

Safe Food Australia

2nd Edition, January 2001

A Guide to the Food Safety Standards

Chapter 3 of the Australia New Zealand
Food Standards Code (applies to Australia only)



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Chapter 3 of the Australia New Zealand Food Standards Code (Australia only)

Standard 3.1.1 *Interpretation and Application*

Standard 3.2.2 *Food Safety Practices and General Requirements*

Standard 3.2.3 *Food Premises and Equipment*

Second Edition, January 2001

Note: The standards listed above are mandatory standards in the States and Territories of Australia. They will become enforceable from 24 February 2001.

Standard 3.2.1 *Food Safety Programs* is a voluntary standard. Where a State or Territory decides to implement a requirement for food safety programs it must use this standard. Standard 3.2.1 is not included in this guide.

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Status of the guide

This guide has been developed by the Australia New Zealand Food Authority in accordance with section 7(c) of the *Australia New Zealand Food Authority Act 1991*. The guidance provided in this document is not legally binding.

The guide has been prepared to assist with the interpretation of three of the food safety standards in Chapter 3 of the *Australia New Zealand Food Standards Code*. These standards apply only in Australia. They are:

3.1.1 *Interpretation and Application*

3.2.2 *Food Safety Practices and General Requirements*

3.2.3 *Food Premises and Equipment*

A copy of each of these three standards has been included in the relevant section of this guide.

The voluntary standard, Standard 3.2.1 *Food Safety Programs*, is not included in this guide. A guide to the interpretation of Standard 3.2.1 will be developed separately.

This guide is intended primarily for use by government agencies responsible for the enforcement of the food safety standards. If there is uncertainty about what is meant by a requirement within the food safety standards, reference can be made to the explanation in this guide for clarification.

This guide will be reviewed and amended as necessary. Readers are invited to provide feedback to the Food Safety Program of ANZFA if they have suggestions that would improve the guide or believe additional explanation should be included in the guide.

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The Authority disclaims any liability for any loss or injury directly or indirectly sustained by any person as a result of reliance upon this guide. Food businesses should seek independent legal advice in relation to any queries they may have regarding the legal obligations imposed upon them under the food safety standards.

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Introduction

There are four national food safety standards. The Australia New Zealand Food Authority (ANZFA) developed these standards in consultation with State and Territory health authorities, the food industry, and other interested organisations and individuals.

The four food safety standards are:

- 3.1.1 *Interpretation and Application*;
- 3.2.1 *Food Safety Programs*;
- 3.2.2 *Food Safety Practices and General Requirements*; and
- 3.2.3 *Food Premises and Equipment*.

In July 2000, the Australia New Zealand Food Standards Council¹ agreed to the adoption of Standards 3.1.1, 3.2.2 and 3.2.3. These food safety standards form part of the *Australia New Zealand Food Standards Code*. They apply only in Australia.

The Australia New Zealand Food Standards Council had previously deferred consideration of the fourth standard, Standard 3.2.1 *Food Safety Programs*, and requested further study of the efficacy and costs of these programs for a range of food businesses. Pending the results of this work, the Council agreed in November 2000 that Standard 3.2.1 should be adopted as a voluntary standard. It did so as some States planned to proceed with the introduction of food safety programs without waiting for the results of the study requested earlier by the Australia New Zealand Food Standards Council.

As a voluntary standard, Standard 3.2.1 *Food Safety Programs* will apply in only those States or Territories that choose to implement this standard.

Standards 3.1.1, 3.2.2 and 3.2.3 become enforceable from February 2001, depending on the regulatory situation in each State and Territory. The notification provision and the requirement that food handlers and supervisors have food safety skills and knowledge commensurate with their duties within the food business, both in Standard 3.2.2, come into effect from February 2002 to give businesses time to comply with these requirements.

The food safety standards will replace existing State and Territory and local government food hygiene regulations that were nationally inconsistent and that tended to be prescriptive and sometimes significantly out of date. They presented businesses with unnecessary costs and difficulties. In addition, they included requirements that could not be justified in terms of public health and safety.

The new standards reflect international best practice. Taken together, they are based on a preventative approach to the incidence of food-borne illness in Australia and are designed to help ensure that food businesses in Australia produce food that is safe to eat.

1 Ministers of Health from the States, Territories and Commonwealth of Australia and from New Zealand meet as the Australia New Zealand Food Standards Council to approve food standards for Australia and New Zealand.

Using the guide

- The text of each standard is in the coloured pages preceding the interpretative comment on that standard.
- Definitions are included in each standard and explained at the start of each interpretative section. An alphabetical listing of all definitions is included in the Glossary following the Appendixes.
- The intended outcome for each clause of the standards is set out in the lightly shaded area that precedes the explanation for that clause.
- The text of the standards is included in bold sanserif type throughout the interpretative sections of the guide. The clause, subclause and paragraph numbering and lettering are the same as those in the standards.
- The intent behind every requirement in the food safety standards is explained.
- Examples are set out in shaded boxes throughout the text. These examples serve to illustrate the requirements.
- The guide does not specify ways in which food businesses can comply with the requirements in the standards, although it may help them to do so.
- Food businesses needing information on complying with the food safety standards should contact their local enforcement agency for advice.

Standard 3.1.1

Interpretation and Application

Standard 3.1.1

Interpretation and Application

(Australia only)

Purpose

This Standard sets out the interpretation and application provisions that apply to the other food safety standards set out in this Chapter of the Code. The objective of the food safety standards is to ensure that only safe and suitable food is sold in Australia.

Contents

- 1 Interpretation
- 2 Meaning of safe and suitable food
- 3 General application of the Food Safety Standards
- 4 Compliance with the Food Safety Standards

Clauses

1 Interpretation

In this Chapter the definitions of the following terms apply:

appropriate enforcement agency means an enforcement agency prescribed by the regulations under the Act for the purposes of enforcement of the Act or similar purposes.

authorised officer means a person authorised or appointed under the Act or other legislation for the purposes of enforcement of the Act, or similar purposes, such as an ‘authorised officer’, ‘environmental health officer’ or ‘inspector’.

clean means clean to touch and free of extraneous visible matter and objectionable odour.

contaminant means any biological or chemical agent, foreign matter, or other substances that may compromise food safety or suitability.

contamination means the introduction or occurrence of a contaminant in food.

equipment means a machine, instrument, apparatus, utensil or appliance, other than a single-use item, used or intended to be used in or in connection with food handling and includes any equipment used or intended to be used to clean food premises or equipment.

food business means a business, enterprise or activity (other than primary food production) that involves:

- (a) the handling of food intended for sale, or
- (b) the sale of food,

regardless of whether the business, enterprise or activity concerned is of a commercial, charitable or community nature or whether it involves the handling or sale of food on one occasion only.

food handler means a person who directly engages in the handling of food, or who handles surfaces likely to come into contact with food, for a food business.

food handling operation means any activity involving the handling of food.

food premises means any premises including land, vehicles, parts of structures, tents, stalls and other temporary structures, boats, pontoons and any other place declared by the relevant authority to be premises under the Food Act kept or used for the handling of food for sale, regardless of whether those premises are owned by the proprietor, including premises used principally as a private dwelling, but does not mean food vending machines or vehicles used only to transport food.

food safety standards means the standards contained in Chapter 3 of the *Australia New Zealand Food Standards Code*.

handling of food includes the making, manufacturing, producing, collecting, extracting, processing, storing, transporting, delivering, preparing, treating, preserving, packing, cooking, thawing, serving or displaying of food.

hazard means a biological, chemical or physical agent in, or condition of, food that has the potential to cause an adverse health effect in humans.

pests include birds, rodents, insects and arachnids.

primary food production means the growing, cultivation, picking, harvesting, collection or catching of food, and includes the following:

- (a) the transportation or delivery of food on, from or between the premises on which it was grown, cultivated, picked, harvested, collected or caught,
- (b) the packing, treating (for example, washing) or storing of food on the premises on which it was grown, cultivated, picked, harvested, collected or caught, and
- (c) any other food production activity that is regulated by or under an Act prescribed by the regulations for the purposes of this definition.

However, primary food production does not include:

- (a) any process involving the substantial transformation of food (for example, manufacturing or canning), regardless of whether the process is carried out on the premises in which the food was grown, cultivated, picked, harvested, collected or caught, or
- (b) the sale or service of food directly to the public, or
- (c) any other food production activity prescribed by the regulations under the Act for the purposes of this definition.

proprietor of a food business means:

- (a) the person carrying on the food business, or
- (b) if that person cannot be identified — the person in charge of the food business.

sell means:

- (a) barter, offer or attempt to sell, or
- (b) receive for sale, or
- (c) have in possession for sale, or
- (d) display for sale, or
- (e) cause or permit to be sold or offered for sale, or
- (f) send, forward or deliver for sale, or
- (g) dispose of by any method for valuable consideration, or
- (h) dispose of to an agent for sale on consignment, or
- (i) provide under a contract of service, or
- (j) supply food as a meal or part of a meal to an employee, in accordance with a term of an award governing the employment of the employee or a term of the employee's contract of service, for consumption by the employee at the employee's place of work, or
- (k) dispose of by way of raffle, lottery or other game of chance, or
- (l) offer as a prize or reward, or
- (m) give away for the purpose of advertisement or in furtherance of trade or business, or
- (n) supply food under a contract (whether or not the contract is made with the consumer of the food), together with accommodation, service or entertainment, in consideration of an inclusive charge for the food supplied and the accommodation, service or entertainment, or
- (o) supply food (whether or not for consideration) in the course of providing services to patients or inmates in public institutions, where 'public institution' means 'public institution' as defined in the Act, if it is so defined; or
- (p) sell for the purpose of resale.

single-use item means an instrument, apparatus, utensil or other thing intended by the manufacturer to only be used once in connection with food handling, and includes disposable gloves.

2 Meaning of safe and suitable food

(1) For the purposes of the Food Safety Standards, food is not safe if it would be likely to cause physical harm to a person who might later consume it, assuming it was:

- (a) after that time and before being consumed by the person, properly subjected to all processes (if any) that are relevant to its reasonable intended use; and
- (b) consumed by the person according to its reasonable intended use.

(2) However, food is not unsafe merely because its inherent nutritional or chemical properties cause, or its inherent nature causes, adverse reactions only in persons with allergies or sensitivities that are not common to the majority of persons.

(3) In subsection (1), *processes* include processes involving storage and preparation.

(4) For the purposes of the Food Safety Standards, food is not suitable if it:

- (a) is damaged, deteriorated or perished to an extent that affects its reasonable intended use, or
- (b) contains any damaged, deteriorated or perished substance that affects its reasonable intended use, or
- (c) is the product of a diseased animal or an animal that has died otherwise than by slaughter, and has not been declared by or under another Act to be safe for human consumption, or
- (d) contains a biological or chemical agent, or other matter or substance, that is foreign to the nature of the food.

(5) However, food is not unsuitable for the purposes of the Food Safety Standards merely because:

- (a) it contains an agricultural or veterinary chemical in an amount that does not contravene the Food Standards Code, or
- (b) it contains a metal or non-metal contaminant (within the meaning of the Food Standards Code) in an amount that does not contravene the permitted level for the contaminant as specified in the Food Standards Code, or
- (c) it contains any matter or substance that is permitted by the Food Standards Code.

Editorial note:

Terms that are defined in this Standard are terms that are used only in this Standard or in more than one food safety standard. Terms that are used in only one of the other food safety standards are defined in the standard in which they are used.

'Act' is defined in Standard 1.1.1 as meaning the Act under the authority of which the Code is applied.

Under the Inter-Governmental Agreement developed in response to the Food Regulation Review (Blair) Report, jurisdictions will agree to adopt definitions of the following terms into their Food Acts: 'food', 'food business', 'food safety standards', 'handling', 'proprietor' and 'unsafe food'.

Jurisdictions may adopt the definition of 'unsuitable food' into their Food Acts if they wish.

The definitions of these terms in this Standard are based upon their proposed definitions in the Model Food Bill. It is intended to remove the definitions of these terms from this Standard once jurisdictions include the relevant Model Food Bill definitions in their Food Acts.

3 General application of the Food Safety Standards

The Food Safety Standards apply in accordance with this Standard to all food businesses in Australia but not in New Zealand.

Editorial note:

All the requirements of Standards 3.2.2 and 3.2.3 except the notification and skills and knowledge requirements will commence six months from gazettal of those standards. The notification and skills and knowledge requirements will commence 18 months after gazettal.

4 Compliance

(1) The proprietor of a food business must ensure the food business complies with all the requirements of the Food Safety Standards except those in Subdivision 1 of Division 4 of Standard 3.2.2 (Food Safety Practices and General Requirements).

(2) Food handlers must comply with all the requirements set out in Subdivision 1 of Division 4 of Standard 3.2.2.

Purpose

Standard 3.1.1 sets out the interpretation and application provisions that apply to the other food safety standards in this chapter of the *Australia New Zealand Food Standards Code*, that is, Standard 3.2.2 *Food Safety Practices and General Requirements* and Standard 3.2.3 *Food Premises and Equipment*.

Contents

1 Interpretation

Standard 3.1.1 defines terms that are used only in this standard or in both the other food safety standards. Terms that are used in only one of the other standards are defined in the standard in which they are used.

The definitions given in the food safety standards apply to the interpretation of these standards whether or not the words are defined in State and Territory food legislation.

Some of the definitions refer to the 'Act'. The Act is defined in Standard 1.1.1 as the Act which gives the authority to apply the *Australia New Zealand Food Standards Code*.

If a term has not been defined within this standard or any of the other standards, refer to the most recent edition of *The Macquarie Dictionary*, published by The Macquarie Library Pty Ltd.

Definitions

Underlined words are also defined in this standard.

appropriate enforcement agency means an enforcement agency prescribed by the regulations under the Act for the purposes of enforcement of the Act or similar purposes.

Each State and Territory Food Act specifies the agency responsible for the enforcement of the Act and any regulations or standards referred to in the Act.

The enforcement authority will usually be the same authority that enforced previous food hygiene regulations in the respective State or Territory.

This term is used in Standard 3.2.2 clause 4 **Notification** and in relation to exemptions from requirements in subclauses 15(5), 17(2) and 17(3). It is also used in relation to exemptions from requirements in Standard 3.2.3 paragraph 10(3)(b) and subclause 14(4).

authorised officer means a person authorised or appointed under the Act or other legislation for the purposes of enforcement of the Act, or similar purposes, such as an 'authorised officer', 'environmental health officer' or 'inspector'.

Each State and Territory Act specifies the persons who have the authorisation to enforce the Act and associated regulations or standards.

The term is used in Standard 3.2.2 subclause 5(2) **Food receipt**, clause 12 **Food recall** and subclause 18(2) in relation to information provided by a food handler.

clean means clean to touch and free of extraneous visible matter and objectionable odour.

The definition clarifies that 'clean' is not about the microbiological standard of the surface but about the standard that can be assessed by sight, touch and smell.

'Cleanliness', 'cleaned' and 'cleaning' are also used in the standards, with the same intent as 'clean'.

The term is used in Standard 3.2.2 in regard to hand washing and equipment, fittings and fixtures. It is also used as part of the definition of 'clean and sanitary condition' in subclause 20(2). 'Clean' is also used in Standard 3.2.3 in regard to the design and construction of food premises, garbage storage, equipment, utensils and food storage areas of vehicles to allow effective cleaning.

contaminant means any biological or chemical agent, foreign matter, or other substances that may compromise food safety or suitability.

'Contaminant' is used in the definition of 'unsuitable' in relation to general requirements for food premises. Biological agents include micro-organisms such as bacteria, viruses and moulds. Chemical agents include metals, pesticides and other chemicals that could contaminate food. Foreign matter includes physical objects that may be in food, such as string, paperclips and glass. Other substances are included to ensure that all materials that may affect food safety or suitability are covered. For definitions of 'safety' and 'suitability' see 'Meaning of safe and suitable food' on page 16.

'Contaminant' is used in this standard and Standard 3.2.3.

contamination means the introduction or occurrence of a contaminant in food.

Contamination of food has occurred if any of the contaminants referred to above are present in the food.

Protecting food against contamination in storage, display, handling and transport is referred to in Standards 3.2.2 and 3.2.3.

equipment means a machine, instrument, apparatus, utensil or appliance, other than a single-use item, used or intended to be used in or in connection with food handling and includes any equipment used or intended to be used to clean food premises or equipment.

The intention is to ensure that all equipment that is used to produce food and in cleaning procedures in the food premises is covered by the requirements. There are specific requirements for single-use items.

'Equipment' is used in clauses 8, 19, 20 and 21 of Standard 3.2.2 and clauses 3, 12 and 13 of Standard 3.2.3.

food business means a business, enterprise or activity (other than primary food production) that involves:

- (a) the handling of food intended for sale, or
- (b) the sale of food,

regardless of whether the business, enterprise or activity concerned is of a commercial, charitable or community nature or whether it involves the handling or sale of food on one occasion only.

The definition is crucial to applying the food safety standards and should be read in conjunction with the definition of 'primary food production'. The words 'commercial', 'charitable' and 'community' take their dictionary meanings. The intention is to cover all food businesses (other than primary food producers) whether or not the food is intended for sale for charity or for commercial purposes.

food handler means a person who directly engages in the handling of food, or who handles surfaces likely to come into contact with food, for a food business.

The definition covers people who prepare food and/or handle surfaces likely to come into contact with food, for example a person cleaning eating and drinking utensils. Food handlers must comply with the health and hygiene requirements in Standard 3.2.2.

food handling operation means any activity involving the handling of food.

Examples of food handling operations are: preparing meat and vegetables for cooking, preparing salads, serving meals and packaging food for sale.

The term is used frequently in Standard 3.2.3 to clarify that the requirement applies only in relation to these operations. For example, food handlers are obliged to comply with hygiene requirements in clause 15 in Standard 3.2.2 only when engaging in any food handling operations.

food premises means any premises including land, vehicles, parts of structures, tents, stalls and other temporary structures, boats, pontoons and any other place declared by the relevant authority to be premises under the Food Act kept or used for the handling of food for sale, regardless of whether those premises are owned by the proprietor, including premises used principally as a private dwelling, but does not mean food vending machines or vehicles used only to transport food.

