. Milling
11. Screening
Bags
12. Bagging or conveying to bulk containers
13. Storage
14. Loadout and dispatch
Meat & bone meal or fish meal

Form 5B:


Process Flow Diagram for Tallow or Fish Oil
Inputs
Process Step
Outputs
Liquid (fat, water, and solid fines) from step 6 in Form 5A
1. Decanting
Solids to drying step 8 in Form 5A
Sulphuric Acid (not used for fish oil)
2. Acidification / holding
3. Separation
Stickwater to waste
Drums
4. Pumping to bulk storage tanks or into drums
Tallow sludge recycled back to cooking vessel in step 5 in Form 5A
5. Storage
6. Loadout and dispatch
Tallow or fish oil

Form 5C:


Process Flow Diagram for Dried Blood
Inputs
Process Step
Outputs
Blood
1. Receiving
2. Holding
Steam
3. Coagulation
4. Decanting
Centrate to waste
5. Drying
Vapour to waste
6. Milling
7. Conveying
8. Screening
Bags
9. Bagging
10. Storage
11. Loadout and dispatch
Dried blood

2.6 Good Operating Practice

The operator must document Good Operating Practice (GOP) in relevant supporting systems (also known as prerequisite programmes, good hygienic practices) before applying HACCP principles to the process. These supporting systems must comply with all relevant regulatory requirements, particularly the Animal Product Regulations 2000 and the current version of the Animal Products (Specifications for Products Intended for Animal Consumption) Notice. Information in the documented supporting systems should include: authorities and responsibilities, procedures (including control, monitoring, corrective action and operator verification), and recording requirements.

Part 2 of the Code of Practice: Rendering provides guidance on supporting systems relevant to rendering. Supporting systems must address the activities and procedures listed below:

- Design, construction and maintenance of buildings, facilities and equipment;
- Water used for processing;
- Cleaning and sanitation;
- Personnel competency, health and hygiene;
- Control of chemicals;
- Pest control;
- Calibration;
- Process control;
- Packaging and labelling;
- Document control and record keeping;
- Traceability and inventory control;
- Handling of non-complying products, and recall;
- Operator verification and other operational requirements.

2.7 Hazard analysis and CCP determination

2.7.1 Identification of hazards from inputs

The operator must identify any hazards associated with each input considering any supplier agreements and raw material specifications.

Form 6: Identification of hazards from inputs

Inputs	Description/specification[1]	Biological hazard (B)	Chemical hazard (C)	Physical hazard (P)
Meat material, blood	Complies with regulatory requirements for supply of material for rendering Refer Part 2 of the Rendering COP	Bacterial pathogens - vegetative forms (e.g. *Salmonella* spp., *E.coli* 0157:H7) and spore formers (e.g. *Clostridium* spp.)	Chemical residues – e.g. pesticides, heavy metals, veterinary medicines[2]	Metal – e.g. spring wire from rumen capsules from ruminants, other metal objects (e.g. knives, hooks)
		Parasites – e.g. *Toxoplasma gondii*		
Fish material	Complies with regulatory requirements for supply of material for rendering Refer Part 2 of the Rendering COP	None	Heavy metals – e.g. mercury[3]	None
		Parasites[4]		
Sulphuric acid	Suitable for rendering use	None	Sulphuric acid[5]	None
Water, Steam	Complies with AC Spec clause 12	None	None	None
Bags, drums[6]	Complies with AC Spec clause 26	None	None	None

1. Agreed specifications and procedures for inputs must be documented in a supporting system.

2. Results from a national survey to determine the chemical residue status of tallow and meat and bone meal indicated that chemical residues (e.g. pesticides, heavy metals, veterinary medicines) can occur in these products. At present, there are no existing maximum residue limits for rendered animal products for animal consumption and there is insufficient information available on the impact of the rendering process on chemical residues to be able to carry out a complete hazard analysis. The hazard analysis for chemical residues will be reviewed when more information becomes available.

3. Mercury is considered to be an uncontrolled hazard. Therefore, they will not be considered further at subsequent steps in this generic RMP (Johnston, J.N. & Savage, G.P., 1991, Mercury Consumption and Toxicity with Reference to Fish and Fish Meal, Nutrition Abstracts and Reviews (Series A), 61, 74-116. Department of Biochemistry, Lincoln University, Canterbury, New Zealand).

4. At present, it is unclear whether parasites from fish are a hazard to animals. Even if parasites are a considered a hazard they are inactivated / killed by heating for 1 minute @ 60ºC (MacDonald 1996).

5. Sulphuric acid is added prior to the separation step to aid in the separation of fat and water. The acid is discharged with the stickwater.

6. For this generic RMP, it is assumed that clean bags and drums that are free of contaminants are used. Individual premises, particularly those that use recycled bags and drums, must consider potential hazards (e.g. chemical residues, microbiological contaminants, metal fragments from drums) associated with the type of container they use. These hazards must be addressed by a supporting system (e.g. supplier quality assurance programme, cleaning and sanitation) or be specifically considered during hazard identification within the RMP.

2.8 Hazard analysis and critical control point (CCP) determination

Form 7A: Hazard analysis and CCP determination (raw material, other inputs and process steps) for the processing of meat & bone meal [1]

Process step	Inputs	Hazard reasonably likely to occur on or in the product at this step	Justification	Q1. Is there a control measure(s) for the hazard at this step? If yes, identify the control measure and answer Q2 [2].	Q2. Is the control measure at this step essential to product safety as defined by a regulatory limit or an operator-defined limit? If yes, this step is a CCP [3] If no, this step is not a CCP.	CCP no.
1. Receiving	Meat material	B – bacterial pathogens and parasites	Refer to Form 6	No		
		C – chemical residues[4]	Refer to Form 6	No		
		P – metal objects	Refer to Form 6	No		
2. Unloading into bulk bins	Meat material	B – bacterial pathogens and parasites	Hazard carried over from the previous step	No		
		P – metal objects	Hazard carried over from the previous step	No		
3. Metal detection	Meat material	B – bacterial pathogens and parasites	Hazard carried over from the previous step	No		
		P – metal objects	Hazard carried over from the previous step	Yes – GOP. Metal detection will remove big pieces of metal (e.g. knives, hooks) but will not eliminate metal springs Refer to Supporting Sys. xx.	No	
4. Grinding (hogger)	Meat material	B – bacterial pathogens and parasites	Hazard carried over from the previous step	No		
		P – metal spring	Hazard carried over from the previous step	No		

Process step	Inputs	Hazard reasonably likely to occur on or in the product at this step	Justification	Q1. Is there a control measure(s) for the hazard at this step? If yes, identify the control measure and answer Q2 [2].	Q2. Is the control measure at this step essential to product safety as defined by a regulatory limit or an operator-defined limit? If yes, this step is a CCP [3] If no, this step is not a CCP.	CCP no.
5. Cooking	Ground meat material	B – bacterial pathogens and parasites	Hazard carried over from the previous step	Yes, heating at ≥ 90ºC for at least 10 min or equivalent thermal process[5] will eliminate vegetative pathogens	Yes	1
		P – metal spring fragments	Hazard carried over from the previous step	No		
6. Pressing	Cooked material	B – bacterial spores[6]	Bacterial spores will survive the cooking process	No[7]		
		P – metal spring fragments	Hazard carried over from the previous step	No		
7. Conveying	Press cake & solids from step 1b	B – bacterial spores	Hazard carried over from the previous step	No		
		B – bacterial pathogens	Contamination with pathogens from equipment, environment, birds etc. (e.g. *Salmonella*) can occur [8]	Yes – GOP. Cleaning and sanitation; Ventilation to prevent moist meal accumulation; and Vermin control will minimise contamination Refer to Supporting Sys. xx.	No	
		P – metal spring fragments	Hazard carried over from the previous step	No		
8. Drying	Press cake & solids from step 1b	B – bacterial spores	Hazard carried over from the previous step	No		
		P – metal spring fragments	Hazard carried over from the previous step	No		

Process step	Inputs	Hazard reasonably likely to occur on or in the product at this step	Justification	Q1. Is there a control measure(s) for the hazard at this step? If yes, identify the control measure and answer Q2 [2].	Q2. Is the control measure at this step essential to product safety as defined by a regulatory limit or an operator-defined limit? If yes, this step is a CCP [3] If no, this step is not a CCP.	CCP no.
9. Conveying	Dried meal	B – bacterial spores	Hazard carried over from the previous step	No		
		B – bacterial pathogens	Contamination with pathogens from equipment, environment, birds etc. (e.g. *Salmonella*) can occur [8]	Yes – GOP. Cleaning and sanitation; Ventilation to prevent moist meal accumulation; and Vermin control will minimise contamination Refer to Supporting Sys. xx.	No	
		P – metal spring fragments	Hazard carried over from the previous step	Yes – GOP. Magnets will remove some spring fragments but they will not be completely removed[7] Refer to Supporting Sys. xx.	No	
10. Milling	Dried meal	B – bacterial spores	Hazard carried over from the previous step	No		
		B – bacterial pathogens	Contamination with pathogens from equipment, environment, birds etc. (e.g. *Salmonella*) can occur [8]	Yes – GOP. Cleaning and sanitation; Ventilation to prevent moist meal accumulation; and Vermin control will minimise contamination Refer to Supporting Sys. xx.	No	

Process step	Inputs	Hazard reasonably likely to occur on or in the product at this step	Justification	Q1. Is there a control measure(s) for the hazard at this step? If yes, identify the control measure and answer Q2 [2].	Q2. Is the control measure at this step essential to product safety as defined by a regulatory limit or an operator-defined limit? If yes, this step is a CCP [3] If no, this step is not a CCP.	CCP no.
		P – metal spring fragments	Hazard carried over from the previous step	Yes – GOP. Magnets will remove some spring fragments but they will not be completely removed[8] Refer to Supporting Sys. xx.	No	
11. Screening	Dried meal	B – bacterial spores	Hazard carried over from the previous step	No		
		B – bacterial pathogens	Contamination with pathogens from equipment, environment, birds etc. (e.g. *Salmonella*) can occur [8]	Yes – GOP. Cleaning and sanitation; Ventilation to prevent moist meal accumulation; and Vermin control will minimise contamination Refer to Supporting Sys. xx.	No	
		P – metal spring fragments	Hazard carried over from the previous step	Yes – GOP. Magnets will remove some spring fragments but they will not be completely removed[8] Refer to Supporting Sys. xx.	No	
12. Bagging or conveying into bulk containers	Dried meal	B – bacterial spores	Hazard carried over from the previous step	No		
		B – bacterial pathogens	Contamination with pathogens from equipment, environment, birds etc. (e.g. *Salmonella*) can occur [8]	Yes – GOP Cleaning and sanitation; and vermin control will minimise contamination Refer to Supporting Sys. xx.	No	

Process step	Inputs	Hazard reasonably likely to occur on or in the product at this step	Justification	Q1. Is there a control measure(s) for the hazard at this step? If yes, identify the control measure and answer Q2 [2]. If no, this step is not a CCP.	Q2. Is the control measure at this step essential to product safety as defined by a regulatory limit or an operator-defined limit? If yes, this step is a CCP [3]	CCP no.
		P – metal spring fragments	Hazard carried over from the previous step	No		
	Bags / bulk containers	None				
13. Storage	Dried meal	B – bacterial spores	Hazard carried over from the previous step	No		
		B – bacterial pathogens	Potential for growth of microorganisms from isolated incidents of post-drying contamination in steps 9a to 11a[8]	Yes – GOP. Achieving a low moisture content at drying e.g. ≤ 10%, and correct storage conditions will prevent the growth microorganisms[7]	No	
		P – metal spring fragments	Hazard carried over from the previous step	No		
14. Loadout & dispatch	Dried meal	B – bacterial spores	Hazard carried over from the previous step	No		
		C – chemical residues[4]	Hazard carried over from the previous step	No		
		P – metal spring fragments[9]	Hazard carried over from the previous step	No		

1. Operators processing fish meal may base their Hazard Analysis and CCP Determination on the example given for the processing of meat & bone meal. Where the fish meal is produced from minimal risk raw material the Hazard Analysis and CCP Determination is likely to show that there are no CCPs for the process.

2. The procedures for the control measures must be documented in the RMP (e.g. in supporting systems or task instructions). The relevant supporting system should be referenced in this table.

3. A CCP is a step at which control can be applied and is essential to prevent or eliminate an animal feed safety hazard or reduce it to an acceptable level. The control measure at the step must be essential to animal feed safety as defined by the regulatory limit or an operator defined animal feed safety limit (i.e. no CCP if there is no defined limit). A critical limit, which is measurable and can be monitored on an ongoing basis, must be established for the CCP.

4. At present, there are no existing maximum residue limits for rendered animal products for animal consumption and there is insufficient information available on the impact of the rendering process on chemical residues to be able to carry out a complete hazard analysis on chemical residues. Therefore, chemical residues will not be considered at subsequent steps, except at the final step to reflect its presence in the final product.