The definition covers all types of structures that are used by food businesses, including boats, ships and planes. In addition, land used by a food business is covered. Premises permanently used by the business and temporary premises such as market stalls, tents, etc. are also covered.

If a business sells food or offers food as part of a service, such as a hairdressing business serving coffee, it is a food business.

Outdoor dining areas on the street are part of the food premises serving the food. Note that 'Division 3 — Floors, walls and ceilings' does not apply to dining areas.

Food vending machines are classed as equipment. A business that sells food through food vending machines is a food business. A business that operates food transport vehicles is a food business. Premises that are principally private dwellings but would be classed as food premises include premises used for bed and breakfast, child care involving the supply of food, and domestic premises used to store or prepare food for sale.

food safety standards means the standards contained in Chapter 3 of the *Australia New Zealand Food Standards Code*.

Currently these are Standards 3.1.1, 3.2.1, 3.2.2 and 3.2.3. The term is used only in Standard 3.1.1, in the definitions of 'safe' and 'suitable', and in the application and compliance provisions.

handling of food includes the making, manufacturing, producing, collecting, extracting, processing, storing, transporting, delivering, preparing, treating, preserving, packing, cooking, thawing, serving or displaying of food.

This is inclusive and intended to cover all the activities that take place in relation to food before it is sold. It is not restricted to the activities listed.

hazard means a biological, chemical or physical agent in, or condition of, food that has the potential to cause an adverse health effect in humans.

As part of a food safety program, a business must identify potential hazards that are expected to occur in the business's food handling operations. These hazards may be biological, chemical or physical agents in the food. Pathogenic micro-organisms are an example of biological agents in food. Chemical agents include pesticides, toxic metals and veterinary chemical residues. Physical agents in food include foreign matter such as glass or metal fragments. A hazard may also be material intrinsic to the food but unacceptable in the final product: bones in fish products are an example.

The definition also covers biological, chemical and physical conditions of food. This means that the food is (or has the potential to be) in a state that needs to be controlled by the food safety program. An example is a food that is known to be poisonous, for example certain mushrooms, when the specific agent causing the illness may not be able to be identified.

The term is used in the definition of a food safety program in Standard 3.2.2.

pests include birds, rodents, insects and arachnids.

The intention is to ensure that the requirements cover all animals that could contaminate food either directly or indirectly. It is not restricted to the animals listed.

It is used in clause 24 of Standard 3.2.2 and clauses 3, 6, 10, 11 and 12 of Standard 3.2.3.

primary food production means the growing, cultivation, picking, harvesting, collection or catching of food, and includes the following:

- (a) the transportation or delivery of food on, from or between the premises on which it was grown, cultivated, picked, harvested, collected or caught,

- (b) the packing, treating (for example, washing) or storing of food on the premises on which it was grown, cultivated, picked, harvested, collected or caught, and
- (c) any other food production activity that is regulated by or under an Act prescribed by the regulations for the purposes of this definition.

However, primary food production does not include:

- (a) any process involving the substantial transformation of food (for example, manufacturing or canning), regardless of whether the process is carried out on the premises in which the food was grown, cultivated, picked, harvested, collected or caught, or
- (b) the sale or service of food directly to the public, or
- (c) any other food production activity prescribed by the regulations under the Act for the purposes of this definition.

This definition has been included to exclude primary production activities from Standards 3.2.2 and 3.2.3. It does this by excluding primary food production from the definition of food business and thereby excluding it from the application and compliance provisions of this standard.

Primary food production has been excluded from compliance with the standards because the requirements of the standards were not written to take account of the particular needs of this sector of the food industry. There are other legislative and food safety mechanisms to regulate food safety in this sector.

However, the definition is intended to ensure that if the food is subjected, by a primary food producer, to a process that substantially transforms the food, or if it is sold or served directly to the public, it is covered by these standards.

States and Territories have the mechanism under the definition to include and exclude specific types of food businesses from the application of the standards. Businesses that are in doubt as to whether the standards are applicable in any particular State or Territory should contact the State or Territory health department.

The term is used only in clause 1 of this standard.

proprietor of a food business means:

- (a) the person carrying on the **food business**, or
- (b) if that person cannot be identified – the person in charge of the food business.

The proprietor of a food business is obliged to comply with the standards except where it is stated that a food handler is directly responsible for compliance. There may be circumstances in which it is not possible to identify who is actually carrying on the food business, for example because there are communication difficulties or the business is unwilling to provide that information. In these circumstances the proprietor is then the person who, in the opinion of the enforcement agency, is in charge of the business.

'Proprietor' is used in the definitions and compliance provisions in this standard and in clauses 4, 17 and 18 of Standard 3.2.2.

sell means:

- (a) barter, offer or attempt to sell, or
- (b) receive for sale, or
- (c) have in possession for sale, or
- (d) display for sale, or
- (e) cause or permit to be sold or offered for sale, or
- (f) send, forward or deliver for sale, or
- (g) dispose of by any method for valuable consideration, or
- (h) dispose of to an agent for sale on consignment, or
- (i) provide under a contract of service, or
- (j) supply food as a meal or part of a meal to an employee, in accordance with a term of an award governing the employment of the employee or a term of the employee's contract of service, for consumption by the employee at the employee's place of work, or
- (k) dispose of by way of raffle, lottery or other game of chance, or
- (l) offer as a prize or reward, or
- (m) give away for the purpose of advertisement or in furtherance of trade or business, or
- (n) supply food under a contract (whether or not the contract is made with the consumer of the food), together with accommodation, service or entertainment, in consideration of an inclusive charge for the food supplied and the accommodation, service or entertainment, or
- (o) supply food (whether or not for consideration) in the course of providing services to patients or inmates in public institutions, where 'public institution' means 'public institution' as defined in the Act, if it is so defined; or
- (p) sell for the purpose of resale.

The definition is intended to cover all circumstances in which food is provided in exchange for money or other benefit, as a part of a service (for example meals provided as part of accommodation) or for some other gain to the business from providing the food. It also includes food that is provided as part of a demonstration to promote food products because the business expects to gain by selling the product. It does not include food that is given away and for which nothing is expected in return; for example food prepared in the family home for family and friends.

'Sell' is used within the definition of 'food business' in this standard.

single-use item means an instrument, apparatus, utensil or other thing intended by the manufacturer to only be used once in connection with food handling, and includes disposable gloves.

There is specific discussion about single-use items in clause 23 in Standard 3.2.2.

It is excluded from the definition of 'equipment' in this standard.

2 Meaning of safe and suitable food

The food safety standards regulate the safety and suitability of food. 'Safe' and 'suitable' are the words used by the Codex Alimentarius Commission in its basic texts on food hygiene to describe food that is fit for human consumption. The Codex Alimentarius Commission is responsible for developing international food standards, codes of practice and guidelines on behalf of the Food and Agriculture Organization and the World Health Organization, with the aim of protecting the health of consumers and ensuring fair practices in international food trade.

These words have been used in preference to terms in existing State and Territory food legislation (such as 'adulterated' or 'fit for human consumption') because these terms have different meanings associated with them in different States and Territories.

The definitions are intended to clarify the aspects of 'safety' and 'suitability' that are within the scope of the standards.

Safe food

2(1) For the purposes of the Food Safety Standards, food is not safe if it would be likely to cause physical harm to a person who might later consume it, assuming it was:

- (a) after that time and before being consumed by the person, properly subjected to all processes (if any) that are relevant to its reasonable intended use; and**
- (b) consumed by the person according to its reasonable intended use.**

The intention of the definition is that safe food is food that will not cause illness or other physical harm to a person eating it, provided that the food is used as it is intended to be used. For example, raw meat is likely to contain pathogenic micro-organisms. However, in terms of the definition, it is considered safe because it is intended by food businesses to be cooked before being eaten. Therefore the presence of pathogenic micro-organisms on food that is intended to be processed to destroy those micro-organisms does not mean that the food is unsafe.

If a person is harmed when eating a food, such as by choking on a piece of food, this does not mean in itself that the food is 'unsafe'. If the person chokes on foreign material in the food the presence of that foreign material in the food may make that food 'unsuitable'.

2(2) However, food is not unsafe merely because its inherent nutritional or chemical properties cause, or its inherent nature causes, adverse reactions only in persons with allergies or sensitivities that are not common to the majority of persons.

Some people suffer allergic reactions to foods, for example peanuts. The definition makes it clear that the presence of allergens that do not affect the general population does not make that food unsafe.

2(3) In subsection (1), *processes* include processes involving storage and preparation.

Suitable food

2(4) For the purposes of the Food Safety Standards, food is not suitable if it:

- (a) is damaged, deteriorated or perished to an extent that affects its reasonable intended use, or**
- (b) contains any damaged, deteriorated or perished substance that affects its reasonable intended use, or**
- (c) is the product of a diseased animal or an animal that has died otherwise than by slaughter, and has not been declared by or under another Act to be safe for human consumption, or**
- (d) contains a biological or chemical agent, or other matter or substance, that is foreign to the nature of the food.**

Some substances are not considered to be acceptable for consumption even though consuming them may not cause illness or other harm. These have been listed as (a) to (d) in subclause (4); for example an insect that has been cooked in food is unlikely to cause illness but the food would be considered unacceptable. The definition includes food that is damaged, or has deteriorated or perished, or contains such material as an ingredient.

Animals that are diseased or have died other than by slaughter are not considered acceptable for human consumption and are specifically defined as unsuitable. 'Slaughter' means being killed for food and includes slaughter of game in the wild as well as slaughter of cattle etc. at abattoirs.

Food that contains foreign material, for example insects, nails, string and other material occasionally found in food, is not acceptable.

2(5) However, food is not unsuitable for the purposes of the Food Safety Standards merely because:

- (a) it contains an agricultural or veterinary chemical in an amount that does not contravene the Food Standards Code, or**
- (b) it contains a metal or non-metal contaminant (within the meaning of the Food Standards Code) in an amount that does not contravene the permitted level for the contaminant as specified in the Food Standards Code, or**
- (c) it contains any matter or substance that is permitted by the Food Standards Code.**

Subclause 5 states that food that does not contain more than the levels of agricultural and veterinary chemical residues and contaminants specified in the *Food Standards Code*, or that contains matter or substances permitted by the *Food Standards Code*, is not to be classed as unsuitable only because it contains those substances. For example, food that contains the permissible amount of mercury cannot be considered unsuitable.

3 General application of the Food Safety Standards

3 The Food Safety Standards apply in accordance with this Standard to all food businesses in Australia but not in New Zealand.

The standards do not apply to 'primary food production'. This term is defined and is intended to cover activities that occur on farms. Activities in relation to food production on farms and the transport of food from the farm are not within the scope of the standards.

4 Compliance

4(1) The proprietor of a food business must ensure the food business complies with all the requirements of the Food Safety Standards except those in Subdivision 1 of Division 4 of Standard 3.2.2 (Food Safety Practices and General Requirements).

4(2) Food handlers must comply with all the requirements set out in Subdivision 1 of Division 4 of Standard 3.2.2.

The proprietor of the food business is responsible for compliance with the requirements of Standards 3.2.2 and 3.2.3 except for the requirements of clauses 13, 14 and 15 in Standard 3.2.2 which place specific obligations on food handlers. These specific obligations relate to the health and hygiene practices of food handlers.

Standard 3.2.2

Food Safety Practices and General Requirements

Standard 3.2.2

Food Safety Practices and General Requirements

(Australia only)

Purpose

This Standard sets out specific requirements for food businesses and food handlers that, if complied with, will ensure food does not become unsafe or unsuitable.

This Standard specifies process control requirements to be satisfied at each step of the food handling process. Some requirements relate to the receipt, storage, processing, display, packaging, distribution disposal and recall of food. Other requirements relate to the skills and knowledge of food handlers and their supervisors, the health and hygiene of food handlers, and the cleaning, sanitising, and maintenance of premises and equipment.

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Division 1 — Interpretation and application

1 Interpretation

In this Standard, unless the contrary intention appears —

carrier of a food-borne disease does not include a person who is a carrier of *Staphylococcus aureus*.

condition means an infected skin lesion or discharges from the ear, nose or eye.

environmental conditions means conditions under which certain food may be required to be stored including temperature, humidity, lighting conditions and atmosphere.

food-borne disease means a disease that is likely to be transmitted through consumption of contaminated food.

food safety program means a program set out in a written document retained at the food premises of the food business, including records of compliance and other related action, that:

- (a) systematically identifies the potential hazards that may be reasonably expected to occur in all food handling operations of the food business;

- (b) identifies where, in a food handling operation, each hazard identified under paragraph (a) can be controlled and the means of control;
- (c) provides for the systematic monitoring of those controls;
- (d) provides for appropriate corrective action when that hazard, or each of those hazards, is found not to be under control;
- (e) provides for the regular review of the program by the food business to ensure its adequacy; and
- (f) provides for appropriate records to be made and kept by the food business demonstrating action taken in relation to, or in compliance with, the food safety program.

frozen does not include partly thawed.

potentially hazardous food means food that has to be kept at certain temperatures to minimise the growth of any pathogenic micro-organisms that may be present in the food or to prevent the formation of toxins in the food.

process, in relation to food, means activity conducted to prepare food for sale including chopping, cooking, drying, fermenting, heating, pasteurising, thawing and washing, or a combination of these activities.

ready-to-eat food means food that is ordinarily consumed in the same state as that in which it is sold and does not include nuts in the shell and whole, raw fruits and vegetables that are intended for hulling, peeling or washing by the consumer.

symptom means diarrhoea, vomiting, sore throat with fever, fever or jaundice.

temperature control means maintaining food at a temperature of:

- (a) 5°C, or below if this is necessary to minimise the growth of infectious or toxigenic micro-organisms in the food so that the microbiological safety of the food will not be adversely affected for the time the food is at that temperature; or
- (b) 60°C or above; or
- (c) another temperature — if the food business demonstrates that maintenance of the food at this temperature for the period of time for which it will be so maintained, will not adversely affect the microbiological safety of the food.

2 Application of this Standard

This Standard applies to all food businesses and food handlers in Australia in accordance with Standard 3.1.1 (Interpretation and Application).

Editorial note:

Food businesses that operate from a farm, vineyard, orchard or aquaculture facility should refer to the definition of 'food business' in Standard 3.1.1 to determine if they have to comply with this Standard. If they are involved in the substantial transformation of food or the sale or service of food directly to the public then they must comply with this Standard.

Division 2 — General requirements

3 Food handling — skills and knowledge

(1) A food business must ensure that persons undertaking or supervising food handling operations have:

- (a) skills in food safety and food hygiene matters; and
- (b) knowledge of food safety and food hygiene matters,

commensurate with their work activities.

(2) Subclause (1) does not apply to a food business in relation to persons undertaking food handling operations for fundraising events, that is, events:

- (a) that raise funds solely for community or charitable causes and not for personal financial gain; and
- (b) at which only food is sold that is not potentially hazardous or which is to be consumed immediately after thorough cooking.

4 Notification

(1) A food business must, before the food business commences any food handling operations, notify the appropriate enforcement agency of the following information:

- (a) contact details for the food business including the name of the food business and the name and business address of the proprietor of the food business;
- (b) the nature of the food business; and
- (c) the location of all food premises of the food business that are within the jurisdiction of the enforcement agency.

(2) When complying with subclause (1), the proprietor of the food business must answer all questions asked by the appropriate enforcement agency in relation to the matters listed in subclause (1) in the form approved from time to time by the relevant authority under the Act.

(3) The food business must notify the appropriate enforcement agency of any proposed change to the information specified in subclause (1) before the change occurs.

(4) A food business that exists at the time of the commencement of this Clause must provide the appropriate enforcement agency with the information specified in subclause (1) within three months of the commencement of this Clause.

Division 3 — Food handling controls

5 Food receipt

(1) A food business must take all practicable measures to ensure it only accepts food that is protected from the likelihood of contamination.

(2) A food business must provide, to the reasonable satisfaction of an authorised officer upon request, the following information relating to food on the food premises:

- (a) the name and business address in Australia of the vendor, manufacturer or packer or, in the case of food imported into Australia, the name and business address in Australia of the importer; and
- (b) the prescribed name or, if there is no prescribed name, an appropriate designation of the food.

(3) A food business must, when receiving potentially hazardous food, take all practicable measures to ensure it only accepts potentially hazardous food that is at a temperature of:

- (a) 5°C or below; or
- (b) 60°C or above,

unless the food business transporting the food demonstrates that the temperature of the food, having regard to the time taken to transport the food, will not adversely affect the microbiological safety of the food.

(4) A food business must, when receiving potentially hazardous food, take all practicable measures to ensure that food which is intended to be received frozen, is frozen when it is accepted.

6 Food storage

(1) A food business must, when storing food, store the food in such a way that:

- (a) it is protected from the likelihood of contamination; and
- (b) the environmental conditions under which it is stored will not adversely affect the safety and suitability of the food.

(2) A food business must, when storing potentially hazardous food:

- (a) store it under temperature control; and
- (b) if it is food that is intended to be stored frozen, ensure the food remains frozen during storage.

7 Food processing

- (1) A food business must:
 - (a) take all practicable measures to process only safe and suitable food; and
 - (b) when processing food:
 - (i) take all necessary steps to prevent the likelihood of food being contaminated; and
 - (ii) where a process step is needed to reduce to safe levels any pathogens that may be present in the food — use a process step that is reasonably known to achieve the microbiological safety of the food.
- (2) A food business must, when processing potentially hazardous food that is not undergoing a pathogen control step, ensure that the time the food remains at temperatures that permit the growth of infectious or toxigenic micro-organisms in the food is minimised.
- (3) A food business must, when cooling cooked potentially hazardous food, cool the food:
 - (a) within two hours — from 60°C to 21°C; and
 - (b) within a further four hours — from 21°C to 5°C,

unless the food business demonstrates that the cooling process used will not adversely affect the microbiological safety of the food.

- (4) A food business must, when reheating previously cooked and cooled potentially hazardous food to hold it hot, use a heat process that rapidly heats the food to a temperature of 60°C or above, unless the food business demonstrates that the heating process used will not adversely affect the microbiological safety of the food.

8 Food display

- (1) A food business must, when displaying food, take all practicable measures to protect the food from the likelihood of contamination.
- (2) A food business must, when displaying unpackaged ready-to-eat food for self service:
 - (a) ensure the display of the food is effectively supervised so that any food that is contaminated by a customer or is likely to have been so contaminated is removed from display without delay;
 - (b) provide separate serving utensils for each food or other dispensing methods that minimise the likelihood of the food being contaminated; and
 - (c) provide protective barriers that minimise the likelihood of contamination by customers.
- (3) Subclause (2) does not apply to food in tamper resistant equipment or containers.

- (4) A food business must not display for sale on any counter or bar, any ready-to-eat food that is not intended for self-service unless it is enclosed, contained or wrapped so that the food is protected from likely contamination.
- (5) A food business must, when displaying potentially hazardous food:
- (a) display it under temperature control; and
 - (b) if it is food that is intended to be displayed frozen, ensure the food remains frozen when displayed.

9 Food packaging

A food business must, when packaging food:

- (a) only use packaging material that is fit for its intended use;
- (b) only use material that is not likely to cause food contamination; and
- (c) ensure that there is no likelihood that the food may become contaminated during the packaging process.

10 Food transportation

A food business must, when transporting food:

- (a) protect all food from the likelihood of contamination;
- (b) transport potentially hazardous food under temperature control; and
- (c) ensure that potentially hazardous food which is intended to be transported frozen remains frozen during transportation.

11 Food disposal

- (1) A food business must ensure that food for disposal is held and kept separate until it is:
- (a) destroyed or otherwise used or disposed of so that it cannot be used for human consumption;
 - (b) returned to its supplier;
 - (c) further processed in a way that ensures its safety and suitability; or
 - (d) ascertained to be safe and suitable.
- (2) In subclause (1), 'food for disposal' means food that:
- (a) is subject to recall;
 - (b) has been returned;
 - (c) is not safe or suitable; or
 - (d) is reasonably suspected of not being safe or suitable.
- (3) A food business must clearly identify any food that is held and kept separate in accordance with subclause (1) as returned food, recalled food, or food that is or may not be safe or suitable, as the case may be.

(4) A food business must not sell food that has been already served to a person to another person unless the food was completely wrapped when served and has remained completely wrapped.

12 Food recall

A food business engaged in the wholesale supply, manufacture or importation of food must:

- (a) have in place a system to ensure the recall of unsafe food;
- (b) set out this system in a written document and make this document available to an authorised officer upon request; and
- (c) comply with this system when recalling unsafe food.

Editorial note:

Food businesses that are not engaged in the wholesale supply, manufacture or importation of food are not required to have a food recall system. However, all food businesses should note that food that is subject to recall is 'food for disposal' and hence all food businesses must comply with the requirements of Clause 11 in relation to recalled food.

Division 4 — Health and hygiene requirements

Subdivision 1 — Requirements for food handlers

13 General requirement

A food handler must take all reasonable measures not to handle food or surfaces likely to come into contact with food in a way that is likely to compromise the safety and suitability of food.

14 Health of food handlers

- (1) A food handler who has a symptom that indicates the handler may be suffering from a food-borne disease, or knows he or she is suffering from a food-borne disease, or is a carrier of a food-borne disease, must, if at work:
 - (a) report that he or she is or may be suffering from the disease, or knows that he or she is carrying the disease, to his or her supervisor, as the case may be;
 - (b) not engage in any handling of food where there is a reasonable likelihood of food contamination as a result of the disease; and
 - (c) if continuing to engage in other work on the food premises — take all practicable measures to prevent food from being contaminated as a result of the disease.

- (2) A food handler who suffers from a condition must, if at work:
- (a) if there is a reasonable likelihood of food contamination as a result of suffering the condition — report that he or she is suffering from the condition to his or her supervisor; and
 - (b) if continuing to engage in the handling of food or other work — take all practicable measures to prevent food being contaminated as a result of the condition.
- (3) A food handler must notify his or her supervisor if the food handler knows or suspects that he or she may have contaminated food whilst handling food.

15 Hygiene of food handlers

- (1) A food handler must, when engaging in any food handling operation:
- (a) take all practicable measures to ensure his or her body, anything from his or her body, and anything he or she is wearing does not contaminate food or surfaces likely to come into contact with food;
 - (b) take all practicable measures to prevent unnecessary contact with ready-to-eat food;
 - (c) ensure outer clothing is of a level of cleanliness that is appropriate for the handling of food that is being conducted;
 - (d) only use on exposed parts of his or her body bandages and dressings that are completely covered with a waterproofed covering;
 - (e) not eat over unprotected food or surfaces likely to come into contact with food;
 - (f) not sneeze, blow or cough over unprotected food or surfaces likely to come into contact with food;
 - (g) not spit, smoke or use tobacco or similar preparations in areas in which food is handled; and
 - (h) not urinate or defecate except in a toilet.
- (2) A food handler must wash his or her hands in accordance with subclause (4):
- (a) whenever his or her hands are likely to be a source of contamination of food;
 - (b) immediately before working with ready-to-eat food after handling raw food; and
 - (c) immediately after using the toilet.
- (3) A food handler must, when engaging in a food handling operation that involves unprotected food or surfaces likely to come into contact with food, wash his or her hands in accordance with subclause (4):
- (a) before commencing or re-commencing handling food;

- (b) immediately after smoking, coughing, sneezing, using a handkerchief or disposable tissue, eating, drinking or using tobacco or similar substances; and
 - (c) after touching his or her hair, scalp or a body opening.
- (4) A food handler must, whenever washing his or her hands:
 - (a) use the hand washing facilities provided;
 - (b) thoroughly clean his or her hands using soap or other effective means, and warm running water; and
 - (c) thoroughly dry his or her hands on a single use towel or in another way that is not likely to transfer pathogenic micro-organisms to the hands.
- (5) A food handler who handles food at temporary food premises does not have to clean his or her hands with warm running water, or comply with paragraph (4)(c), if the appropriate enforcement agency has provided the food business operating from the temporary food premises with approval in writing for this purpose.

Subdivision 2 — Requirements for food businesses

16 Health of persons who handle food — duties of food businesses

- (1) A food business must ensure the following persons do not engage in the handling of food for the food business where there is a reasonable likelihood of food contamination:
 - (a) a person known to be suffering from a food-borne disease, or who is a carrier of a food-borne disease; and
 - (b) a person known or reasonably suspected to have a symptom that may indicate he or she is suffering from a food-borne disease.
- (2) A food business must ensure that a person who is known or reasonably suspected to be suffering from a condition and who continues to engage in the handling of food for the food business takes all practicable measures to prevent food contamination.
- (3) A food business may permit a person excluded from handling food in accordance with paragraph (1)(a) to resume handling food only after receiving advice from a medical practitioner that the person no longer is suffering from, or is a carrier of, a food-borne disease.

17 Hygiene of food handlers — duties of food businesses

- (1) Subject to subclause (2), a food business must, for each food premises:
 - (a) maintain easily accessible hand washing facilities;
 - (b) maintain, at or near each hand washing facility, a supply of:
 - (i) warm running water; and
 - (ii) soap; or
 - (iii) other items that may be used to thoroughly clean hands;

- (c) ensure hand washing facilities are only used for the washing of hands, arms and face; and
- (d) provide, at or near each hand washing facility:
 - (i) single use towels or other means of effectively drying hands that are not likely to transfer pathogenic micro-organisms to the hands; and
 - (ii) a container for used towels, if needed.

(2) Paragraph (1)(c) does not apply in relation to handwashing facilities at food premises that are used principally as a private dwelling if the proprietor of the food business has the approval in writing of the appropriate enforcement agency.

(3) With the approval in writing of the appropriate enforcement agency, a food business that operates from temporary food premises does not have to comply with any of the requirements of paragraphs (1)(b)(i) or (1)(d) that are specified in the written approval.

18 General duties of food businesses

- (1) A food business must inform all food handlers working for the food business of their health and hygiene obligations under Subdivision 1 of this Division.
- (2) A food business must ensure that any information provided by a food handler in accordance with Subdivision 1 of this Division is not disclosed to any person without the consent of the food handler, except the proprietor or an authorised officer, and that the information is not used for any purpose other than addressing the risk of food contamination.
- (3) A food business must take all practicable measures to ensure all people on the food premises of the food business:
 - (a) do not contaminate food;
 - (b) do not have unnecessary contact with ready-to-eat food; and
 - (c) do not spit, smoke, or use tobacco or similar preparations in areas where there is unprotected food or surfaces likely to come into contact with food.

Division 5 — Cleaning, sanitising and maintenance

19 Cleanliness

- (1) A food business must maintain food premises to a standard of cleanliness where there is no accumulation of:
 - (a) garbage, except in garbage containers;
 - (b) recycled matter, except in containers;
 - (c) food waste;
 - (d) dirt;
 - (e) grease; or
 - (f) other visible matter.

(2) A food business must maintain all fixtures, fittings and equipment, having regard to its use, and those parts of vehicles that are used to transport food, to a standard of cleanliness where there is no accumulation of:

- (a) food waste;
- (b) dirt;
- (c) grease; or
- (d) other visible matter.

20 Cleaning and sanitising of specific equipment

(1) A food business must ensure the following equipment is in a clean and sanitary condition in the circumstances set out below:

- (a) eating and drinking utensils — immediately before each use; and
- (b) the food contact surfaces of equipment — whenever food that will come into contact with the surface is likely to be contaminated.

(2) In subclause (1), a ‘clean and sanitary condition’ means, in relation to a surface or utensil, the condition of a surface or utensil where it:

- (a) is clean; and
- (b) has had applied to it heat or chemicals, heat and chemicals, or other processes, so that the number of micro-organisms on the surface or utensil has been reduced to a level that:
 - (i) does not compromise the safety of the food with which it may come into contact; and
 - (ii) does not permit the transmission of infectious disease.

21 Maintenance

(1) A food business must maintain food premises, fixtures, fittings, equipment, and those parts of vehicles that are used to transport food, in a good state of repair and working order having regard to their use.

(2) A food business must not use any chipped, broken or cracked eating or drinking utensils for handling food.

Division 6 — Miscellaneous

22 Temperature measuring devices

A food business must, at food premises where potentially hazardous food is handled, have a temperature measuring device that:

- (a) is readily accessible; and
- (b) can accurately measure the temperature of potentially hazardous food to $\pm 1^{\circ}\text{C}$.

23 Single use items

A food business must:

- (a) in relation to all single use items, take all practicable measures to ensure they do not come into contact with food or the mouth of a person if they are:
 - (i) contaminated; or
 - (ii) reasonably suspected of being contaminated; and
- (b) in relation to single use items that are intended to come into contact with food or the mouth of a person:
 - (i) take all practicable measures to protect them from the likelihood of contamination until use; and
 - (ii) not reuse such items.

24 Animals and pests

(1) A food business must:

- (a) subject to paragraph (b), not permit live animals in areas in which food is handled, other than seafood or other fish or shellfish;
- (b) permit an assistance animal only in dining and drinking areas and other areas used by customers;
- (c) take all practicable measures to prevent pests entering the food premises; and
- (d) take all practicable measures to eradicate and prevent the harbourage of pests on the food premises and those parts of vehicles that are used to transport food.

(2) In subclause (1), 'assistance animal' means an animal referred to in section 9 of the *Disability Discrimination Act 1992* of the Commonwealth.

Editorial note:

Section 9 of the *Disability Discrimination Act 1992* refers to a guide dog, a dog trained to assist a person in activities where hearing is required and any other animal trained to assist a person to alleviate the effect of a disability.

25 Alternative methods of compliance

Without limiting the ways in which a food business can demonstrate that the temperature and any heating or cooling process it uses will not adversely affect the microbiological safety of food, a food business satisfies this requirement by complying with:

- (a) a food safety program that meets the requirements for food safety programs in the Act, regulations under the Act, or a food safety standard other than this Standard;

- (b) if no such requirements apply to the food business, a 'food safety program' as defined in this Standard;
- (c) a process that according to documented sound scientific evidence is a process that will not adversely affect the microbiological safety of the food;
or
- (d) a process set out in written guidelines based on sound scientific evidence that are recognised by the relevant food industry.

Introduction

This standard sets out specific requirements for food businesses and food handlers that, if complied with, should ensure food does not become unsafe or unsuitable. The requirements are set out in the following five main divisions.

Division 2 — General requirements This division requires food handlers to have appropriate skills and knowledge in food hygiene and safety matters and for food businesses to notify details of their business to the relevant authority.

Division 3 — Food handling controls This division specifies requirements for food as it is being handled, from receipt to disposal. It also includes food recall requirements.

Division 4 — Health and hygiene requirements This division obliges food handlers to comply with certain health and hygiene requirements. It also obliges the food business to ensure that all persons in the food business comply with these requirements.

Division 5 — Cleaning, sanitising and maintenance This division covers the general cleanliness and maintenance of the food premises, as well as what is required for cleaning and sanitising food contact surfaces, and eating and drinking utensils.

Division 6 — Miscellaneous This division includes requirements concerning thermometers, single-use items, animals and pests, and alternative methods of compliance.

Generally, the standard includes requirements based on specified outcomes, rather than prescriptive requirements. Where requirements are outcomes-based, it means that the food business can comply with the specified outcome in its own way. Prescriptive requirements must be complied with. However, where temperature requirements have been specified for potentially hazardous food, the food business is permitted to deviate from the specified temperatures only if it can demonstrate that it has a safe alternative system in place. One way the food business may achieve this is by implementing a food safety program. 'Food safety program' is defined in this standard, see page 36.

If a food business has a food safety program in place, it must also ensure that the requirements of this standard are complied with. A food safety program is a documented system that sets out how a food business ensures that the food it produces is safe. Essentially, the program sets out in writing the systems the business has in place to comply with this standard. Unless required by the relevant State or Territory, a food business is not required at this stage to develop and implement a food safety program.

Compliance with Standard 3.2.3 *Food Premises and Equipment* will help food businesses to comply with this standard.

All food businesses must comply with this standard with the exception of those food businesses that fall within the primary food production category. 'Primary food production' is defined in Standard 3.1.1, see page 13.

Division 1 — Interpretation and application

1 Interpretation

This clause includes definitions applicable to this standard only. Definitions that apply to more than one of the standards are specified within Standard 3.1.1. If a term has not been defined within this clause or Standard 3.1.1, reference should be made to the most recent edition of *The Macquarie Dictionary*, published by The Macquarie Library Pty Ltd.

1 In this Standard, unless the contrary intention appears —

carrier of a food-borne disease does not include a person who is a carrier of *Staphylococcus aureus*.

The definition has been included to clarify that persons (including food handlers) who carry the food-borne pathogen *Staphylococcus aureus* are not considered to be carriers of a food-borne disease. Many healthy persons carry *S. aureus* as part of the normal microflora of the nose, throat, perineum or skin (AIFST 1997).

While persons who carry *S. aureus* may contaminate food with this food-borne pathogen, this in itself is not a direct food safety hazard. The following events need to take place before food poisoning from *S. aureus* can occur:

- food must be contaminated with *S. aureus*;
- the food must be able to support the growth of *S. aureus*; and
- the food needs to be kept at temperatures that will support the growth of *S. aureus* for enough time for the numbers of *S. aureus* to reach levels at which there are significant quantities of toxin present in the food.

A 'carrier of a food-borne disease' is referred to in subclauses 14(1), 16(1) and 16(3).

condition means an infected skin lesion or discharges from the ear, nose or eye.

The text following subclause 14(2) explains 'condition' in detail (see page 86).

'Condition' is referred to in subclauses 14(2) and 16(2).

environmental conditions means conditions under which certain food may be required to be stored including temperature, humidity, lighting conditions and atmosphere.

'Environmental conditions' is explained in detail after paragraph 6(1)(b) (see page 54).

food-borne disease means a disease that is likely to be transmitted through consumption of contaminated food.

'Food-borne disease' is explained in detail under subclause 14(1) (see page 82) and is referred to in subclauses 14(1), 16(1) and 16(3).

food safety program means a program set out in a written document retained at the food premises of the food business, including records of compliance and other related action, that:

- (a) systematically identifies the potential hazards that may be reasonably expected to occur in all food handling operations of the food business;

- (b) identifies where, in a food handling operation, each hazard identified under paragraph (a) can be controlled and the means of control;
- (c) provides for the systematic monitoring of those controls;
- (d) provides for appropriate corrective action when that hazard, or each of those hazards, is found not to be under control;
- (e) provides for the regular review of the program by the food business to ensure its adequacy; and
- (f) provides for appropriate records to be made and kept by the food business demonstrating action taken in relation to, or in compliance with, the food safety program.

A 'food safety program' is referred to in paragraphs 25(a) and 25(b) (see page 117 for more information).

frozen does not include partly thawed.

This definition has been included to clarify that frozen, potentially hazardous food must be kept at a temperature that ensures the food remains completely frozen. If any part of this food has begun to thaw, the food has not been kept frozen. The temperature for keeping potentially hazardous food frozen has not been specified and must, at a maximum, be low enough to keep the food frozen. For packaged frozen food, refer to the storage conditions included on the label for advice on the best temperature for keeping the food frozen.

'Frozen' is referred to in subclause 5(4) and paragraphs 6(2)(b), 8(5)(b) and 10(c).

potentially hazardous food means food that has to be kept at certain temperatures to minimise the growth of any pathogenic micro-organisms that may be present in the food or to prevent the formation of toxins in the food.

'Potentially hazardous food' must meet certain temperature requirements. This definition clarifies that the only food that must comply with these temperature requirements is food that must be kept at these temperatures to minimise the growth of food-borne pathogens.

What food is potentially hazardous?

For the purposes of Standard 3.2.2, food that meets both of the following criteria is considered potentially hazardous:

- the food may contain a pathogen that needs to multiply in order to cause illness; and
- the food will support the growth of this pathogen.

Food that must be kept under temperature control to prevent toxins forming as a result of bacterial decomposition is also considered potentially hazardous. For example, certain species of fish need to be rapidly chilled shortly after capture to minimise the formation of histamine. This toxin is formed when certain species of bacteria are allowed to multiply and break down the flesh of the fish. However, minimising the growth of the bacteria that causes this spoilage can prevent the toxin from forming.