5. In this example, the required thermal process is achieved at the cooking step. This requirement may also be achieved at other steps within the process such as at the drying step for meat and bone meal or the heating of tallow in the buffer tank.

6. Although heat treatments in rendering systems in New Zealand will kill vegetative forms of microorganisms like *Salmonella*, bacterial spores may survive (MIRINZ Bulletin No. 24). Any bacterial spores present in the dried meal will not grow at ≤ 10% moisture content.

7. Special care needs to be taken at the pressing step (D. Lowry, personal communication, 17 November 2008). Moisture released from the choke of the press may lead to a build-up of moist meal and the potential for growth of *Salmonella* at the earliest post cooking point in the process. The potential for this issue can be minimised by GOP, especially:
   - cleaning & sanitation;
   - ventilation to prevent moist meal accumulation; and
   - vermin control will minimize contamination.

8. *Salmonella* is the main pathogen of concern associated with meat and bone meal (ICMSF, 1998). Rendering yields products free of *Salmonella*, however, contamination can occur after cooking and drying. Contamination can occur in one of two ways (MIRINZ Bulletin No.24):

   a. one-off, which involves isolated accidental contamination incidents, for example from birds, boot scrapings, etc. Accidental, one-off contamination is almost never detected.

   b. endemic, which involves the presence of one or more sources of contamination within the process. These sources of contamination continually contaminate material passing through the system. These sources should be found and eliminated. The single most important factor causing endemic contamination is the presence of warm, moist meal at some point after the last heat treatment. Should *Salmonella* be accidentally introduced, it will grow in the moist meal. Effective drying and implementation of supporting systems (e.g. hygienic design and construction, cleaning and sanitation, pest control) will prevent or minimise endemic contamination. MIRINZ Bulletin No.24 provides guidance on solutions for common problem areas for endemic contamination.

A moisture content of ≤ 10% will inhibit the growth of any post-drying microbiological contaminants. Meals will therefore be stable, even if contaminated material such as scrapings from boots, bird droppings, or perhaps stray raw material has been accidentally introduced into the meal (MIRINZ Bulletin No.24). The *Salmonella* introduced are likely to survive in the meal, but they cannot grow unless the meal is moist.

9. There have been reported incidences of metal spring fragments from rumen capsules in meat and bone meal. Magnets minimise the amount of spring fragments from the product but do not completely eliminate this hazard. In this generic RMP the metal spring hazard have been identified as an uncontrolled hazard.

Form 7B: Hazard analysis and CCP determination (raw material, other inputs and process steps) for the processing of tallow [1]

Process step	Inputs	Hazard reasonably likely to occur on or in the product at this step	Justification	Q1. Is there a control measure(s) for the hazard at this step? If yes, identify the control measure and answer Q2 [2].	Q2. Is the control measure at this step essential to product safety as defined by a regulatory limit or an operator-defined limit? If yes, this step is a CCP [3]. If no, this step is not a CCP.	CCP no.
1. Decanting	Liquid (fat, water, solid fines) from step 6a	B – bacterial spores	Hazard carried over from step 6a	No		
		C – chemical residues[4]	Refer to Form 6	No		
2. Acidification / holding	Sulphuric acid	None	The sulphuric acid assists with effective separation of tallow and water. The acid remains in the aqueous phase and is discharged with the stickwater			
3. Separation	Tallow & acidified stickwater	B – bacterial spores	Hazard carried over from the previous step	No		
4. Pumping to bulk storage tanks or into drums	Tallow	B – bacterial spores	Hazard carried over from the previous step	No		
5. Storage	Tallow	B – bacterial spores	Hazard carried over from the previous step	No		
6. Loadout & dispatch	Tallow	B – bacterial spores[5]	Hazard carried over from the previous step	No		
		C – chemical residues[4]	Hazard carried over from the previous step	No		

1. Operators processing fish oil may base their Hazard Analysis and CCP Determination on the example given for the processing of tallow.

2. The procedures for the control measures must be documented in the RMP (e.g. in supporting systems or task instructions). The relevant supporting system should be referenced in this table.

3. A CCP is a step at which control can be applied and is essential to prevent or eliminate an animal feed safety hazard or reduce it to an acceptable level. The control measure at the step must be essential to animal feed safety as defined by the regulatory limit or an operator defined animal feed safety limit (i.e. no CCP if there is no defined limit). A critical limit, which is measurable and can be monitored on an ongoing basis, must be established for the CCP.

4. At present, there are no existing maximum residue limits for rendered animal products for animal consumption and there is insufficient information available on the impact of the rendering process on chemical residues to be able to carry out a complete hazard analysis on chemical residues. Therefore, chemical residues will not be considered at subsequent steps, except at the final step to reflect its presence in the final product.

5. All commercial rendering operations can be expected to yield tallow that contain bacterial spores (e.g. Clostridium spp.), the number of which will be largely determined by the initial number of spores in the raw material (Gill, 1988). Spores cannot grow in the dry fat, but may do so if it is mixed with moist materials in manufactured foods.

Form 7C: Hazard analysis and CCP determination (raw material, other inputs and process steps) for the manufacture of dried blood

Process step	Inputs	Hazard reasonably likely to occur on or in the product at this step	Justification	Q1. Is there a control measure(s) for the hazard at this step? If yes, identify the control measure and answer Q2 [1]. If no, this step is not a CCP.	Q2. Is the control measure at this step essential to product safety as defined by a regulatory limit or an operator-defined limit? If yes, this step is a CCP [2]. If no, this step is not a CCP.	CCP no.
1. Receiving	Blood	B – bacterial pathogens	Refer to Form 6	No		
2. Holding	Blood	B – bacterial pathogens	Hazard carried over from the previous step	No		
3. Coagulation	Blood	B – bacterial pathogens	Hazard carried over from the previous step	Yes, heating to specified temperatures during coagulation, holding and then drying in step 5c[3] will eliminate vegetative pathogens	Yes	2a
	Steam	None				
4. Decanting	Coagulated blood & water	B – bacterial pathogens	Hazard carried over from the previous step	No		
5. Drying	Coagulated blood	B – bacterial pathogens	Hazard carried over from the previous step	Yes, heating to specified temperatures during coagulation, holding and drying[3] will eliminate vegetative pathogens	Yes	2b
6. Milling	Dried blood	B – bacterial spores	Hazard carried over from the previous step	No		
		B – bacterial pathogens	Contamination with pathogens from equipment, environment, birds etc. (e.g. *Salmonella*) can occur[4]	Yes – GOP. Cleaning and sanitation; Ventilation to prevent moist dried blood accumulation; and Vermin control will minimise contamination Refer to Supporting Sys. xx.	No	