The food is potentially hazardous only because the food has the potential to cause illness. The food is likely to become unsafe if it is not kept under temperature control.

The following foods are examples of foods that are normally potentially hazardous:

- raw and cooked meat or foods containing raw or cooked meat, for example casseroles, curries, lasagne and meat pies;
- dairy products and foods containing dairy products, for example milk, custard and dairy-based desserts;
- seafood (excluding live seafood) and foods containing seafood;
- processed fruits and vegetables, for example salads and unpasteurised juices;
- cooked rice and pasta;
- processed foods containing eggs, beans, nuts or other protein-rich food, for example quiche and soya bean products; and
- foods that contain any of the above foods, for example sandwiches and quiches.

Note that some of the above types of food will not be potentially hazardous because they have been manufactured to ensure they are not potentially hazardous. However, they will still require refrigeration for food quality reasons. If it is uncertain whether a manufactured food is potentially hazardous, advice should be sought from the manufacturer.

What food is not potentially hazardous?

Many foods do not rely on temperature control for safety because they have been processed to ensure that pathogens are not present in the food or the food is not able to support the growth of food-borne pathogens. These foods are not considered potentially hazardous. Food manufacturers usually achieve food safety by one of the following methods:

- destroying any pathogens that may be present in the food and then packaging the food in a hermetically sealed container so that the food cannot be contaminated, for example canned and bottled food;
- creating an environment in the food that does not support the growth of food-borne pathogens. This is usually done by making the food too acidic for pathogen growth, reducing the available water in the food by drying the food and/or adding salt and sugar, using food additives that inhibit bacterial growth, or a combination of these things, for example dried fruit, salted dried meats and fermented dried meats; or
- destroying or reducing the number of pathogens in the food and creating an environment that will minimise or prevent the growth of any pathogens that are still present and could multiply in the food, for example yoghurts, cheeses, spreads, sauces, dried pasta, pasteurised juices, breads, dried milk and dried custard powder.

Although the above foods are not considered potentially hazardous, they may become potentially hazardous when the food is opened or altered in some way. For example, a canned beef stew should be considered potentially hazardous once it is opened and custard powder should be considered potentially hazardous when it is reconstituted.

Many raw unprocessed or semi-processed foods are also not potentially hazardous because they either do not support the growth of food-borne pathogens or do not contain food-borne pathogens. Examples of foods that do not support the growth of food-borne pathogens are raw whole fruits and vegetables, uncooked rice, flour and sugar. Examples of foods that would not normally contain food-borne pathogens are nuts in the shell and whole uncracked hens' eggs.²

Food-borne pathogens that do not need to multiply or do not need to multiply to large numbers in food to cause illness

This standard requires potentially hazardous food to be kept under temperature control to minimise the growth of food-borne pathogens. However, not all food-borne pathogens need to multiply in food to cause illness. Examples of pathogens that cause illness when in low numbers are viruses (for example hepatitis A and the Norwalk virus), enterohaemorrhagic strains of *Escherichia coli* (for example *E. coli* O157 and O111), *Campylobacter jejuni* and *Shigella* spp. If a ready-to-eat food is contaminated with low numbers of one of these pathogens, illness may occur. Food must be protected from contamination to prevent one of these pathogens being present. Once a food contains low numbers of one of these pathogens, keeping the food under temperature control will not make the food any more or less safe. Therefore, a ready-to-eat food that contains, for example, hepatitis A is considered a contaminated food that is unsafe. It is not considered a potentially hazardous food.

In certain circumstances the food-borne pathogens *Salmonella* spp., *Listeria monocytogenes*, *Vibrio vulnificus* and *Vibrio cholerae* may also cause illness when they are present in small numbers. The circumstances include, in the case of *Salmonella* spp., the strain of the pathogen and, in the case of all the pathogens, the type of food in which the pathogen is present. The person who consumes the food may also play a part: persons who are young, elderly or have suppressed immune systems, or women who are pregnant are more susceptible to food-borne illness and low numbers of these pathogens can cause illness in these persons. However, if these pathogens are present in a food that supports their growth, the food should be considered potentially hazardous. If they are present in ready-to-eat food that does not support their growth, the food may still cause illness but would not be potentially hazardous.

'Potentially hazardous food' is referred to in clauses 5, 6, 7, 8, 10 and 22.

process, in relation to food, means activity conducted to prepare food for sale including chopping, cooking, drying, fermenting, heating, pasteurising, thawing and washing, or a combination of these activities.

The definition is intended to cover all activities that are carried out when preparing food for sale. Although it includes the activities listed in the definition, the definition is not limited to these activities.

'Process' is referred to in clause 7 **Food processing**.

- 2 Whole uncracked eggs that have been sourced from flocks that are free from *Salmonella enteritidis* infection are not considered potentially hazardous.

ready-to-eat food means food that is ordinarily consumed in the same state as that in which it is sold and does not include nuts in the shell and whole, raw fruits and vegetables that are intended for hulling, peeling or washing by the consumer.

'Ready-to-eat food' is food that can be eaten without having anything further done to it, for example, cooked meats, processed dairy products, confectionery, bread and other processed foods. It also includes raw foods such as meat and fish that are intended to be eaten without cooking, for example sushi. Food that may be heated before serving is still considered ready-to-eat, for example cold quiche. Ready-to-eat food may or may not be potentially hazardous.

More stringent requirements apply to 'ready-to-eat food' because any contamination will not be removed before the food is consumed.

'Ready-to-eat food' does not include whole raw fruits and vegetables as these are intended to be washed, hulled or peeled before they are consumed.

'Ready-to-eat food' is referred to in subclauses 8(2) and 8(4) and paragraphs 15(1)(b), 15(2)(b) and 18(3)(b).

symptom means diarrhoea, vomiting, sore throat with fever, fever or jaundice.

'Symptom' is explained on page 83.

It is referred to in subclauses 14(1) and 16(1).

temperature control means maintaining food at a temperature of:

- (a) 5°C, or below if this is necessary to minimise the growth of infectious or toxigenic micro-organisms in the food so that the microbiological safety of the food will not be adversely affected for the time the food is at that temperature; or
- (b) 60°C or above; or
- (c) another temperature — if the food business demonstrates that maintenance of the food at this temperature for the period of time for which it will be so maintained, will not adversely affect the microbiological safety of the food.

Potentially hazardous food must be stored, displayed and transported under 'temperature control'.

Potentially hazardous food is food that may contain food-borne pathogens and will support the growth of these pathogens. Therefore, this food needs to be kept at temperatures that minimise the growth of these pathogens so that they do not reach unsafe levels in the food. An unsafe level occurs if a food-borne pathogen is in sufficient numbers that the food is infectious (can cause illness) or the pathogen has been able to form a toxin in the food (substance that causes illness).

Food-borne pathogens will not grow at temperatures of 60°C and above. However, some food-borne pathogens, such as *Listeria monocytogenes* and certain strains of *Bacillus cereus* and *Clostridium botulinum*, will grow slowly at temperatures of 5°C and below. The lowest recorded temperature for the growth of pathogenic bacteria in food is -1°C. Therefore, to completely prevent the growth of pathogenic bacteria in chilled food, the food needs to be kept at temperatures below -1°C.

It is not practical to keep chilled potentially hazardous food at temperatures below -1°C unless the food is being kept frozen. However, potentially hazardous food can be safely maintained at refrigeration temperatures provided the time that the food is kept refrigerated is limited. The US Food Code (1999) specifies that the maximum time that potentially hazardous food should be kept at 5°C is 7 days. If the food is kept for less than 7 days at 5°C there will not be sufficient time for food-borne bacteria to multiply to dangerous levels. If a food business wishes to keep potentially hazardous food for longer than 7 days at cold temperatures, it will need to:

- maintain the temperature of the food below 5°C — for example, at 3°C the food could be kept for longer than 7 days;
- keep the food frozen; or
- ensure that the food will not support the growth of the pathogens that grow to dangerous levels at refrigeration temperatures.

A food business is permitted to keep food at temperatures between 5°C and 60°C if it can demonstrate that keeping the food within this temperature range will not affect the safety of the food. Potentially hazardous food can be safely kept at temperatures between 5°C and 60°C for short periods, as during this time pathogens present in the food will not have been able to grow to unsafe levels. Clause 25 outlines how a food business can demonstrate that a potentially hazardous food will not be affected by being kept at temperatures between 5°C and 60°C . Appendix 1 includes more information on the use of time and temperature control for potentially hazardous food.

'Temperature control' is referred to in paragraphs 6(2)(a), 8(5)(a) and 10(b).

2 Application of this Standard

This clause specifies to whom the standard applies.

2 This Standard applies to all food businesses and food handlers in Australia in accordance with Standard 3.1.1 (Interpretation and Application).

Food businesses that operate from a farm, vineyard, orchard or aquaculture facility should refer to the definition of 'food business' in Standard 3.1.1 to determine if they have to comply with this standard. If they are involved in the substantial transformation of food or the sale or service of food directly to the public then they must comply with this standard.

Division 2 — General requirements

3 Food handling — skills and knowledge

This clause requires food businesses to ensure that persons undertaking or supervising food handling operations have appropriate skills and knowledge in food safety and food hygiene matters.

3(1) A food business must ensure that persons undertaking or supervising food handling operations have:

- (a) skills in food safety and food hygiene matters; and
- (b) knowledge of food safety and food hygiene matters,

commensurate with their work activities.

It is not the intent of this clause to require mandatory training as it is recognised that skills and knowledge may be gained in different ways.

Skills and knowledge

Persons supervising or conducting food handling operations must possess the skills and knowledge in food safety and hygiene matters required to handle food safely.

A skill is defined as the ability to do something. In this context it means that a food handler or the supervisor of a food handler has the ability to perform those tasks that are necessary to ensure the safety of the food being handled.

Knowledge is defined as an acquaintance with facts, truths or principles. In this context it means that a food handler or the supervisor of a food handler must have an understanding of the issues relating to and the principles surrounding food safety and food hygiene matters.

Skills and knowledge in food safety and food hygiene matters commensurate with work activities

The requirement specifies that skills and knowledge are only required to a level that corresponds with the work activities of the food handler. The skills and knowledge required of a cook will be different from those of a waitress or a cleaner.

The requirement also specifies that the skills and knowledge must be in both food safety and food hygiene matters. The points following the example illustrate the difference between food safety and food hygiene matters.

Example

A food handler in a retail outlet prepares, stuffs and cooks whole chickens. The food handler must have the appropriate skills and knowledge in both food safety and food hygiene matters to ensure that the chicken is prepared safely for sale.

In this example, the skills and knowledge that the food handler may need to have in relation to food safety matters include:

- the knowledge that raw chickens are likely to be contaminated with pathogenic bacteria;
- the knowledge that the consumption of an undercooked chicken can cause food-borne illness;
- the knowledge of the time and temperature required to ensure that the chicken and the stuffing are thoroughly cooked;
- the skill to examine the chicken to ensure that it is thoroughly cooked;
- the knowledge of the correct storage temperatures for both the raw and cooked chicken product;
- the skill to determine if equipment is set at the right temperature; and
- the skill to determine the temperature of the cooked product.

Examples of the skills and knowledge that the food handler may need to have in relation to food hygiene matters are:

- the knowledge that hands/gloves or equipment used to handle raw chickens may be a potential source of microbial cross-contamination for cooked chickens;
- the skill to wash hands or equipment to reduce the potential for microbial cross-contamination;
- the knowledge of other potential sources of contamination for the cooked product, such as dirty clothes or dirty work benches; and
- the skill to maintain a clean work area.

Obtaining the skills and knowledge required

There are many approaches that a food business can adopt in order to ensure that food handlers obtain the skills and knowledge required to produce safe food. Examples of these include:

- in-house training by business employees or the proprietor;
- distribution of relevant documentation to employees;
- having operating procedures in place that clarify the responsibilities of food handlers and supervisors;
- attendance at food safety courses run by local councils or other bodies such as industry associations;
- hiring a consultant to present a course to business employees; and
- formal training courses.

Food handlers are not required to undertake formal training in order to comply with the skills and knowledge requirement. The requirement states only that food handlers must have the appropriate skills and knowledge but does not specify how this is to be achieved.

Some businesses may decide that formal training is the best option for them. The National Food Industry Training Council, together with the Australian National Training Authority,

ANZFA and State and Territory Governments, has developed generic guideline competency standards on food safety. The areas covered by these standards include:

- food safety for indirect workers (for example cleaners and maintenance workers);
- food handlers;
- food transport;
- people responsible for monitoring the day-to-day implementation of food safety procedures;
- developers of food safety programs; and
- food safety auditors.

These standards provide advice to Industry Training Advisory Boards (ITABs) on minimum food safety competency requirements. These standards are generic cross-industry competency standards. The availability of these generic guideline competency standards will allow national ITABs to customise training packages to suit an industry or industry sector. The industries that participated in the project included:

- community services and health;
- food processing;
- meat;
- property services;
- retail;
- rural;
- seafood;
- tourism; and
- transport and distribution.

How to determine that food handlers and supervisors have the skills and knowledge required

Even though a form of training has been provided to a staff member, it does not guarantee that he or she will have the appropriate skills and knowledge required for the position. The proprietor of the food business may find it useful to discuss the principles of food safety and food hygiene with employees, have appropriate procedures in place and observe the work practices of food handlers to ensure staff meet this requirement.

In assessing whether a food business is complying with this requirement, it may be beneficial for the relevant authority to assess, in the first instance, whether the business, and the food handlers within the business, are complying with the requirements of this standard. If the business is complying with the requirements, there is a high likelihood that food handlers and supervisors have the appropriate skills and knowledge to handle food safely. If the business is not complying with certain requirements, this may be evidence that the skills and knowledge of food handlers and supervisors within the business are not adequate and further training may be needed. Food businesses have a variety of options to provide this training. These options are outlined on the previous page under 'Obtaining the skills and knowledge required'.

3(2) Subclause (1) does not apply to a food business in relation to persons undertaking food handling operations for fundraising events, that is, events:

- (a) that raise funds solely for community or charitable causes and not for personal financial gain; and**
- (b) at which only food is sold that is not potentially hazardous or which is to be consumed immediately after thorough cooking.**

Potentially hazardous food means food that has to be kept at certain temperatures to minimise the growth of any pathogenic micro-organisms that may be present in the food or to prevent the formation of toxins in the food.

Examples of food that are not potentially hazardous and are likely to be sold at fundraising events include cakes, lamingtons, biscuits and confectionery.

Examples of food that are potentially hazardous but are likely to be consumed immediately after thorough cooking at fundraising events include sausages, hamburgers, spring rolls and hot dogs.

This exemption has been included because food businesses raising money for community or charitable causes are likely to be run by volunteers. Volunteers may only ever assist in the running of one fundraising event and hence it is not practical or feasible to require these volunteers to obtain skills and knowledge in food hygiene and safety matters. However, the food business and food handlers are required to comply with the remaining provisions of this standard, for example the requirements for hygiene of food handlers.

4 Notification

This clause requires the proprietor of a food business to notify the appropriate enforcement agency of their contact details, the nature of their business and the location of all of their food premises and to also notify the enforcement agency of any proposed changes to the information provided.

This requirement begins twelve months after Standard 3.2.2 becomes law.

Food businesses will be required to tell the appropriate enforcement agency of their existence or register as a food business with the enforcement agency (depending on the provisions in the State or Territory Food Act) but will not be required to do both.

The appropriate enforcement agency for this provision will be prescribed by the regulations under State and Territory Food Acts. In most cases this will be local government. However, this may not be the case for all States and Territories.

Food businesses will need to give notification once only, unless the notification information changes.

Notification does not require prior approval by an enforcement agency or compliance with any conditions, unlike food business registration. The requirement seeks minimal information from food businesses so that local councils know of their existence, can contact them if required and know the sort of food business they operate.

States and Territories will continue to determine the registration requirements for food businesses. Existing registration requirements will continue under the new Food Acts.

The notification requirements may be incorporated into any existing registration arrangements if required for the sake of consistency.

A food business is defined under the Act as meaning a business, enterprise or activity (other than primary food production) carrying on food handling for sale or selling food. The definition includes food business activities of a commercial, charitable or community nature and where these involve the handling or sale of food for one occasion only.

Simplified arrangements may exist in States and Territories for the notification of certain events by charitable and community organisations. The local State or Territory health department should be contacted for further information.

Primary industry food businesses (that is, those that operate from a farm, vineyard, orchard, aquaculture facility, etc.) will not be required to notify unless they are:

- 1 engaged in the sale or service of food directly to the public or are engaged in any process involving the substantial transformation of food, for example manufacturing or canning; or
- 2 engaged in a primary industry activity that a State or Territory has decided, on the basis of public health and safety considerations, to list under the food law as a 'food production activity'. This is likely to be an exceptional event.

Notification is not required for individual food vending machines or vehicles used only to transport food, as they are not covered by the definition of 'food premises' in the food safety standards. However, food transport businesses will be required to notify the location of their operations.

Further information on food business notification can be found in the document *The National Food Business Notification System*, available from ANZFA or State or Territory health departments. The document includes a short information sheet that may be used by States, Territories or local government to provide information about the notification requirement to relevant food businesses.

Notification form

Standard 3.2.2 requires the proprietor to answer all questions in relation to the notification requirement, in the form approved by the relevant authority under the Food Act.

Model notification forms (Appendix 2) have been developed to promote the consistent national implementation of the system. They cover the notification of temporary and mobile food premises. The forms were developed by the Food Business Notification System Working Group, which included representatives from Commonwealth, State and Territory Governments, local government and business associations.

4(1) A food business must, before the food business commences any food handling operations, notify the appropriate enforcement agency of the following information:

- (a) **contact details for the food business including the name of the food**

business and the name and business address of the proprietor of the food business;

The term 'proprietor' means, in relation to a food business, the person carrying on the food business or, if that person cannot be identified, the person in charge of the food business.

The enforcement agency must be provided with the name and business address of the proprietor, the trading name of the food business, business and after-hours phone numbers, facsimile number and e-mail address.

New food businesses must notify the enforcement agency before they begin their food handling operation. Existing food businesses will have three months to comply with this clause after its commencement.