Process step	Inputs	Hazard reasonably likely to occur on or in the product at this step	Justification	Q1. Is there a control measure(s) for the hazard at this step? If yes, identify the control measure and answer Q2 [1]. If no, this step is not a CCP.	Q2. Is the control measure at this step essential to product safety as defined by a regulatory limit or an operator-defined limit? If yes, this step is a CCP [2]. If no, this step is not a CCP.	CCP no.
7. Conveying	Dried blood	B – bacterial spores	Hazard carried over from the previous step	No		
		B – bacterial pathogens	Contamination with pathogens from equipment, environment, birds etc. (e.g. *Salmonella*) can occur [4]	Yes – GOP. Cleaning and sanitation; Ventilation to prevent moist dried blood accumulation; and Vermin control will minimise contamination Refer to Supporting Sys. xx.	No	
8. Screening	Dried blood	B – bacterial spores	Hazard carried over from the previous step	No		
		B – bacterial pathogens	Contamination with pathogens from equipment, environment, birds etc. (e.g. *Salmonella*) can occur [4]	Yes – GOP Cleaning and sanitation; Ventilation to prevent moist dried blood accumulation; and Vermin control will minimise contamination Refer to Supporting Sys. xx.	No	
9. Bagging	Dried blood	B – bacterial spores	Hazard carried over from the previous step	No		
		B – bacterial pathogens	Contamination with pathogens from equipment, environment, birds etc. (e.g. *Salmonella*) can occur [4]	Yes – GOP, cleaning and sanitation; and vermin control will minimise contamination Refer to Supporting Sys. xx.	No	
	Bags	None				

Process step	Inputs	Hazard reasonably likely to occur on or in the product at this step	Justification	Q1. Is there a control measure(s) for the hazard at this step? If yes, identify the control measure and answer Q2 [1]. If no, this step is not a CCP.	Q2. Is the control measure at this step essential to product safety as defined by a regulatory limit or an operator-defined limit? If yes, this step is a CCP [2]. If no, this step is not a CCP.	CCP no.
10. Storage	Dried blood	B – bacterial spores	Hazard carried over from the previous step	No		
		B – bacterial pathogens	Contamination with pathogens from equipment, environment, birds etc. (e.g. *Salmonella*) can occur [4]	Yes – GOP, cleaning and sanitation; and vermin control will minimise contamination Refer to Supporting Sys. xx.	No	
11. Loadout & dispatch	Dried blood	B – bacterial spores	Hazard carried over from the previous step [5]	No		
		B – bacterial pathogens	Hazard carried over from the previous step	No		

1. The procedures for the control measures must be documented in the RMP (e.g. in supporting systems or task instructions). The relevant supporting system should be referenced in this table.

2. A CCP is a step at which control can be applied and is essential to prevent or eliminate an animal feed safety hazard or reduce it to an acceptable level. The control measure at the step must be essential to animal feed safety as defined by the regulatory limit or an operator defined animal feed safety limit (i.e. no CCP if there is no defined limit). A critical limit, which is measurable and can be monitored on an ongoing basis, must be established for the CCP.

3. In this example, the required thermal process is achieved by complying with the heating parameters for the coagulation, holding and drying of blood meal given in Part 2 of the Code of Practice. This will result in the elimination of vegetative forms of micro-organisms in the product. Individual premises may use different process parameters (e.g. time, temperature, pressure) provided that these parameters are validated as capable of eliminating vegetative forms of micro-organisms.

4. Effective drying and implementation of supporting systems (e.g. hygienic design and construction, cleaning and sanitation, pest control) will prevent or minimise endemic contamination.

5. Any bacterial spores present in the dried blood will not grow at ≤ 10% moisture content.

Form 8: Summary table for CCPs

This form only provides a summary of the CCPs and related procedures.

The procedures relating to monitoring, corrective actions and verification for each CCP must be fully documented (consider who, what, when, how) in the RMP. The documented procedures should be referenced in this summary table, where appropriate.

Process step	**Hazard**	**CCP no.**	**Critical limits**	**Monitoring procedures** **(consider who, what, when and how)**	**Corrective actions** **(consider who, what, when and how)**	**Verification procedures** **(consider who, what, when and how)**	**RMP records**
Meat and bone meal, tallow							
5. Cooking	B – bacterial pathogens	1	≥ 90ºC for ≥ 10 min.	Automatic recording of thermal process parameters Supervisor to check readings at a predetermined frequency	Supervisor to adjust cooker settings immediately Production Manager to determine disposition of the product (e.g. re-cook or reheat tallow, downgrade for industrial use) Production Manager to review records, investigate problem, and take steps to prevent reoccurrence	Validation of the cooking process Calibration of measuring devices Internal audit External audit (e.g. regulator, client)	Validation record Daily CCP monitoring worksheet Corrective action report Calibration record Internal audit report External audit report

	Hazard	CCP no.	Critical limits	Monitoring procedures (consider who, what, when and how)	Corrective actions (consider who, what, when and how)	Verification procedures (consider who, what, when and how)	RMP records
Dried blood							
3. Coagulation & 5. Drying	B – bacterial pathogens	2a & 2b	1. - Heating to 88-92ºC for 5-10 sec or longer; and - During any dwell time before drying, but not exceeding 35 minutes, the holding of coagulated blood at 60-65ºC or hotter; and - Feeding of coagulated blood into the drier where the combustion temperature is not less than 350ºC and the exit air temperature is not less than 90ºC. or 2. ≥ 90ºC for ≥ 10 min.	Automatic recording of drying process parameters Supervisor to check readings at a predetermined frequency	Supervisor to adjust machine settings immediately Production Manager to determine disposition of the product (e.g. reprocess, downgrade for fertiliser use) Production Manager to review records, investigate problem, and take steps to prevent reoccurrence	Validation of the drying process Calibration of measuring devices Internal audit External audit (e.g. regulator, client)	Validation record Daily CCP monitoring worksheet Corrective action report Calibration record Internal audit report External audit report

2.9 Identification and control of risks to wholesomeness

The RMP must identify the risk factors related to wholesomeness that are reasonably likely to occur for each animal product covered by the RMP. It must also identify the control measures for addressing the risk factors. The control measures must be documented, including procedures for monitoring, corrective action and verification, and records. Only examples for meat & bone meal, fish meal, tallow, fish oil and dried blood are shown in Form 9.