(b) the nature of the food business; and

This requirement allows the enforcement agency to request information from the food business to identify the nature of the food business.

Appendix 2 contains an agreed set of questions to help identify the types of food handled and produced, and seeks information to enable the specific nature and category of food business to be identified, together with the inherent risk of the business to the community.

The information will be used by enforcement agencies to gain an understanding of the business and its operations, and may also be used to allocate an appropriate priority classification for the business.

When States and Territories adopt food safety programs, food business notification will be the starting point for the enforcement agency to determine and advise the food business of its priority classification. This classification will determine the initial audit frequency for a food business. Similarly, where food businesses are required to register and to develop food safety programs, registration will trigger the same sequence of events.

(c) the location of all food premises of the food business that are within the jurisdiction of the enforcement agency.

Some food businesses have multiple food premises. The definition of food premises includes any premises (including land, vehicles, parts of structures, tents, stalls and other temporary structures, boats, pontoons and any other place declared by the relevant authority to be premises under the Act) kept or used for handling food for sale, regardless of whether those premises are owned by the proprietor, including premises used principally as a private dwelling, but does not include food vending machines or vehicles used only to transport food.

The proprietor of the business must tell the relevant authority the location of all food premises used by the business within the jurisdiction of the enforcement agency.

Mobile food vendors

It is proposed that mobile food vendors, for example ice cream vans, will satisfy the requirement for notification about the location of their premises by specifying where the vehicle is garaged or housed. The enforcement agency with responsibility for the

jurisdiction within which the vehicle is garaged would be the 'appropriate enforcement agency' for the purposes of the notification by mobile food vendors.

If the food vehicle operates permanently from one site, for example an after-hours fast-food van, the enforcement agency responsible for the area where the vehicle is stationed should be notified, even if the vehicle is housed in an area covered by another enforcement agency.

Operators should be able to nominate whether the vehicle is a mobile vendor of foods or vends permanently stationed in one spot. If there is more than one vehicle, a single notification will be adequate.

Appendix 2 includes a model notification form for mobile food vendors.

Temporary food premises

For the purposes of this clause, temporary premises can be categorised into two groups and treated independently:

- 1 regular temporary premises, whether commercial market stalls or fundraising stalls which operate weekly, fortnightly, monthly, quarterly or at any other regular interval, should be treated as permanent food operations and supply notification information only once, unless the notification information changes; and
- 2 single-event or annual-event temporary premises, whether fundraising or commercial, should be covered by a temporary events notification.

Appendix 2 includes a model for a temporary events notification form.

4(2) When complying with subclause (1), the proprietor of the food business must answer all questions asked by the appropriate enforcement agency in relation to the matters listed in subclause (1) in the form approved from time to time by the relevant authority under the Act.

The proprietor of the food business must provide the enforcement agency with all of the information that is requested in the approved form for the purposes of the Act. Under the Act, the approved form is defined as the form approved from time to time by the relevant authority. Appendix 2 contains model notification forms to promote national consistency, although the relevant authority may vary these as required.

4(3) The food business must notify the appropriate enforcement agency of any proposed change to the information specified in subclause (1) before the change occurs.

The proprietor of the food business must provide the relevant authority with any changes to previously notified information. It is the responsibility of the food business to provide the new information before the change takes place. Changes such as a change of proprietor, a change to the nature of business or a change to the location of the business are usually known well ahead of the event occurring.

The new proprietor is responsible for notifying the enforcement agency of a change in proprietor.

If there is any change to the nature of business (see questions relating to 'Nature of Business' at Appendix 2) the enforcement agency must be notified as this may result in a

change to the food premises' priority classification. For example, if an existing service station selling drinks and confectionery intends to expand the type of food sold to foods such as hot dogs, pies and sandwiches, the business will need to inform the appropriate enforcement agency of this change, as the nature of the food business will change.

Any change to the location of food premises must also be notified.

4(4) A food business that exists at the time of the commencement of this Clause must provide the appropriate enforcement agency with the information specified in subclause (1) within three months of the commencement of this Clause.

Existing food businesses that are not registered food businesses under food or other recognised law will have three months to notify the appropriate enforcement agency after the beginning of the notification requirement under Standard 3.2.2.

Division 3 — Food handling controls

5 Food receipt

This clause requires a food business to take all practicable measures to ensure that only food that is safe and suitable is received.

The requirements of this clause relate to protecting food from contamination, identifying foods received and controlling the temperature of potentially hazardous food.

5(1) A food business must take all practicable measures to ensure it only accepts food that is protected from the likelihood of contamination.

This requirement has been included to ensure that food businesses do not accept contaminated food into the premises. Contaminated food is food that contains a biological substance, chemical agent, foreign matter or other substance that may compromise food safety or suitability.

The phrase 'practicable measures' has been included in the requirement to clarify that the food business cannot inspect every food item that comes into a food business nor categorically assess whether food items inspected are not contaminated. 'Practicable measures' that could be taken by the business include:

- specifying to suppliers that steps are to be taken to protect food from contamination and wherever possible that food is delivered in packages or containers;
- ensuring wherever possible that food items are not delivered when there is no-one at the business to assess the items; and
- inspecting randomly selected food items from a delivery — the need for this may reduce if the food business has confidence in its suppliers.

It should be noted that it will not always be practicable for a business to check items as they are delivered to the premises. For example, a food supplier may be instructed to place

food deliveries directly in a coolroom. However, in such situations it should be agreed by the food supplier and the food business receiving the food that the food is accepted only under concession and not 'received' until it has been checked by the food business.

If a food is found to be contaminated or not protected from the likelihood of contamination, it must be rejected and should be returned to the supplier or destroyed with the consent of the supplier. The food business is not obliged to keep records of contaminated food it has rejected. However, food businesses may wish to note when food has been rejected and the reason for its rejection. Rejected food on the premises must be identified, held and kept separate (see clause 11 **Food disposal**).

Example

The proprietor of a deli orders weekly from the wholesaler fifteen 2 kg blocks of sandwich ham. When this order is delivered, the hams are inspected. During one of these inspections, it is noticed that part of the packaging around one of the hams is split. All of the hams are then inspected and it is found that another two hams have split packaging. The proprietor rejects these three hams and returns them to the supplier.

5(2) A food business must provide, to the reasonable satisfaction of an authorised officer upon request, the following information relating to food on the food premises:

- (a) the name and business address in Australia of the vendor, manufacturer or packer or, in the case of food imported into Australia, the name and business address in Australia of the importer; and**
- (b) the prescribed name or, if there is no prescribed name, an appropriate designation of the food.**

A food business must be able to identify food that it has on the premises. This assists with the return or recall of food if it is found to be unsafe or not suitable.

The requirement for identifying food specifies that the business must provide upon request, to the reasonable satisfaction of an authorised officer, information regarding what the food is and where it came from. This does not mean that the business needs to keep a record of every food item that is received by the food business. This information could be provided verbally and could be available from an invoice or the packaging of the food.

A prescribed name is a name that has been legally specified for a food. For example, 'milk' is a prescribed name. Most foods will not have a prescribed name and instead will be identified by an appropriate designation or a common name. An appropriate designation specifies what the food is, for example chocolate dairy dessert. This information will be written on the packaging of the food.

The *Food Standards Code* requires packaged food that is sold for non-retail sale to be labelled with (among other things) the name of the food and the name of the supplier. This information must be on the carton of food sold to the business and is not required on packages of food enclosed within this carton. If this outer packaging is discarded, the information will be lost unless the business keeps records of its suppliers and the products purchased from these suppliers, for example invoices.

In order to comply with this requirement, a food business should not accept food that cannot be identified.

Example

A coffee lounge purchases home-cooked jams and chutneys from several people. The individual jams and chutneys are not labelled and hence the proprietor of the coffee lounge cannot be certain where these products were made. To enable the jams and chutneys to be traced back to the supplier, this information must be included in a label on the products, or records must show which products were purchased from each individual supplier.

5(3) A food business must, when receiving potentially hazardous food, take all practicable measures to ensure it only accepts potentially hazardous food that is at a temperature of:

- (a) 5°C or below; or
- (b) 60°C or above,

unless the food business transporting the food demonstrates that the temperature of the food, having regard to the time taken to transport the food, will not adversely affect the microbiological safety of the food.

Potentially hazardous food needs to be kept at or below 5°C or at or above 60°C to prevent the growth of pathogenic micro-organisms. Potentially hazardous food needs to be kept at these temperatures during transport, or the time that the food is outside these temperatures needs to be monitored to ensure that it does not affect the microbiological safety of the food.

A food business is required to take all practicable measures to ensure it does not accept a delivery of potentially hazardous food that is at a temperature between 5°C and 60°C. This applies unless the business transporting the food can demonstrate to the business receiving the food that the temperature of the food (taking into account the time taken to transport the food) will not make the food unsafe.

A food business should discuss the temperature at which potentially hazardous food is to be delivered with the food transporter before the delivery. A contractual agreement should be reached so that both food businesses are clear about the temperature at which potentially hazardous food is to be delivered. This is particularly important if a food business wishes to receive potentially hazardous food at a specific temperature and does not wish to accept potentially hazardous food at a temperature between 5°C and 60°C. However, if the food business is willing to accept potentially hazardous food within this temperature range, the food transporter must be able to demonstrate to the food business that this practice is safe. Generally this will not be possible for transport journeys over 2 hours in duration (see Appendix 1 for explanation of the safe use of time as a control instead of temperature). Food transporters are referred to in clause 10 **Food transportation**. There is further discussion of the transport of potentially hazardous food outside temperature control under clause 10(b) on page 72.

If a food transporter delivers potentially hazardous food that is at a temperature between 5°C and 60°C and cannot demonstrate to the food business that this food is safe, the food business must not accept this food.

Examples of situations where it would be safe for potentially hazardous food to be delivered outside the accepted temperature range include:

- potentially hazardous food that has been freshly prepared, for example sandwiches, is to be transported short distances³ and then either refrigerated immediately after delivery or sold for immediate consumption;
- chilled potentially hazardous food (5°C or below) or hot potentially hazardous food (60°C or above) that is being transported short distances³ and therefore a slight rise or fall in temperature for this time will not affect the microbiological safety of the food; and
- potentially hazardous food that can be safely maintained at a temperature above 5°C (such as raw meat carcasses maintained at or below 7°C) and can therefore be safely transported at this temperature.

Example

A café serves quiche and salad for lunch. The café does not make the quiches but a bakery, 15 minutes' drive away, does. The proprietor of the café has asked the owner of the bakery to deliver freshly made quiches to the café by 11.30 a.m. each day and to make sure that the quiches provided have not come out of the oven earlier than 10.00 a.m.

The owner of the bakery agrees to these conditions and uses a colour-coding system on the quiches to ensure the time limits are met. The temperature of these quiches is less than 60°C when delivered. The café ensures that the quiches are placed in a refrigerator operating at 5°C within 15 minutes of delivery. The quiches are then warmed just before serving.

This is safe provided that the total time that the quiches are outside temperature control before being placed in the refrigerator is always less than 2 hours. (See Appendix 1 for an explanation of the safe use of time as a control instead of temperature.)

The phrase 'practicable measures' has been included to recognise that a food business will not be able to ensure that every potentially hazardous food that is delivered to the business is within the accepted temperature range. For example, if a truck delivers a load of chilled potentially hazardous food, the food business is not required to measure the temperature of every food item. However, the food business should measure the temperature of a sample of food from the truck.

A food business would also not have to check every truck load of food if it had established that a particular deliverer was delivering potentially hazardous food within agreed temperature ranges. These deliveries could be checked randomly.

5(4) A food business must, when receiving potentially hazardous food, take all practicable measures to ensure that food which is intended to be received frozen, is frozen when it is accepted.

³ For guidance on how long potentially hazardous food can be safely transported outside temperature control, see Appendix 1.

The food business must take all practicable measures to ensure that potentially hazardous food, which is intended to be received frozen, is frozen when it is accepted. 'Frozen' has been defined as not including food that is partly thawed. No temperature has been specified for frozen potentially hazardous food. Potentially hazardous food that is kept frozen, regardless of the temperature, complies with this subclause. However, as with chilled potentially hazardous food, the business receiving the food and the business transporting the food should reach agreement, before delivery, about the temperature at which the food is to be delivered. The majority of food businesses will require strict temperatures to be adhered to, to ensure the quality of the food is maintained.

For an explanation of 'practicable measures', refer to comments under subclause 5(3) opposite.

The phrase 'food which is intended to be received frozen' allows the food business to arrange for frozen potentially hazardous food to be delivered partially or completely thawed. The business may request this, if it needs the food thawed for the purposes of processing. However, the transporter of the frozen potentially hazardous food is required to maintain this food frozen unless requested otherwise.

Example

For convenience, a restaurant wants to purchase cooked chilled lasagne. The restaurant does not wish to receive the lasagne frozen as it does not have sufficient frozen storage. A supplier can provide the restaurant with cooked frozen lasagne but not chilled. The restaurant requests that the lasagne not be delivered hard-frozen but partially thawed, provided its temperature does not exceed 5°C. Upon delivery, the lasagne is placed in a refrigerator operating at 5°C.

Scope of the temperature requirements in subclauses (3) and (4)

The temperature requirements specified in subclauses (3) and (4) are for potentially hazardous food only. No temperature requirements have been specified for perishable food or frozen food other than those that are potentially hazardous. The food business may wish to periodically check the temperatures of delivered perishable and frozen foods that are not potentially hazardous for quality reasons. These foods should be received at the recommended storage temperatures specified by the manufacturer. It is an offence to sell food that is unsafe or unsuitable; this includes damaged, deteriorated or perished food.

In circumstances where the food business purchases and transports its own food, rather than having it delivered, the requirements of subclauses 5(1), 5(3) and 5(4) do not apply as the business is not 'accepting' food that is being delivered. However, the food business will need to transport the purchased food back to its premises. While the food is being transported, it must be protected from contamination. If the food is potentially hazardous it must be transported under temperature control or maintained frozen as specified in clause 10.

6 Food storage

During storage, the safety and suitability of food needs to be maintained by ensuring it is stored in an appropriate environment and protected from contamination. Potentially hazardous food must be stored at a temperature that minimises the opportunity for pathogenic bacteria to grow.

The requirements in this clause relate to protecting food from contamination, storing food under correct environmental conditions and controlling the temperature of potentially hazardous food.

Food is considered to be 'stored' if it is not being processed, displayed, packaged, transported or identified for disposal.

6(1) A food business must, when storing food, store the food in such a way that:

(a) it is protected from the likelihood of contamination; and

During storage food may become contaminated in the following ways:

- microbiologically, such as by raw foods contaminating ready-to-eat food;
- chemically, such as by food not being stored in food-grade containers or by chemicals being accidentally spilt onto food; and
- physically, from foreign objects including pests, glass, dirt, metal and hair.

To prevent food from becoming contaminated during storage the following steps need to be taken:

- food should be stored in food-grade containers and covered if there is any likelihood of contamination;
- raw foods should be stored separately or away from ready-to-eat foods to avoid contamination from the raw food being transferred to the ready-to-eat food;
- storage areas should be kept clean to minimise the opportunity for dirt, food scraps etc. contaminating stored food; and
- storage areas should be kept free of pests.

Storing food on shelves will help to keep premises clean, which also discourages pests. Containers that will subsequently be placed on food contact surfaces should be stored off the floor on shelves. If these containers are stored on the floor, contamination from the floor is transferred to the food contact surface from the underside of the container. Wet cleaning may also damage containers stored on the floor.

(b) the environmental conditions under which it is stored will not adversely affect the safety and suitability of the food.

This requirement only applies to food when it is being stored and not when it is being processed, displayed, packaged or transported. This is on the basis that it is not always possible to keep food under the correct environmental conditions while it is being processed, displayed, packaged or transported. However, this is only acceptable if the time that food is not under the correct environmental conditions is not long enough to render the food unsafe or unsuitable.

When food needs to be stored under particular environmental conditions (for example, temperature, humidity, lighting, atmosphere) to prevent it becoming unsafe or unsuitable for its expected shelf life, the food should be stored under these conditions. Food businesses should be guided by specifications provided by food manufacturers as to how food should be stored to retain its safety or suitability.

Suitability issues

Food needs to be stored under environmental conditions that will not adversely affect its suitability. This means conditions that will minimise food deterioration. Most food will deteriorate rapidly if stored incorrectly. Packaging usually gives some protection from unfavourable environmental conditions. However, packaging alone may not prevent the deterioration of food. Heat will encourage microbial growth but may also damage the food; for example, chocolate is susceptible to heat. Humid conditions may encourage mould growth and could also damage food packaging, allowing food to become contaminated.

Safety issues

Food needs to be stored under environmental conditions that will not adversely affect its safety. Incorrect environmental conditions may allow pathogenic micro-organisms to grow in food, or toxins to form. For example, potatoes need to be protected from direct light to delay the production of glycoalkaloids. Note that there is a specific requirement for potentially hazardous food to be stored under temperature control (see below).

6(2) A food business must, when storing potentially hazardous food:

(a) store it under temperature control; and

Potentially hazardous food must be stored at a temperature that will minimise the growth of food poisoning bacteria in the food for the time that the food is being stored. This temperature must be at or below 5°C or at or above 60°C unless the business can demonstrate that maintaining stored food between these temperatures (5°C and 60°C) will not adversely affect the microbiological safety of the food. For further details, see the definition of 'temperature control' on page 40.

A reference to time has been included because it is not possible for potentially hazardous food to be stored for long periods at a temperature that minimises all growth of pathogenic bacteria unless it is frozen or kept hot. For no pathogenic bacteria to grow, potentially hazardous food would need to be stored at -1°C or less, or 60°C and greater.

Potentially hazardous food stored at 5°C will still allow the growth of certain food poisoning bacteria such as *Listeria monocytogenes* and certain strains of *Bacillus cereus* and *Clostridium botulinum*. However, these bacteria will grow slowly at 5°C and therefore, provided that the potentially hazardous food is stored for a limited period, the food will remain safe. For this reason, the US Food Code specifies that potentially hazardous food stored at 5°C should be sold or discarded within 7 days.

Potentially hazardous food that is to be stored longer than 7 days will generally need to be maintained at a temperature below 5°C. For example, potentially hazardous food that is maintained at a temperature of 3°C or below could be kept for longer than 7 days. The

temperature at which the food should be stored will depend on how long the food is to be stored and the types of pathogenic bacteria that may be present and will grow in the food.

Food businesses may be able to demonstrate that a specific potentially hazardous food they are storing can be safely stored at temperatures at or above 5°C for long periods because it will support limited or no growth of certain pathogens at the nominated temperature. However, generally a food business that wishes to store potentially hazardous food for extended periods will need to store this food frozen.

Example

A manufacturer of sous-vide products supplies these to supermarkets. The products are cooked and sold in vacuum packaging and have a shelf life of 10 days. The cooking step destroys all food poisoning bacteria that would grow at refrigeration temperatures except the spores of *Clostridium botulinum* and *Bacillus cereus*. The product is therefore maintained at a temperature of 3°C or below until sold, to prevent growth of *C. botulinum* and *B. cereus*. On the packaging there is advice for customers to refrigerate the product and to consume it within 12 hours of purchase.

(b) if it is food that is intended to be stored frozen, ensure the food remains frozen during storage.

If a food business intends to store food frozen, then the freezer used for this purpose must keep the food frozen while it is being stored. A temperature for the storage of frozen potentially hazardous food has not been specified. Potentially hazardous food that is frozen, regardless of the temperature, complies with this requirement. However, food businesses should follow storage instructions recommended by the manufacturer of the food to maintain product quality and shelf life.

7 Food processing

This clause requires a food business to ensure the following:

- only safe and suitable food is processed;
- food is protected from contamination;
- if necessary, pathogens that may be present in the food are reduced to safe levels; and
- the time that food remains at temperatures that permit the growth of pathogenic micro-organisms is minimised.

The requirements in this clause relate to taking all practicable measures to process only safe and suitable food, protecting food from contamination, processing to reduce pathogens to safe levels, minimising the time that potentially hazardous food is at unsafe temperatures, and cooling and heating potentially hazardous food.

7(1) A food business must:

- (a) take all practicable measures to process only safe and suitable food; and**

The food business is required to take all practicable measures to process only safe and suitable food. 'Process' is defined and means an activity conducted to prepare food for sale including chopping, cooking, drying, fermenting, heating, pasteurising, thawing and washing, or a combination of these activities. The definition of food that is 'unsafe' or 'unsuitable' relates to the reasonable intended use of the food. A food business must therefore assess whether food it will process (and prepare) is safe and suitable for its intended use.

Practical measures that can be taken by the food business include:

- sourcing ingredients from reputable suppliers;
- specifying to the supplier the quality parameters needed for the food ingredient, for example the food must be free from any detectable *Salmonella* spp. bacteria or dried fruit must be free from stones;
- determining whether packaging is intact, if the food is dependent on the packaging to protect it from contamination;
- inspecting the food for visible signs of contamination;
- inspecting the food to determine whether it is damaged, or has deteriorated or perished;
- if the food is potentially hazardous, determining whether the food has been kept at temperatures that minimise the growth of pathogenic bacteria; and
- removing contaminants that may be present in the food before use (for example washing fruits and vegetables).

A food business would generally not be expected to conduct microbiological, chemical or physical tests on ingredients to determine their safety or suitability. However, testing may be necessary for food manufacturers where poor-quality ingredients will affect the safety or suitability of the food being manufactured. This is particularly important when the ingredient is being used in a food that will not be further processed to ensure its safety and suitability. For example, raw fish that will be sold in sushi needs to meet more stringent microbiological standards than raw fish that will be cooked.

(b) when processing food:

(i) take all necessary steps to prevent the likelihood of food being contaminated; and

The food business is required to take all necessary steps to prevent the likelihood of food being contaminated. These steps include:

- not contaminating ready-to-eat food with raw food by ensuring that utensils used to prepare raw food are not used to prepare ready-to-eat food unless they have been cleaned, sanitised and dried;
- minimising contamination from food handlers;
- using clean, dry equipment that is in good working order to process food;
- ensuring chemicals are kept separate from food processing areas;
- minimising the likelihood of contamination from the areas where the food is being processed including contamination from dirt and dust, pests and foreign objects such as glass and metal; and

- not mixing different batches of food, to avoid transferring contamination from one batch of food to another.

Example

If tongs or knives that will be used in contact with food are stored in containers of water between uses, they may contaminate the food. Bacteria from tongs or knives will be able to grow in the water and can then be transferred to the food when the tongs or knives are used. This is likely to occur even if the water contains a sanitiser as any food residue in the water will lessen the effect of the sanitiser. It is preferable that such utensils are not stored in water unless the water is very cold (5°C or less) or very hot (60°C or more), or is changed regularly, for example every hour.

Example

At the end of the day's trading, a restaurant keeps its leftover salads for use the following day. The next day fresh salads are made. The restaurant ensures that the leftover salads are used first and are not mixed with the fresh salads. This avoids transferring any contamination that may be present in the leftover batch of salad to the new batch.

- (ii) **where a process step is needed to reduce to safe levels any pathogens that may be present in the food — use a process step that is reasonably known to achieve the microbiological safety of the food.**

Where a process step is needed to reduce to safe levels any pathogens that may be present in the food, a food business must use a process step that is reasonably known to achieve the microbiological safety of the food. The safety of food is usually achieved through cooking or other heating processes such as pasteurisation and retorting. Other steps used to make food safe include drying, salting, pickling and fermenting or a combination of these, as well as irradiation and depuration. Freezing is also used to destroy parasites in raw meats and seafood.

The food business must decide whether such a step is needed and, if needed, what step will be used.

Is the step needed?

All food handled by the food business will fit into one of the categories below:

- the food will be sold unprocessed or partly processed and the person or company receiving the food will process or finish processing this food before its consumption; for example raw meat and fish, raw fruits and vegetables, and partially cooked foods;
- the food will be sold by the food business unprocessed for consumption as it does not need to be processed to ensure its safety; for example nuts in their shells, and raw bananas;
- the food has already been processed and does not need to be further processed to ensure its safety; for example any ready-to-eat food; or
- the food business will be responsible for processing the food to ensure its safety.

Almost all foods are processed to ensure their safety before consumption. The only exceptions are foods that are eaten raw such as fruits and vegetables and unpasteurised juices, nuts that have not been roasted, certain seafood (oysters, seafood used in sushi, etc.) and some raw meats. A food business that sells ready-to-eat unprocessed foods needs to be reasonably certain that these foods do not contain infective levels of food-borne pathogens. This assurance should be obtained from the suppliers of these foods.

What step will be used?

If the food business determines that it is responsible for processing a food to ensure its safety, it must use a process step that is reasonably known to achieve the microbiological safety of the food. This means, for example, that if the food business must cook a food to ensure its safety, the cooking step must be adequate to achieve this.

The phrase 'reasonably known' has been included to recognise that a food business can only use a process step that is known to achieve the microbiological safety of the food and it is reasonable to believe this step will achieve the microbiological safety of the food. If a process is subsequently found to be inadequate because of new findings, or a new process has yet to be validated, the food business cannot be expected to have taken account of this.

Example

A food business cooks chickens. The business needs to determine how long the chickens need to cook at a particular temperature to ensure they are thoroughly cooked. A chicken is sufficiently cooked when its internal temperature has reached at least 74°C or when the juices of the chicken run clear when the chicken is pierced between the breast and the leg.

7(2) A food business must, when processing potentially hazardous food that is not undergoing a pathogen control step, ensure that the time the food remains at temperatures that permit the growth of infectious or toxigenic micro-organisms in the food is minimised.

During processing (which is defined in the standard to include preparation), the time that food remains at temperatures that permit the growth of pathogenic micro-organisms must be kept to a minimum. This is particularly important for foods that will not undergo any further processing to reduce pathogens to safe levels or where the process cannot destroy micro-organisms or toxins that could develop during processing.

It is recognised that for some processing steps, such as fermentation, to be successful, potentially hazardous foods must be kept at unsafe temperatures for extended periods. This requirement is not intended to restrict, in these circumstances, the time that potentially hazardous foods are at unsafe temperatures. However, it is intended to stop unnecessary delays in processing food.

Although food businesses are allowed to process potentially hazardous food at temperatures that permit the growth of pathogenic micro-organisms, the food business should monitor the length of time that food is at these temperatures and keep this time to a minimum. If potentially hazardous foods are outside refrigeration several times during preparation, it is important to note and add these times together to ensure that they do not

exceed safe limits. Note that this only refers to ready-to-eat food and not raw food that will be cooked or otherwise processed to reduce pathogens to safe levels. The total time that ready-to-eat potentially hazardous food can be outside temperature control is discussed in Appendix 1.

The time that raw potentially hazardous foods such as raw meat are outside temperature control during processing (which includes preparation) should also be kept to a minimum. The main reason is to prevent food spoilage. Raw meat will spoil quickly if not kept refrigerated. Minimising the time that raw meats are outside temperature control during processing will also minimise the growth of pathogenic bacteria on these meats. However, these may not be hazardous if the meat will be cooked to destroy any pathogens that have grown in the meat.

Some types of fish need care to ensure they are safe. Certain bacteria in some types of fish can produce dangerous levels of histamine (a dangerous toxin) if these fish are kept unrefrigerated for too long. Fish implicated in histamine poisoning include tuna, mackerel, bonito, saury, mahi mahi, bluefish, sprat, salmon, pilchard, herring, yellowtail, sardine and anchovy (Ward & Hackney 1991). Cooking does not destroy this toxin. It is essential that raw fish capable of producing histamine be kept for the minimum time outside temperature control. Fish that contains dangerous levels of histamine will not necessarily appear spoiled. The legal limit for histamine in fish and fish products is 100 mg/kg and is specified in the *Food Standards Code*.

Example

At a takeaway, ham is removed from refrigeration, sliced and re-refrigerated. This takes 30 minutes. Later the sliced ham is again taken out of the refrigerator to be made into sandwiches. This takes 30 minutes. The ham sandwiches are then displayed at room temperature for periods up to 3 hours over the lunch period. Each sandwich is labelled with the date the sandwich was made and the latest time it can be sold. For example, a time of 2.30 p.m. indicates that the sandwich must be sold on or before 2.30 p.m. on the day the sandwich was prepared. Sandwiches that have not been sold by the specified time are discarded.

Thawing food

Processing includes thawing and businesses will need to ensure that, when frozen potentially hazardous foods are thawed, the food is kept for a minimum time at temperatures that support the growth of food-borne pathogens. There are a number of ways that frozen potentially hazardous food can be thawed. There are advantages and disadvantages for each method. These are explained in the table opposite.

Thawing frozen potentially hazardous food may pose a food safety risk if the temperature of the food is between 5°C and 60°C during thawing, allowing food poisoning bacteria to grow. The food safety risk is much higher for frozen **ready-to-eat** potentially hazardous food being thawed than for frozen **raw** potentially hazardous foods that will be cooked or otherwise processed to make them safe before eating. This is further explained below.

Ready-to-eat frozen potentially hazardous foods should be thawed in a refrigerator operating at 5°C or below, or alternatively in the microwave. If these foods are thawed at

Thawing methods	Advantages	Disadvantages
Refrigerator	Microbial growth minimised: food will be maintained at 5°C or below, minimising the growth of food-borne pathogens.	Time: it can take several days to thaw a food completely and therefore the business needs to plan well ahead if this method is chosen. Space: refrigerator space may be limited for thawing purposes.
Microwave	Quickest: this method is the fastest option for thawing. Microbial growth minimised: food will only be at temperatures between 5°C and 60°C for a short period.	Incomplete or over-thawing: to achieve complete thawing, food may partially cook, reducing food quality. Space: larger items may not fit in microwave for thawing.
Running water	Quicker: this method will be quicker than a refrigerator.	Cost and availability: cost and availability of water may make this option impracticable. Space: business must have a sink available that can be used for this purpose. Suitability: this option will not be suitable for foods susceptible to water damage unless the food is contained within impermeable packaging. Microbial growth: the extent of microbial growth will depend on the temperature of the water used—the lower the temperature, the less growth expected.
Room temperature	Quicker: this method will be quicker than a refrigerator.	Microbial growth: the time that ready-to-eat potentially hazardous food is at temperatures between 5°C and 60°C must be monitored to ensure safe limits are not exceeded; growth of spoilage organisms in raw meats may cause the food to spoil if thawing is not closely monitored; production of histamine toxin may occur in raw fish capable of producing this toxin.

room temperature, food poisoning bacteria may grow in the food and, as the food will not undergo any further processing (such as cooking) before it is eaten, the bacteria will not be destroyed. It is important that, if the food is thawed at room temperature, the time that the food is at temperatures between 5°C and 60°C needs to be noted to ensure that safe time limits are not exceeded. The total safe time that ready-to-eat potentially hazardous food can be outside temperature control is discussed in Appendix 1.

Frozen raw meats including chicken and turkey may be able to be safely thawed outside refrigeration as food-borne pathogens that may grow during the thawing process should be destroyed when the meat is cooked. However, if these meats are thawed outside refrigeration, there is a risk of the meat spoiling due to the growth of spoilage organisms. Whatever method is chosen for thawing frozen raw meats, there are two critical food safety issues. The first is to ensure that juices from the raw meats do not contaminate other foods during the thawing process; the second is to ensure that the raw meats are thawed completely before cooking unless the meats can be safely cooked from a frozen or partially frozen state.

Small portions of raw frozen meat and fish may be able to be safely cooked without the need for complete thawing but large portions are likely to require complete thawing. For example, single-portion frozen raw foods such as beef burgers and chicken nuggets are often cooked from the frozen state. However, if larger portions of raw meat such as chickens and turkeys are still partly frozen before cooking, it is harder to cook them thoroughly. There may also be sufficient time during cooking for food poisoning bacteria to grow to dangerous levels or for heat-stable toxins to be produced. Food poisoning incidents have occurred from cooking partially thawed meats.

Frozen raw fish capable of producing histamine should always be thawed in a refrigerator or microwave to minimise the production of histamine in the fish. Cooking does not destroy histamine.

7(3) A food business must, when cooling cooked potentially hazardous food, cool the food:

- (a) within two hours — from 60°C to 21°C; and
- (b) within a further four hours — from 21°C to 5°C,

unless the food business demonstrates that the cooling process used will not adversely affect the microbiological safety of the food.

If potentially hazardous food needs to be cooled after cooking it needs to be cooled to 5°C or below as quickly as possible. The less time that cooked potentially hazardous food remains at temperatures between 5°C and 60°C during the cooling process, the less opportunity there will be for pathogenic bacteria to grow. Pathogenic bacteria may be present in cooked food from spores that survive the cooking process and from vegetative (live) cells that have been able to survive the cooking process due to undercooking, as well as from contamination that occurs after cooking.

While cooking destroys the vegetative (or live) cells of food-borne bacteria, it will not destroy the spores of the food-borne pathogens *Clostridium perfringens*, *Clostridium botulinum* and *Bacillus cereus*. If cooked potentially hazardous food is left to cool too

slowly, either at room temperature or in a refrigerator, the spores of these pathogens can germinate and then multiply to dangerous levels.

Following cooking, cooked foods can become contaminated with pathogenic bacteria if they are not handled correctly. For example, cooked foods can be contaminated with pathogenic bacteria from contact with a food handler, dirty equipment and utensils, or dust or dirt.

The cooling times and temperatures specified have been adopted from the US Food Code. The initial drop in temperature (from 60°C to 21°C) must be faster than the second drop in temperature (from 21°C to 5°C) as the optimum temperature for the growth of food-borne pathogens is 43°C.

Food businesses should use a probe thermometer to monitor how quickly food is being cooled. As the whole of the food being cooled must comply with the requirement, it is important to measure the temperature of the part of the food that will take the longest to cool. This is usually the centre of the food. If the business uses the same cooling process for each batch of food, and the process complies with the requirements, it is not necessary to measure the temperature of each batch of food. The same cooling process means that a food item is cooled under identical conditions, for example, the food is always cooled in the same container to the same depth. However, the business should continue to conduct regular temperature checks to ensure that any changes in environmental conditions, such as refrigerator temperature or air flow, have not significantly affected the cooling process.

Complying with the above requirement does not mean that food businesses need to place food in a refrigerator as soon as cooking has been completed. They can leave the food to cool at room temperature until it drops to 60°C. Further cooling at room temperatures may also be possible, provided the business can still ensure that the food is cooled from 60°C to 21°C or below within 2 hours. Generally this will not be possible without refrigeration.

Note that large volumes of food may not cool within the times and temperatures specified. For large volumes of food, the proprietor must reduce the mass and the volume of the food. This can be achieved by cooking smaller amounts or by placing the food in shallow containers (5 cm deep). Cooling is also enhanced if cool air circulates around the container of food to be cooled. Hence potentially hazardous food should be cooled on racks and not on the floor of a coolroom.

Example

A food business's usual practice is to cook 12 cups of rice (the contents of a rice-cooker) on a daily basis and cool this rice in a container in the coolroom overnight for use the next day. The food business monitors the temperature of the cooked rice as it is cooling and determines that the rice is not being cooled to 5°C within the 6-hour period specified within subclause 7(3). The food business needs to work out a cooling method that complies with the 6-hour cooling period. It determines that if it halves the cooked rice and places it on two shallow trays for cooling, it can meet the 6-hour cooling requirement.

Alternative cooling processes

Extended cooling times may be necessary where large cooked meats or other products need to be cooled. Large volumes of food will not cool to below 5°C within the 6-hour requirement unless the mass and volume of the food can be decreased. If this option is not available, the business will need to put in place an alternative cooling system that will not adversely affect the microbiological safety of the food.

However, there are published scientific papers that indicate that cooling times may be extended without compromising food safety. A recently published comprehensive review of scientific papers on cooling potentially hazardous food is contained in a document on cooling meats after cooking. This document reports on work aimed at identifying safe rates for cooling meat products, which because of their size and shape are inherently slow to cool. The details of this document and its main findings are included at Appendix 3.

For example, if a food business wishes to extend cooling times for bulk meats, it must demonstrate that the alternative cooling process it uses will not adversely affect the microbiological safety of the food. It can do this by complying with:

- a food safety program as outlined in paragraph 25(a) of this standard;
- a process based on documented sound scientific evidence such as that outlined above and in Appendix 3; or
- written guidelines based on sound scientific evidence, which are recognised by the relevant food industry.