Form 9: Summary of identified risk factors and controls related to wholesomeness

Risk factor	Source or cause of risk factor	Control measure
Meat & bone meal, fish meal		
Spoilage	Mould due to high moisture content	GOP – drying, correct storage conditions etc. Refer to Supporting Sys. xx.
Insects and insect parts	Inadequate pest control	GOP – pest control etc. Refer to Supporting Sys. xx.
Tallow, fish oil		
Spoilage / oxidation	Fermentation due to high moisture content and/or high protein content	GOP – hygienic processing procedures, addition of antioxidants Refer to Supporting Sys. xx.
Protein sediments	Poor separation	GOP – hygienic processing procedures Refer to Supporting Sys. xx.
Dried blood		
Spoilage	Mould due to high moisture content	GOP – hygienic processing procedures Refer to Supporting Sys. xx.
Insects and insect parts	Inadequate pest control	GOP – pest control etc. Refer to Supporting Sys. xx.

2.10 Identification and control of risks from false or misleading labelling

Any information applied to the packaging must be correct and accurate. The RMP must identify the risk factors related to false or misleading labelling that are reasonably likely to occur for each animal product. It must also identify the control measures for addressing the risk factors. The control measures must be documented, including procedures for monitoring, corrective action and verification, and records. Only examples for meat & bone meal, fish meal, tallow, fish oil, and dried blood are shown in Form 10.

Form 10: Summary of identified risk factors and controls related to false or misleading labelling

Risk factor	Source or cause of risk factor	Control measure(s)
Packaged products		
Incorrect details on label or transportation outers, e.g. • product description • lot id • species • Biosecurity (Ruminant Protein) Regulations 1999 labelling requirements • storage directions	Incorrect label / packaging design	Procedures for ensuring correct label/packaging design Refer to Supporting Sys. xx
	Product put in wrong packaging	Procedures for ensuring correct packaging of products Refer to Supporting Sys. xx.
Bulk products		
[Where product can not be practicably be labelled] Incorrect details on accompanying documentation, e.g. • product description • lot id • species • Biosecurity (Ruminant Protein) Regulations 1999 labelling requirements • storage directions	Product put in wrong bulk transportation unit	Procedures for ensuring correct load out of products Refer to Supporting Sys. xx.

2.11 Operator verification

The operator must verify the effectiveness of their RMP against their documented procedures and any criteria defining the product's fitness for intended purpose (e.g. regulatory limit, operator-defined limits, GOP requirements, and critical limits). The verification procedures must be documented, including responsibilities, corrective action, frequencies, and records. The various verification activities may be summarised as shown in Form 11.

Form 11: Summary of operator verification activities

Activity	Description	Supporting System
Review of monitoring and corrective action records	All daily monitoring sheets checked to ensure that documented procedures are complied with, limits are adhered to, and appropriate corrective actions are taken	xxx
Microbiological testing of products / environment	Testing product for *Salmonella*	xxx
Moisture content testing	Testing product for moisture content	xxx
Calibration status of measuring devices	Checks to ensure measuring devices are calibrated	xxx
Internal audits	Internal audit involving: • review of records; • review of test results; • reality checks	xxx
Review of RMP including supporting systems	Review of effectiveness of RMP Reassessment of RMP (e.g. new hazards, changes in inputs, process steps, critical limits)	xxx
Other activities related to the verification of CCPs, regulatory limits, operator-defined limits, and supporting systems		

3 References

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Gill, C.O. (1988) Chapter 3: Microbiology of edible meat by-products. *In* Edible Meat By-Products. Advances in Meat Research. Vol.5. ed. Pearson, A.M. & Dutson, T.R. Elsevier Applied Science, London.

ICMSF (1998) Chapter 4: Feeds and pet foods. *I*n Microorganisms in Food 6. International Commission on Microbiological Specifications for Foods of the International Union of Biological Sciences. Blackie Academic & Professional, London.

MIRINZ Bulletin No.24 (1994) Rendering, *Salmonella* and meal sterilization. Meat Industry Research Institute of New Zealand, Hamilton.

Code of Practice:

Rendering

Part 3: HACCP Application, and the Identification of Other Risk Factors and their Controls

Prelims

Amendment 0

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Table of Contents

IMPORTANT DISCLAIMER

Every effort has been made to ensure the information in this report is accurate.

NZFSA does not accept any responsibility or liability whatsoever for any error of fact, omission, interpretation or opinion that may be present, however it may have occurred.

Website

A copy of this document can be found at: http://www.nzfsa.govt.nz/animalproducts/index.htm

Review of Code of Practice

This code of practice will be reviewed, as necessary, by the NZFSA. Suggestions for alterations, deletions or additions to this code of practice, should be sent, together with reasons for the change, any relevant data and contact details of the person making the suggestion, to:

Assistant Director (Production and Processing)
Standards Group
New Zealand Food Safety Authority
P O Box 2835
Wellington
Telephone: 04 894 2500

Amendment Record

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To update this publication when you receive an amendment, remove the appropriate outdated pages, destroy them, and replace them with the pages from the new issue. Complete instructions will be given on the covering letter accompanying the amendment. File the covering letter at the back of the publication and sign off and date this page.

If you have any queries, please ask your local verifier.

Amendment No.	Date	Initials	Amendment No.	Date	Initials
1			4		
2			5		
3			6		

1 Introduction

Amendment 0

September 2009

1.1 Purpose of this document

Part 3 of this Code of Practice (COP) has been developed by the New Zealand Food Safety Authority (NZFSA), in consultation with industry, to provide guidance on the application of Hazard Analysis and Critical Control Point (HACCP) principles to rendering operations. It also covers the identification and control of risk factors related to the wholesomeness and labelling of products.

1.2 HACCP

HACCP is a systematic and science-based control system for assuring the safety of animal product. It is achieved by identifying and assessing hazards, and developing controls for them. HACCP focuses on preventative measures and avoids reliance on the traditional approach of endpoint product testing as a means of controlling the safety of animal product. It is internationally recognised as the foremost means of assuring food safety.

Operators must apply HACCP principles to their process when developing their risk management programme (RMP).

1.3 Definitions

The following definitions used in this document have been derived from the Codex HACCP guidelines.

Control (verb): To take all necessary actions to ensure and maintain compliance with criteria established in the HACCP plan.

Control (noun): The state wherein correct procedures are being followed and criteria are being met.

Control measure: Any action and activity that can be used to prevent or eliminate a food safety hazard or reduce it to an acceptable level.

Corrective action: Any action to be taken when the results of monitoring at the CCP indicate a loss of control.

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.

Deviation: Failure to meet a critical limit.

Flow diagram: A systematic representation of the sequence of steps or operations used in the production or manufacture of a particular food item.