If the food business does not have a food safety program in place, the business must at a minimum demonstrate its compliance with its alternative cooling process by monitoring the temperature of cooling meats to ensure that the temperatures fall within the time limits determined. It must keep written records of this. The business does not need to monitor and record temperatures and times for each meat if it establishes a system that ensures the temperature and time limits will be met. If such a system is established, the business can monitor and record temperatures less frequently.

Example

A bakery cooks pie meat the day before it is used. The use of a probe thermometer determines that if the pie meat is 15 cm deep in a container and is placed in the coolroom 1 hour after cooking, the cooling times are outside the times and temperatures specified in subclause 7(3) but are within the times and temperatures specified in Appendix 1. The process is documented and the business ensures the procedure for cooling the meat remains the same for each batch, that is, the same depth and container size are used for cooling and the coolroom operating temperature is kept at or below 5°C.

7(4) A food business must, when reheating previously cooked and cooled potentially hazardous food to hold it hot, use a heat process that rapidly heats the food to a temperature of 60°C or above, unless the food business demonstrates that the heating process used will not adversely affect the microbiological safety of the food.

This requirement only applies to potentially hazardous food that is to be held hot, for example in a bain-marie. It does not apply to food that is being heated for immediate consumption. This food can be heated to any temperature as it is not being heated for holding hot.

Potentially hazardous food that has been previously cooked and cooled and is to be held hot must be heated rapidly to a temperature of 60°C or above. This is to minimise the amount of time that the food is at temperatures that allow food-borne pathogens to grow during the heating process. Pathogenic bacteria may be present in cooked food from spores that survive the cooking process and vegetative (live) cells that have been able to survive the cooking process due to undercooking, as well as from contamination that occurs after cooking. These pathogens can grow while the food is being cooled and some may also grow during cold storage. 'Rapidly' has not been defined but the time taken to heat all the food to 60°C should not exceed 2 hours.

A food business may use an alternative heating process if the business can demonstrate that the alternative process does not compromise the microbiological safety of the food.

Food businesses are not required to heat potentially hazardous food that has been previously cooked and cooled to temperatures higher than 60°C. Food businesses may be advised to heat food to at least 70°C for at least 2 minutes. Although heating to this time and temperature will destroy food-borne bacteria that may have grown in the food after it was cooked, it is not a requirement because:

- it should not be necessary if the food has been cooked and cooled correctly and protected from contamination, which are all requirements of this standard;
- if cooked potentially hazardous food has not been handled safely, heating this food to at least 70°C for at least 2 minutes cannot be relied upon to make the food safe, as it will not destroy the toxin produced by *Staphylococcus aureus*. This pathogen may be present in the food from contamination after cooking; and
- it may not be possible to heat foods to 70°C for 2 minutes, for example foods that are high in protein may denature.

However, if previously cooked and cooled potentially hazardous food can be heated to at least 70°C for at least 2 minutes, this heating process is recommended.

Potentially hazardous food that has already been reheated should not be cooled and re-heated a second time, to avoid the food being at temperatures that support the growth of pathogenic bacteria four times (cooling, heating and re-cooling and re-heating). If pathogens were present in the food, they could multiply to dangerous levels. While the use of leftovers is not specifically prohibited in the standard, food businesses are obliged under subparagraph 7(1)(b)(ii) to use a process step that achieves the microbiological safety of the food. However, while proper reheating (70°C for 2 minutes) will kill food-borne pathogens that may be present, some toxins such as that produced by *Staphylococcus aureus* will not be destroyed. Therefore, if a business wishes to reuse leftovers it needs to be sure that the food is not contaminated.

Example

Precooked boiled rice is placed cold into a bain-marie. After 6 hours, the temperature of the rice is still only 46°C. This practice is unsafe, as the food-borne pathogen *Bacillus cereus* may have been able to grow to dangerous levels. The food business is advised to heat the rice in an oven or microwave to at least 60°C before placing the rice in the bain-marie unit and to ensure the thermostat of the unit is set at a level high enough to maintain the temperature of the rice at 60°C or above.

8 Food display

Food on display for sale or service must be:

- protected from contamination; and
- for potentially hazardous food, either maintained at temperatures that minimise the growth of pathogenic micro-organisms or displayed for a time that does not allow dangerous levels of pathogens to grow.

8(1) A food business must, when displaying food, take all practicable measures to protect the food from the likelihood of contamination.

Most displayed food is protected from contamination by packaging. Food businesses should ensure packaging remains intact so that the protection offered by the packaging is maintained. Food that may be contaminated due to damaged packaging must be removed from display and dealt with in accordance with the requirements under clause 11 **Food disposal**.

Where the food is not packaged, the food business must take special precautions to protect the food from contamination. Specific requirements apply to unpackaged ready-to-eat food on display and these requirements are discussed below. These requirements do not apply to unpackaged food on display that is not ready to eat, such as raw meats, and raw fruits and vegetables. However, processed raw meats, fruits and vegetables that are unpackaged and ready to eat, such as salads and sushi, will need to comply with these requirements.

While no specific requirements have been included for displaying unpackaged food that is not ready to eat, such as raw meat and raw fruits and vegetables, the business is still required to protect this food from contamination. This includes protecting the food from pests, dust and dirt.

8(2) A food business must, when displaying unpackaged ready-to-eat food for self-service:

Unpackaged ready-to-eat food on display is particularly vulnerable to contamination and therefore certain minimum requirements have been specified to ensure these foods are adequately protected. These minimum requirements cover supervision, provision of separate serving utensils and physical barriers.

These requirements apply to all unpackaged ready-to-eat food that is available for self-service including self-service salad bars and smorgasbords, self-service breads, self-service confectionery and food available for self-service at bars such as nuts. They do not apply to

the self-service of nuts in the shell and whole, raw fruits and vegetables that are intended for hulling, peeling or washing by the consumer before consumption. These foods are not considered ready-to-eat foods. However, it would apply to whole fruit and vegetables displayed as part of a smorgasbord or salad bar for eating without hulling, peeling or washing.

- (a) ensure the display of the food is effectively supervised so that any food that is contaminated by a customer or is likely to have been so contaminated is removed from display without delay;**

Supervision of displayed unpackaged food is considered essential to discourage consumers from handling and tampering with exposed food. Supervision also enables action to be taken if food does become contaminated. The supervision of the service of this food needs to be at a level that ensures that if a customer contaminates food or is likely to have contaminated food, the business is aware of this and can remove the food from display. The food business should determine how best to achieve this outcome. Supervision may be achieved by requiring staff to monitor the display or by the use of surveillance cameras. Note that supervision is only required when customers are accessing food from the display.

Unpackaged food displayed for self-service in tamper-resistant equipment or containers does not need to be supervised (see comments under subclause 8(3) on the next page).

- (b) provide separate serving utensils for each food or other dispensing methods that minimise the likelihood of the food being contaminated; and**

The food business must provide separate serving utensils for each food on display, or other dispensing methods that minimise the likelihood of the food being contaminated. Providing separate serving utensils has two main purposes: it encourages consumers not to handle the food and it prevents contamination from one food being transferred to another. Most food businesses will provide tongs, serving spoons or forks to comply with this requirement.

- (c) provide protective barriers that minimise the likelihood of contamination by customers.**

The food business must provide protective barriers that minimise the likelihood of contamination by customers. Physical barriers between customers and the food discourage direct hand contact but also ensure that contamination from aerosols (from customers' coughs and sneezes) is minimised.

Ideally, a protective barrier should be provided by the use of permanent display units. These permanent display units should protect the unpackaged food in the display by providing a barrier between the customers' breath and the food, by the use of guards. It is suggested that permanent display units be provided where food is being displayed on a regular basis from a permanent site.

However, it is recognised that for temporary displays, other mechanisms will need to be used to protect the displayed food from contamination. For example, if food is being displayed for self-service as part of an outdoor catered wedding, a permanent display unit may not be available. In such situations, dishes with removable covers, for example chafing dishes, need to be provided. These covers need to remain available so that they can be placed back on the food when the customers have finished serving themselves.

8(3) Subclause (2) does not apply to food in tamper resistant equipment or containers.

Unpackaged food displayed for self-service in tamper-resistant equipment or containers is not required to be supervised, or have separate serving utensils or protective barriers. An example is confectionery machines or dispensers where the customer does not have access to the confectionery other than that being purchased. However, containers that allow the customer to handle food for sale are required to comply with all of the requirements in subclause 8(2).

8(4) A food business must not display for sale on any counter or bar, any ready-to-eat food that is not intended for self-service unless it is enclosed, contained or wrapped so that the food is protected from likely contamination.

This requirement is intended to prohibit unpackaged food from being displayed on counters and bars unless it is enclosed, contained or wrapped in some way, for example, unpackaged cakes, slices, biscuits and breads. If some form of packaging or barrier does not protect this food, it is susceptible to contamination from customers.

The requirement applies to ready-to-eat food that is not intended for self-service. Note that if the food is intended for self-service the previous requirements in subclause 8(2) apply.

The requirement does not apply to food that is not ready to eat. This means, for example, that whole raw fruits and vegetables can be displayed on bars and counters unpackaged, provided they are intended to be hulled, peeled or washed by the consumer.

8(5) A food business must, when displaying potentially hazardous food:

(a) display it under temperature control; and

Potentially hazardous food on display must be maintained either at or below 5°C or at or above 60°C unless the food business displaying the food can demonstrate that the microbiological safety of the food will not be adversely affected by displaying the food at another temperature.

There will be circumstances in which it is difficult or impractical to maintain the temperature of displayed potentially hazardous food either at or below 5°C or at or above 60°C. If the food is being displayed in an open hot or cold display unit, it is often difficult for the food to be kept at a constant temperature. It may also be impractical for a food business to display large amounts of displayed food at these temperatures if it has been freshly prepared for immediate consumption or sale, for example pre-made sandwiches in a coffee shop where the sandwiches have been freshly made and packaged for sale over the lunch period.

Potentially hazardous food can be safely displayed at temperatures between 5°C and 60°C, provided that the time that the food is at these temperatures is kept to a minimum. The use of time in conjunction with temperature as a control for the growth of pathogenic bacteria in potentially hazardous food is further discussed in Appendix 1.

Example

A bistro has ready-to-eat potentially hazardous food in display units for sale over the luncheon and dinner periods. The refrigerated display units can only maintain the cold food at temperatures around 15°C. The hot display units can keep the food at temperatures above 60°C, but because the food dries out quickly the business keeps the hot food at approximately 45°C.

When the food business is inspected, the business claims that its practices are safe, because the food is only kept at these temperatures for a total period of less than 4 hours and then discarded. However, the business cannot provide evidence that these practices are occurring and hence it is not able to demonstrate to the inspector that it has safe alternative systems in place.

The business is required to either keep the food at or below 5°C or at or above 60°C or put in place documented alternative systems using time as a control.

(b) if it is food that is intended to be displayed frozen, ensure the food remains frozen when displayed.

If a food business intends to display food frozen, then the freezer used for this purpose must keep the food frozen while it is being displayed, for example frozen-food display cabinets in supermarkets. A temperature for the storage of frozen potentially hazardous food has not been specified. Potentially hazardous food that is frozen, regardless of the temperature, complies with this requirement. However, food businesses should follow storage instructions recommended by the manufacturer of the food to maintain product quality and shelf life.

9 Food packaging

The clause ensures that if food is packaged:

- it is packaged in a material that is fit for that purpose;
- the food is not contaminated by the packaging material; and
- the food is not contaminated during the packaging process.

9 A food business must, when packaging food:

(a) only use packaging material that is fit for its intended use;

A food business should not place packaging materials in contact with food until it has established that the material is appropriate to be used for this purpose. This information can be obtained from the supplier of the material or directly from the manufacturer. The food business should establish the following:

- that the packaging material is appropriate for food contact use;
- the types of foods that can safely come into contact with the packaging material, for example a packaging material may not be appropriate for acidic foods;

- what the packaging material is suitable to be used for, for example dry storage, refrigeration, freezing and microwaving; and
- whether the packaging material is reusable.

Example

A food business wishes to purchase plastic food storage containers for chilling, freezing and microwaving food. It tells its supplier that these are the requirements for the containers. The supplier finds storage containers that meet these criteria and shows documentation to the food business to prove that the containers are appropriate.

(b) only use material that is not likely to cause food contamination; and

‘Contaminant’ means any biological or chemical agent, foreign matter, or other substance that may compromise food safety or suitability. Hence, a packaging material must not compromise the safety and suitability of food that comes into contact with it. A packaging material may contaminate food in three ways:

- by leaching chemical substances into the food;
- by transferring micro-organisms, dirt or other foreign material that may be contaminating the packaging material itself; or
- if parts of the packaging itself break off into the food, for example glass.

There are some legal limits specified in the *Food Standards Code* for chemical contaminants in food. These must not be exceeded. Standard 1.4.1 *Contaminants and Natural Toxicants* specifies maximum permitted concentrations for metals as well as vinyl chloride and acrylonitrile. Packaging materials must not leach into the food more than the specified limit for the contaminant in this standard.

Packaging materials contain many other chemicals that may contaminate food. These chemicals have no legal limit. Where no limit is specified, the manufacturer of the packaging material must ensure that the packaging material will not endanger the safety and suitability of the food in contact with it. Specifically, it is essential to minimise any migration of substances into the food from the packaging material. If migration occurs, there should be no known toxic hazards to the consumer of the food. The manufacturer of the packaging material must consider the likelihood of substance migration, for both the type of food that will come into contact with the packaging material and the conditions to which the food and packaging material may be subjected. The manufacturer may refer to existing Australian and international standards on packaging materials to establish safe limits.

Australian Standard 2070–1999 *Plastic materials for food contact use*, produced by Standards Australia, is not mandatory but does provide useful guidance. It refers to relevant international standards from Europe and the United States on manufacturing plastic materials for food contact use.

The clause does not specifically prohibit the use of packaging materials manufactured from recycled materials. Packaging materials manufactured from recycled materials may be used provided they are suitable for food contact use and will not contaminate food that comes into contact with the material.

A packaging material may contaminate food if it is not clean and free from foreign matter. Therefore packaging materials must be protected from contamination before they are used. Contamination may occur from dust, dirt and pests. A packaging material that may be contaminated must not be used in contact with food.

Example

A food business is storing packaging material for use in contact with food in a shed at the back of the premises. The shed is not clean nor vermin proof. The food business needs to find a more appropriate place to store the packaging material, for example a food storage area.

This clause does not prevent the use of glass or other packaging materials prone to breakage. However, if these materials are used they should be able to withstand reasonable handling, to avoid breakages.

Packaging materials that have been used to store non-food items such as cleaning or agricultural chemicals must never be used in contact with food. Even if the packaging material were to be thoroughly cleaned, harmful chemical residues could remain and contaminate the food.

While not an offence under this standard, food packaging materials should never be used to store cleaning or other chemicals, to avoid someone mistakenly thinking the packaging material contains food. The chemical could then be used in food or accidentally served to customers. The storage of poisons in food containers may also breach State and Territory poisons legislation.

(c) ensure that there is no likelihood that the food may become contaminated during the packaging process.

During packaging the food may be exposed to contamination from:

- the packaging equipment itself, for example the equipment may be dirty or a part of the equipment such as machinery oil or grease may contaminate the food;
- foreign matter such as dirt, dust, insects, glass, metal and plastic; and
- food handlers contacting the food directly or indirectly, for example, if items such as jewellery worn by the food handler fall into the food.

Example

In a cheese manufacturing plant, the cheese is exposed while it is being packaged. The manufacturing plant has regular maintenance carried out on its airconditioning system. While the maintenance is carried out, dirt and dust in the system is disturbed. For this reason, the business decides that the maintenance of the airconditioning system will take place in the hours that the plant is not operational to avoid contaminating the cheese.

10 Food transportation

This clause requires food during transport:

- to be protected from contamination; and
- if the food is potentially hazardous, to be maintained at a temperature that minimises the opportunity for pathogenic bacteria to grow, having regard to the time it takes to transport the food.

This clause applies to all food being transported from one place to another, whether within premises or from one premises to another. For example, it includes food being transported to wards in a hospital, and food being transported in vehicles.

10 A food business must, when transporting food:

(a) protect all food from the likelihood of contamination;

Food would normally be packaged when it is transported, providing protection for the food from contamination. However, where packaging provides protection for the food, care should be taken to ensure the packaging does not become damaged or itself contaminated in a way that may affect the safety or suitability of the food.

Packaging may become damaged by poor handling or by being exposed to rain or other environmental factors.

Packaging may become contaminated by exposure to poisonous chemicals, which may affect the safety and suitability of the food. Food should not be transported with poisonous chemicals but in some circumstances this will be unavoidable, for example, during delivery of groceries. This is acceptable if chemicals are packaged separately from food items.

Unpackaged food is vulnerable to contamination during transportation. The transport vehicle itself may provide protection, if the section of the vehicle where the food will be placed is clean and enclosed. For example, meat carcasses are transported unpackaged but are enclosed within the transport vehicle.

If different types of foods are transported unpackaged within a truck, care must be taken to ensure that contamination from one food is not transferred to another. For example, ready-to-eat foods must be protected from contamination from raw meats.

Transporting unpackaged food in open vehicles would normally not be acceptable unless the safety and suitability of the food is unlikely to be compromised by exposure to the environment. Raw fruits and vegetables are often transported in open trucks after harvesting. This may not affect the safety and suitability of the fruits and vegetables if they are to be further processed to remove contamination before they are eaten.

Note that paragraph 24(1)(a) of Standard 3.2.2 effectively prohibits the transport of live animals, other than seafood or other fish or shellfish, in the part of the vehicle that is also carrying food.

(b) transport potentially hazardous food under temperature control; and

During transport, potentially hazardous food must be maintained either at or below 5°C or at or above 60°C unless the food business responsible for transporting the food can

demonstrate that keeping the food between 5°C and 60°C for the transport time will not adversely affect the microbiological safety of the food. If the food business delivers potentially hazardous food at a temperature between 5°C and 60°C and cannot demonstrate to an enforcement officer that this will not adversely affect the safety of the food, it has committed an offence.