HACCP: A system which identifies, evaluates, and controls hazards which are significant for food safety.

HACCP plan: A document prepared in accordance with the principles of HACCP to ensure control of hazards which are significant for food safety in the segment of the food chain under consideration.

Hazard: A biological, chemical or physical agent in, or condition of, food with the potential to cause an adverse health effect.

Hazard analysis: The process of collecting and evaluating information on hazards and conditions leading to their presence to decide which are significant for food safety and therefore should be addressed in the HACCP plan.

Monitor: The act of conducting a planned sequence of observations or measurements of control parameters to assess whether a CCP is under control.

Step: A point, procedure, operation or stage in the food chain including raw materials, from primary production to final consumption.

Validation: Obtaining evidence that the elements of the HACCP plan are effective.

Verification: The application of methods, procedures, tests and other evaluations, in addition to monitoring to determine compliance with the HACCP plan.

2 Hazards and their sources

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2.1 Hazard

A hazard is a biological, chemical or physical agent in, or condition of, animal product with the potential to cause an adverse health effect.

- Biological hazards include micro-organisms (e.g. *Salmonella* spp., *E.coli* 0157:H7) and parasites (e.g. *Toxoplasma gondii)*.

  Micro-organisms that are non-pathogenic are not considered as hazards. For example, spoilage organisms that cause loss of quality in products but will not cause animal illness.

- Chemical hazards include heavy metals, pesticides and veterinary medicines. Some feed additives may also be hazardous if present in excessive or toxic amounts (e.g. nitrite).

- Physical hazards are foreign objects that may cause illness or injury. Examples of these hazards are glass and metal fragments.

2.2 Sources of hazards

The main sources of hazards are:

- inputs (e.g. raw material, additives, packaging);

- the process itself; and

- direct or indirect contamination from personnel and environmental sources (e.g. water, pests, wastes, equipment, internal and external environs).

The operator must ensure that identified hazards from these sources are adequately addressed in the RMP by control measures under Good Operating Practice (i.e. supporting systems) or at Critical Control Points.

3 Good Operating Practice

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Good Operating Practice (GOP) is the foundation for HACCP and RMPs. It covers the practices and procedures designed to ensure the consistent production of products that are safe and suitable for their intended purpose, and that meet relevant regulatory requirements. It includes several interacting components - good hygienic practices, effective processing operations and effective quality assurance systems.

The operator's GOP procedures should be documented in supporting systems (also known as prerequisite programmes) before the application of HACCP. The HACCP approach used in this document is based on the expectation that these supporting systems are effectively being implemented. The GOP supporting systems for rendering operations are covered in Part 2 of the COP.

4 Application of HACCP principles

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4.1 HACCP principles

The essential steps for the application of HACCP consist of:

- the establishment of the scope, the product description and intended purpose, and the process description; and
- the application of the seven HACCP principles.

The HACCP principles, as defined by Codex are:

1. Conduct a hazard analysis;
2. Determine the Critical Control Points (CCP);
3. Establish critical limits;
4. Establish a system to monitor control of the CCP;
5. Establish the corrective action to be taken when monitoring indicates that a particular CCP is not under control;
6. Establish procedures for verification to confirm that the HACCP system is working effectively;
7. Establish documentation concerning all procedures and records appropriate to these principles and their application.

The operator is required to apply these HACCP principles to the process, considering all inputs and process steps. The application must be documented, and supported using information such as historical company records, technical publications or information provided by the regulator. The person or people involved in this activity must have the appropriate knowledge and skills regarding HACCP, the product and the process.

The operator must reassess their HACCP application whenever changes in the product, process and/or premises are made.

Each of the HACCP principles is discussed in the following sections. An example of the step-by-step application of the HACCP principles for rendering is given in the Generic RMP Model.

4.2 Scope

The scope defines the accepted boundaries of the HACCP application. The scope should identify the product(s), and the start and endpoint of the process covered by the HACCP application.

4.3 Product description and intended purpose

The operator must give a full description of the product or products groups. When there are multiple products, they should be categorised into groups of products with similar characteristics, processing steps and/or intended use, in order to simplify the HACCP application.

The description should include the following information:

- product name(s);
- intended use of the product(s);
- intended consumer;
- any relevant regulatory limits;
- any operator-defined limit; and
- other product details (e.g. packaging specifications, shelf-life and storage requirements; labelling requirements).

This information will provide a profile of the product(s), which is necessary for setting criteria that make an important contribution to the safety of the product (e.g. operator-defined limit), and hazard identification and analysis.

Intended use and consumer

The intended use should be based on the expected uses of the product by the end user or consumer. In some cases, it may also be important to identify whether the product is intended for any specific consumer group, particularly vulnerable groups of the population.

Regulatory requirements

Regulatory requirements are mandatory requirements under the Animal Products Act and can be found in the Act, Regulations and Specifications and relate to the management of food safety and suitability. These can be non-measurable (e.g. requirements for premises, personnel hygiene), which are largely addressed under Good Operating Practice, or measurable.

Regulatory limit

A regulatory limit is a measurable regulatory requirement that is critical to fitness for intended purpose of animal material or animal product. They are set by the regulator, and may be based on quantitative risk assessments or on best available science. **At present no regulatory limit has been established for any rendered product.**

Operator-defined limit

An operator-defined limit is a measurable limit that an operator has established to manage the fitness for purpose of animal material or animal product. Examples of operator-defined limits are:

- intrinsic parameters of the final product (e.g. moisture content of meat & bone meal);
- microbiological criteria related to the safe consumption of the product (where regulatory limits are not yet established);
- levels of chemical hazards (e.g. maximum residue limits for certain chemicals);
- levels of physical hazards (e.g. limit for metal fragments in meat & bone meal); and
- parameters related to wholesomeness (e.g. level of defects, indicators of spoilage).

The operator should first check relevant legislation for any regulatory requirements that are appropriate for their specific product(s) and the hazard(s) of concern. When no regulatory limit has been specified and if necessary for the safe consumption of the product, the operator should define their own operator-defined limit. For example, NZFSA has not established a moisture content limit for meat & bone meal, but since this is an important characteristic related to the stability and suitability of the product, it is expected that the operator will define an appropriate moisture content limit for the product.

The operator must have evidence to show that the operator-defined limit they have set is appropriate to the product considering its intended use and consumer. The types of evidence which could be used include:

- published information from approved codes of practice, guidelines produced by government and reputable industry organisations;
- peer-reviewed scientific information;
- outcomes of validated predictive models;
- scientific information from a person or organisation known to be competent; and/or
- data from the company's monitoring and verification programmes, trials and experiments.

Operator-defined limits may be achieved by GOP or CCPs. For raw products, which have not undergone any lethal processing treatment (e.g. cooking), any identified operator-defined limits are likely to be achieved by applying controls under GOP. For further processed products any identified operator-defined limit that is essential for the safety of the product should be considered at CCP determination and may result in a CCP.

4.4 Process description

An accurate description of the process is necessary to be able to do a proper hazard analysis. The simplest way to describe the process is to develop one or more process flow diagrams showing all inputs, process steps, and outputs. These diagrams provide a basis for a systematic (i.e. step-by-step) hazard analysis.

The main steps in the process should be shown, including any rework or recycling of materials. Inputs should include all raw materials, additives and other ingredients, and packaging that will form part of the end product.

The process flow diagram should be confirmed by a person or persons with sufficient knowledge of the operation to ensure that it is accurate and reflects what is actually happening.

4.5 Hazard analysis

4.5.1 Hazard identification

Hazards that are “reasonably likely to occur” should be considered in hazard identification. Reasonably likely to occur means that:

- the particular hazard is known to occur in the particular animal material or product based on scientific reports, industry or company results, codes of practice, and information from the NZFSA; and
- the hazard is known to occur in New Zealand (care should be taken when considering overseas information).

Hazards should be identified to the level necessary to enable identification of specific controls for the particular hazard/product combination.

For certain hazard/product combinations, it may be acceptable to identify hazards as a group based on their common characteristics, source and/or control.

Vague descriptions of hazards should be avoided. For example, “foreign objects in meat & bone meal” could mean metal, glass, or plastic. These objects should be identified specifically as they are from different sources, have different characteristics, and would have different control measures.

4.5.2 Identification of hazards from inputs

The operator should identify the hazards that are reasonably likely to occur in each input, considering any supplier assurances, agreed specifications and supplier performance.

In most cases, the best option for the operator is to require that the supplier controls the hazard to acceptable levels in incoming raw materials and ingredients. This may be addressed under a supplier quality assurance programme which may include; having agreed material specifications, provision of certificates of analysis, conducting supplier audits, and testing of incoming materials.

4.5.3 Identification of hazards at the process steps

The operator should identify the hazards that are introduced or transferred to the product as a consequence of applying the process step itself. The potential impact of the process step on any existing hazard (e.g. microbiological growth, toxin formation) should also be considered during hazard analysis. Hazard analysis should be done for each step.

4.5.4 Identification of control measures

The operator should identify any control measures for each identified hazard.

A control measure is any action or activity that is applied to:

- control the initial levels of hazards (e.g. supplier assurances, testing and rejection of unacceptable ingredients);
- prevent an unacceptable increase of the hazard (e.g. hygienic processing techniques); and
- reduce or eliminate the level of the hazard (e.g. thermal processing, use of antimicrobial agents).

Most control measures are likely to be covered by GOP.

If control measures do not exist or are inadequate, the operator should consider the need for redesign of the process, the implementation of new control measures or leaving the hazard as uncontrolled (if appropriate).

4.6 CCP determination

A critical control point (CCP) is a step at which control can be applied and is essential for the safety of the product as defined by a regulatory limit or an operator-defined limit. The operator should determine whether there are any CCPs for the process.

Some points to consider when determining if control at the particular step is essential include: the degree of hazard control that is achieved at the step; likelihood of failure; consequence of control failure considering the intended use and consumer (i.e. risk to health). Generally, essential steps are those that are specifically designed to eliminate or reduce the hazard to an acceptable level.

The operator should use a systematic approach to hazard analysis and CCP determination for each process covered by the RMP. This must be documented, and any decisions made must be justified using information such as historical company records, technical publications, codes of practice or information provided by the NZFSA.

CCP determination can be facilitated by the use of a decision tree (e.g. Codex decision tree) or a table that provides a series of questions to guide the user through the decision-making process. The table currently used in the Generic RMP Model is a combined hazard analysis and CCP determination table that has been developed to suit the needs of the industries under the Animal Products Act. A template of this hazard analysis and CCP determination table is shown in Table 1.

When a CCP is identified, the remaining HACCP principles must be applied. When there are no CCPs identified, the other principles related to CCPs (i.e. critical limits, monitoring and corrective action) are not required, however, verification, documentation and record-keeping still need to be applied as part of GOP.

Table 1: Hazard analysis and CCP determination template

Process step	**Inputs**	**Hazard reasonably likely to occur on or in the product at this step**	**Justification**	**Q1. Is there a control measure(s) for the hazard at this step?** **If yes, identify the control measure and answer Q2.**	**Q2. Is the control measure at this step essential to product safety as defined by a regulatory limit or an operator-defined limit?** If yes, this step is a CCP. **If no, this step is not a CCP.**	**CCP no.**

To clarify the use of Table 1, the meaning of each column is explained. The operator should go through the series of questions for each step in the process. The hazard analysis must show any hazard that is uncontrolled at the end of the process. The Generic RMP Model shows how this table can be used for rendering operations.

Column 1 - Process step

Each process step should be written in column 1 in the order shown in the process flow diagram.

Column 2 – Inputs

All inputs at the particular step should be indicated in column 2. This should align with the process flow diagram.

Column 3 – Hazard identification

The hazards reasonably likely to occur at each process step should be identified considering:

- hazards introduced by inputs at that step;
- hazards introduced or transferred as a consequence of applying the process step itself (e.g. metal from pre-breakers);
- hazards carried over in the product from the previous step; and
- adverse impact of process step on existing hazards (e.g. growth of micro-organisms).

Column 4 – Justification

A brief justification for the hazard identified in the previous column should be given in column 4. Justification may be based on company experience and records, scientific literature, surveys, industry reports, Codes of Practice, generic RMP models and other guidance documents provided by the NZFSA.

Column 5 – Question 1: Identification of control measures

Question 1 requires the operator to identify any control measure for the identified hazard(s). Procedures for the control measure(s) must be documented in a supporting system of the RMP. The reference document title or number of the particular supporting system should also be cited.

Any hazard that is not completely eliminated at a step should be considered at the next step to ensure that the impact of succeeding steps on the existing hazard is considered during the analysis. In particular, bacterial pathogens should be carried over to succeeding steps since there is potential for their growth.

Hazards that are unlikely to be adversely affected by succeeding steps in the process (i.e. will not grow or increase), such as chemical residues and parasites, do not need to be carried over each succeeding step in the hazard analysis table to reduce repetition. However, the hazard must be reintroduced at the step where it is controlled or, if the hazard is considered to be uncontrolled, it must be shown at the last step of the process.

If a control measure for an identified hazard does not exist in the process or is inadequate, the operator should consider process redesign, the implementation of new control measures or leaving the hazard as uncontrolled (if appropriate).

Column 6 - Question 2: CCP determination

The operator will need to decide whether or not the step is a CCP by determining if control at that step is essential, by itself or in combination with other steps, to achieve any regulatory limit or operator-defined limit related to the safety of the product.

Points to consider when determining if control at the particular step is essential include:

- the degree of hazard control that is achieved at the step;
- likelihood of failure;
- consequence of control failure (i.e. risk to health) considering the intended use and consumer.

4.7 Establish critical limits

Critical limit means a criterion which separates acceptability from unacceptability at a critical control point. The operator must define and justify critical limit(s) for each CCP. In some cases, more than one critical limit may be needed at a particular step. Parameters often used include temperature, time and moisture level.

Critical limits must be measurable and should be linked to the achievement of a regulatory limit or operator-defined limit related to safety of the product. They should be appropriate to the specific operation and product. They should be parameters that can be monitored on an on-going basis to ensure consistent effectiveness of the particular process step to achieve a specified level of control.

The operator should document:

- the parameters that are to be checked;
- the limit for each parameter; and
- justification for each limit.

4.8 Establish CCP monitoring

Monitoring is the scheduled measurement or observation of a CCP relative to its critical limits. The operator must document monitoring procedures for each critical limit. The monitoring procedures must be able to detect loss of control at the CCP quickly to allow immediate corrective actions to be taken.

Monitoring procedures should include the:

- person responsible for monitoring;
- monitoring method;
- monitoring frequency and sampling regime; and
- records to be kept.

The monitoring frequency selected must ensure adequate and consistent control. Monitoring may be continuous or be based on a statistical sampling plan. Other factors to consider for determining monitoring frequency include: the nature of the product, the likelihood of failing the limits, the cost of monitoring, the consequence of failure (including risk to animal health), the corrective actions expected (especially with respect to product disposition), and other relevant matters.

4.9 Establish corrective action

The operator must document corrective action procedures to be implemented when a critical limit is not met. Corrective action procedures should include the following information:

- person responsible for taking corrective action;
- procedures for restoration of control;
- procedures for control and disposition of non-conforming product, including checking of product back to the last acceptable result, where possible;
- action to prevent the problem from happening again;
- escalating response if preventative action fails; and
- records to be kept.

4.10 Establish verification procedures

The operator must establish and document operator verification procedures to ensure that the HACCP system continues to work effectively. The frequency of verification should be sufficient to confirm this.

Whenever possible, verification should be carried out by someone other than the person who is responsible for performing the monitoring and corrective actions.

Examples of verification activities include:

- review of the HACCP system and its records;
- review of deviations and product dispositions; and
- confirmation that CCPs are kept under control.

The verification procedures should include the following information:

- person responsible for operator verification;
- frequency or schedule for operator verification activities;
- verification methods and procedures;
- follow-up action to be taken if non-compliance occurs; and
- records to be kept.

4.11 Establish documentation and records

The operator must document all matters relating to the application of HACCP to the operation. Documentation and record keeping should be appropriate to the nature of the size of the operation and sufficient to assist the business to verify that the HACCP controls are in place and being maintained.

Examples of record that are expected to be generated when implementing HACCP are:

- CCP monitoring observations;
- deviations to critical limits and associated corrective actions;
- results of verification procedures; and
- modifications to the HACCP application.

4.12 Confirming the application of HACCP

The operator should check the application of HACCP after completing the initial hazard analysis and CCP determination. The following points should be considered:

- Are the operator-defined limits appropriate and achievable or are new ones needed?
- Are the identified CCPs essential to complying with the regulatory limit(s) or operator-defined limit(s)?
- Are the critical limits appropriate and achievable? Can the critical limits be monitored effectively?
- Are all the identified hazards adequately controlled by GOP and/or a CCP(s), or by controls outside the HACCP plan (e.g. regulated control scheme)? If not, does the process need to be modified or are additional control measures needed?
- Are there any uncontrolled hazards? If so, is it required by legislation to be controlled to a specified level? Does the operator need to consider redesigning the process/product? Does the operator need to inform the further processor or consumer about the uncontrolled hazard so that safety of the product can be assured prior to consumption of the product (e.g. by providing feedback to suppliers; or product specifications to customers / consumers).

5 Identification and control of risk factors related to wholesomeness and labelling of products

Amendment 0

September 2009

5.1 Identification and control

The operator must identify any risk factor, that is reasonably likely to occur, that could:

- negatively affect the wholesomeness of the product: and/or
- lead to false or misleading labelling of the product.

Identification of risk factors should be done systematically for each step of the process, for each animal product or group of products. It should be based on:

- guidance given in other parts of this COP;
- operator knowledge / experience of their product and process (including a review of internal records and reports); and
- customer (e.g. processor, distributor, retailer) and consumer complaints.

Procedures for controlling any identified risk factors must be established and documented by the operator. These procedures may be documented in process control procedures or in supporting systems.

The process of identification and control of these risk factors does not require the application of HACCP principles.

5.2 Wholesomeness

A wholesome risk factor is a condition of the product that is offensive; or anything that could be contained or in contact with a product, that is offensive, or whose presence would be unexpected or unusual in product of that description. Examples of wholesomeness risk factors relevant to rendered products are:

- foreign objects that are not physical hazards; and
- oxidation of fish oil; and
- spoilage of fish meal and meat & bone meal.

Section 2.9 of the Generic RMP Model gives examples of risk factors and controls related to wholesomeness.

5.3 Labelling

Animal products intended for animal consumption that are produced for the New Zealand market must meet all relevant legislative requirements related to labelling including:

- The Animal Product Regulations 2000, regulations 8 and 19;
- Part 3 of the current Animal Products (Specifications for Products For Animal Consumption) Notice;
- Agricultural Compounds and Veterinary Medicines Regulations 2001.

A labelling risk factor is anything that could cause false or misleading labelling of a product. Examples of labelling risk factors are:

- wrong information in labels (e.g. ingredient list);
- wrong labels attached onto packs;
- wrong products packed in pre-labelled packaging; and
- printers not properly set.

When identifying risk factors, consideration should be given to the type and intended use of the product, the intended consumer, specific consumer groups and requirements for authenticating certain claims.

Those operators who export their products will also need to consider the labelling requirements of the relevant market. These requirements may be additional to those needed in the RMP.

Section 2.10 of the Generic RMP Model gives examples of risk factors and controls related to false or misleading labelling.