This means that potentially hazardous food can be safely transported at temperatures between 5°C and 60°C provided that the transport time is short. The use of time as a control is discussed in detail in Appendix 1. The maximum amount of time that the business has to transport the food, without exceeding safe limits, will depend on:

- the previous history of the food — how long the food has been at temperatures between 5°C and 60°C before being transported;
- the temperature of the food during transportation — the closer the temperature of the food to the optimum temperature for pathogenic growth (43°C), the less time the food business will have for transporting the food outside refrigeration. Therefore, if the food reaches a maximum temperature of 15°C during transportation, the business has more time available than if the food reaches a maximum temperature of 30°C (this is explained in Appendix 1); and
- the needs of the food business receiving the food, as this business may specify the temperature range at which the food is to be delivered.

As a general rule, food businesses should not transport potentially hazardous food without keeping the food cold (5°C or below) or hot (60°C or above), if transport times will be 2 hours or longer (see Appendix 1 for more detail).

If a food business decides to use time as a control rather than temperature, the business must monitor and record the amount of time that the potentially hazardous food is between the temperatures of 5°C and 60°C during transport. This is to ensure that maximum times are not exceeded and to demonstrate to the food business receiving the food as well as the enforcement authority that the safety of the food will not be affected. Record keeping may not be necessary if the business has already demonstrated that a transport journey is consistently within safe time limits, for example it is always less than 2 hours.

Potentially hazardous food that needs to be kept cold during transportation should be transported in vehicles with refrigeration equipment fitted. However, the food may also be kept cold using insulation, ice bricks or other means. Note that time must be monitored if the food cannot be maintained at 5°C or below by any one of these methods.

Example

A small restaurant purchases gourmet meat pies from a local manufacturer for sale on the day they have been made. The local manufacturer is prepared to supply the pies fresh to the restaurant on a daily basis. The two businesses discuss how the pies are to be delivered and come to the following agreement. The restaurant will accept the pies unrefrigerated provided that each batch of pies is delivered with documentation indicating the time the pies were removed from the oven. The restaurant will not accept pies that are delivered more than 2 hours after the time they were removed from the oven. The restaurant refrigerates the pies on receipt.

Example

A takeaway food outlet offers a home delivery service for hot food. It has established and documented that, within the delivery area of the premises, all food can be transported to the customer's home within 1 hour. The food business therefore determines that it does not need to ensure that the food is maintained at a temperature of 60°C and above while it is being transported.

(c) ensure that potentially hazardous food which is intended to be transported frozen remains frozen during transportation.

The food business transporting frozen potentially hazardous food must keep this food frozen unless otherwise requested by the food business that is to receive this food. The food business receiving the food may request otherwise, if it needs the food thawed or partially thawed for processing. This request should be in writing to avoid any disputes.

A temperature has not been specified for keeping potentially hazardous food frozen. Provided the food remains frozen, the food can be at any temperature.

Temperature control of food that is not potentially hazardous during transport

Temperature requirements have not been included for transporting food that is not potentially hazardous, for example frozen vegetables. These foods need to be kept at temperatures that do not allow the food to deteriorate or perish. It is an offence under State and Territory Food Acts to sell food that has deteriorated or perished, or handle food in a manner that is likely to cause it to deteriorate or perish.

Storage instructions may be provided by the manufacturer. These storage conditions need to be followed during transportation to ensure that food keeps for its intended shelf life as stated by the 'use by' or 'best before' date.

11 Food disposal

This clause requires a food business to ensure food that is recalled, returned or is suspected of being unsafe and/or unsuitable is held, separated and identified from other food until it is:

- destroyed;
- used for purposes other than human consumption;
- returned to its supplier;
- further processed in a way that ensures its safety and suitability; or
- ascertained to be safe and suitable.

It also requires that food that has been served to a person is not resold unless the food has remained completely wrapped.

11(1) A food business must ensure that food for disposal is held and kept separate until it is:

What is meant by 'food for disposal' is outlined in subclause 11(2) below. A food business is required to hold and keep separate 'food for disposal' until it is assessed. Food that is being held and kept separate must also be identified (see subclause 11(3)).

Food that is immediately assessed and determined not to require holding does not need to be identified. For example, if food that is found to be mouldy is immediately disposed of, the food does not need to be identified because it is not being held. However, if the food business needs to keep the mouldy food, for example to return it to the supplier, the food will need to be kept separate and identified.

'Food for disposal' that needs to be held must be separated and identified so that it is not accidentally sold or used. A completely separate storage area is not required but these foods should be kept away from foods for sale. For example, foods that need to be held and kept separate may be placed together on one shelf in a refrigerator or dry storage area. The business may also choose to keep these foods in special containers. The held food must be identified as returned food, recalled food or food that is or may be unsafe or unsuitable, as the case may be.

Food for disposal must be held and kept separate until the business has decided what to do with the food. Subclause 11(1) requires the business to do one of four things to this food. These are discussed below.

(a) destroyed or otherwise used or disposed of so that it cannot be used for human consumption;

The business may destroy or dispose of the food in some way. This may also be the business's only option if the other options do not apply.

Food would usually be disposed of by placing it in the rubbish. However, if large amounts of food need to be disposed of, special arrangements may need to be made. The business should liaise with the local enforcement authority if large amounts of food are to be disposed of at the rubbish tip. The enforcement authority may require this food to be destroyed in some manner before it is dumped, to prevent it being pilfered from the tip and resold or used.

The food may be able to be used for purposes other than human consumption, for example animal feed.

(b) returned to its supplier;

Food may also be held, separated and identified for return to the supplier. Examples of circumstances in which food may be returned to the supplier include:

- food that is subject to recall;
- incorrect orders or deliveries; and
- food that has deteriorated or perished within its stated shelf life.

(c) further processed in a way that ensures its safety and suitability; or

The food may be able to be further processed to ensure its safety and suitability. For example, if a problem occurs during the manufacture of a food, it may be able to be re-manufactured to ensure its safety and suitability.

(d) ascertained to be safe and suitable.

If a food business determines that 'food for disposal' is safe and suitable, it can be resold. The food business should consider the following when assessing whether the food is safe and suitable for sale:

- if the food is packaged, that the packaging is intact and has not been damaged or tampered with;
- if the food is perishable, whether it has been handled correctly so that it is not likely to have become damaged, or have deteriorated or perished;
- if the food is potentially hazardous, whether the food has been maintained under temperature control;
- if the food is unpackaged, whether contamination of the food has occurred.

Examples where returned food may be assessed by a food business as being safe and suitable for resale include:

- packaged non-perishable food that is returned for exchange or refund by a customer to a supermarket;
- packaged food that is returned by a food business to the supplier because the order was incorrect; and
- food that was suspected by a food manufacturer to be unsafe or unsuitable and is subsequently found to be safe and suitable.

Note that food that has been served to a person and is then returned cannot be ascertained to be safe and suitable for resale unless the food was completely wrapped when served and has remained completely wrapped. See subclause 11(4) opposite.

11(2) In subclause (1), 'food for disposal' means food that:

(a) is subject to recall;

A manufacturer is likely to or may be required to recall food if the food is identified as being or likely to be unsafe or unsuitable or not complying with food legislation. A manufacturer may also voluntarily recall food that does not meet its own quality specifications. Food may be recalled for the following reasons:

- food may contain dangerous levels of pathogens;
- food may contain foreign matter such as glass, metal, insects;
- faulty packaging;
- incorrect labelling; and
- food is not processed to specification, for example incorrect ingredients.

The manufacturer or the supplier should advise a food business if a food is subject to recall.

(b) has been returned;

This includes any food that is returned to the food business from the person or business it has been sold to, for any reason. Examples are:

- food returned to a supermarket, restaurant or café;
- food returned to a manufacturer, wholesaler or transporter.

(c) is not safe or suitable; or

Food that is not safe or suitable includes:

- food that has become contaminated by foreign matter;
- food that has become contaminated with pathogenic bacteria or viruses;
- food that is damaged, or has deteriorated or perished.

(d) is reasonably suspected of not being safe or suitable.

There will be circumstances when the food business will not know whether a food is unsafe or unsuitable. However, if the food business reasonably suspects a food of being unsafe or unsuitable, the food is considered to be 'food for disposal'. Examples include:

- food that is reasonably suspected of being contaminated by foreign matter;
- food that is reasonably suspected of being damaged, or having deteriorated or perished;
- potentially hazardous food that has been at temperatures between 5°C and 60°C too long and may therefore be unsafe; and
- food that has not been processed correctly and may therefore be unsafe.

What is 'reasonable to suspect' cannot be defined and would be for a court of law to determine. The food business should use a commonsense approach. For example, if the food business breaks a glass which shatters near exposed food, it may be reasonable to suspect that the food could be contaminated with glass. However, if the glass shatters well away from the exposed food and upon checking no glass can be found in this food, it may be reasonable to assume that the food has not become contaminated.

11(3) A food business must clearly identify any food that is held and kept separate in accordance with subclause (1) as returned food, recalled food, or food that is or may not be safe or suitable, as the case may be.

The food must be identified in some way. If the food is packaged, the packaging material may be able to be marked or a label affixed to the packaging material. If the food is being held in a storage container, the container needs to be marked or labelled.

11(4) A food business must not sell food that has been already served to a person to another person unless the food was completely wrapped when served and has remained completely wrapped.

This subclause allows packaged food to be resold if the food was completely wrapped when served and has remained completely wrapped. This includes packaged condiments such as sugar, salt and pepper as well as spreads such as honey, jam and peanut butter. Condiments wholly contained within dispensers such as salt and pepper shakers may also be reused. Food that is only partially wrapped or enclosed, for example milk in a jug, may not be reused.

Unpackaged food (which includes drink) that is served to a person in a restaurant, café, bar, etc. must not be resold. Food that has been served to a customer for eating is very likely to be contaminated by that person in the process of consuming it and it can therefore not be resold. Even food that appears to have been untouched by the customer must not be resold. For example, rice served to customers in rice steamers or bread rolls in baskets must not be re-served to other customers.

Food that is placed before a customer incorrectly is permitted to be re-served, provided that the customer has not touched the food and the error is corrected immediately.

12 Food recall

This clause requires wholesale suppliers, manufacturers and importers to have a recall system that will ensure that unsafe food is returned to the supplier.

A recall system is the procedure that a food business uses to ensure that food it has manufactured, imported into Australia or distributed can be retrieved from the food supply chain if that food is found to be unsafe. A food recall should be differentiated from a food withdrawal. A food withdrawal is a system for withdrawing food that does not meet quality standards and where there is no public health and safety issue associated with the defect. This requirement does not cover food withdrawals.

Reasons for the recall could include contamination by pathogenic bacteria or the presence of chemicals or foreign matter that could cause physical harm to a person consuming the food.

If food businesses are in doubt as to whether a recall is necessary, they should contact their local health authority or ANZFA. If a food business needs to conduct a recall, ANZFA needs to be notified.

There is no legal obligation under this clause to have a system to retrieve unsuitable food although food businesses may use the same system for this purpose.

Two guides are available on food recall. The guide *Food Industry Recall Protocol* is for food businesses and explains in general terms what should be done when food products have to be removed from the supply chain and the type of information that should be included in recall systems. The guide *Government Health Authorities Food Recall Protocol* outlines the responsibilities of government (Commonwealth, State/Territory and local) in food recalls. These guides are available free of charge from ANZFA.

Food businesses are advised to consult the *Food Industry Recall Protocol* when developing a recall system.

12 A food business engaged in the wholesale supply, manufacture or importation of food must:

- (a) have in place a system to ensure the recall of unsafe food;**

The requirement applies to wholesale suppliers, manufacturers and importers. The requirement has been limited to these three sectors of the food industry because recalls can only be effective if the product is stored by the customer (either a retailer or a consumer),

that is, it is not for immediate consumption. Food intended for immediate consumption is likely to have been consumed before it can be recalled.

A retail food business (restaurant, takeaway, supermarket) is not required to have a recall system unless it is also a food manufacturer, importer or wholesaler.

For example, a coffee shop business that makes its own jam for use on the premises is not required to have a recall system for the jam. However, if the same business decides to sell this jam to the public, it will need a recall system.

The objectives of the recall system are to:

- stop any further distribution and sale of the unsafe product as soon as possible;
- inform the public and the relevant authorities of the problem (as is relevant to the particular problem); and
- retrieve the unsafe food.

The key features of the recall system required by this clause are:

1 A list of authorities that should be notified of the recall

This includes ANZFA and the Commonwealth and State or Territory ministers (depending on where the food was distributed) responsible for consumer affairs and fair trading and the purchasers of the product.

ANZFA needs to know because it is responsible for coordinating recalls nationally and keeping health departments informed of potential food-related health issues in their areas. Ministers are required to be notified under Commonwealth trade practices legislation.

2 Records of where the product has been distributed

Businesses that need to recall food may have to retrieve food from a number of different customers of the product.

A wholesale recall involves recovery of the product from wholesalers, distribution centres and importers.

A retail recall involves the additional recovery of the product from supermarkets, grocery stores, hospitals, restaurants and catering establishments, takeaways, health food stores and similar businesses that provide food to the public.

A consumer recall involves the additional recovery of the product from the public.

Manufacturers, wholesalers and importers need to maintain up-to-date lists of the businesses to which they supply their products, as well as which batches of product have gone where. The business must be able to identify which States, Territories and, where relevant, other countries receive the product. If only certain parts of Australia receive the product it will narrow the scope of the recall.

3 Advice to be given to customers to ensure that food is returned

Whether the recall is at wholesale, retail or consumer level (or all three) the following advice must be provided to businesses or persons who have the product:

- the name of the product and the batch code or date mark covered by the recall;
- why the food is being recalled;
- where to return unsold food; and
- who to contact in the company for further information.

The *Food Industry Recall Protocol* gives advice on ways of providing this information.

4 Arrangements for retrieving food that is returned by customers to supermarkets or other outlets if this is applicable

As part of a recall, customers may be advised to return the food to the place of purchase. This may be retail premises rather than the wholesaler, manufacturer or importer. The business recalling the food should tell the business that receives returned food that is subject to a recall how it should dispose of the food. Any business that has food returned to it, as part of a recall, is obliged to comply with clause 11 **Food disposal**.

5 Arrangements for assessing how much food has been returned and how much remains in the market place

The system should include a recording system for logging food that has been returned, to ensure, as far as is reasonably possible, that all the food is retrieved.

- (b) set out this system in a written document and make this document available to an authorised officer upon request; and**

The recall system must be documented in written form and available to an authorised officer on request.

The food business is not specifically obliged to have a copy of the recall system on the food premises as this may not be practicable. However, it is advisable to do so to allow prompt reference to it if a recall situation arises and to ensure it is immediately available should an authorised officer request to see it.

The document may be kept electronically provided it can be printed if an authorised officer requests it.

- (c) comply with this system when recalling unsafe food.**

The system will only ensure that food is recalled if the system is implemented by the food business. Therefore the food business must comply with the system it has developed if the business has to recall an unsafe product.

Division 4 — Health and hygiene requirements

Subdivision 1 — Requirements for food handlers

Clause 13 places a general obligation on food handlers to take all reasonable measures to ensure that their actions do not compromise the safety and suitability of food. Food handlers are also specifically obliged to comply with the requirements of clauses 14 and 15.

A ‘food handler’ is defined to mean a person who directly engages in the handling of food, or who handles surfaces likely to come into contact with food, for a food business. ‘Handling’ (of food) is also defined and includes making, manufacturing, producing, collecting, extracting, processing, storing, transporting, delivering, preparing, treating, preserving, packing, cooking, thawing, serving or displaying food. Hence any person who undertakes any of these activities for a food business is considered to be a food handler.

Note that the food business is ultimately responsible for the safety and suitability of the food handled by that business and this overall responsibility cannot be devolved to the individual food handler.

13 General requirement (on food handlers)

This clause requires food handlers to take all reasonable measures not to compromise the safety and suitability of food.

13 A food handler must take all reasonable measures not to handle food or surfaces likely to come into contact with food in a way that is likely to compromise the safety and suitability of food.

What would be considered ‘reasonable measures’ will depend on the particular situation. For example, if a food handler is responsible for transporting potentially hazardous food in a refrigerated vehicle, it is reasonable to expect that this food handler will ensure that the refrigerator is operating at the correct temperatures before loading the food and will keep the refrigerator operational throughout the journey. It would not be reasonable to expect this same food handler to maintain the potentially hazardous food at the correct temperatures during this journey if the food handler is required by the proprietor to use a vehicle that is not fit for this purpose.

Surfaces likely to come into contact with food include eating and drinking utensils, food preparation equipment and food packaging materials.

Measures the food handler can take, *if the food handler is responsible for these tasks*, to minimise the likelihood of compromising food safety and suitability include (to the extent that is reasonable):

- ensuring food is cooked or processed correctly;

- ensuring potentially hazardous food is being maintained at the correct temperature or, if time is being used as a control, that the maximum amount of time has not been exceeded;
- ensuring food is adequately protected from contamination;
- ensuring eating and drinking utensils and food contact services are correctly cleaned and sanitised;
- ensuring food contact surfaces are adequately protected from contamination; and
- reporting to a supervisor if equipment is not working correctly.

It would not be reasonable to expect a food handler to have taken 'reasonable measures' to minimise the likelihood of compromising food safety and suitability in the following circumstances:

- where the food handler has not been given the responsibility for ensuring the task is undertaken correctly;
- where the food handler has not received adequate training for the task in question — under clause 3, the food business is obliged to provide food handlers with adequate training for the tasks the food handler is responsible for undertaking; and
- where the food handler has been instructed by the food business to handle the food in a way that will or is likely to render the food unsafe or unsuitable.

14 Health of food handlers

This clause ensures that:

- a food handler notifies the food business if the food handler suspects he or she may have contaminated food; and
- food handlers suffering or suspected to be suffering from food-borne diseases or certain conditions do not contaminate food.

14(1) A food handler who has a symptom that indicates the handler may be suffering from a food-borne disease, or knows he or she is suffering from a food-borne disease, or is a carrier of a food-borne disease, must, if at work:

A food handler must consider whether he or she fits into one or more of the three categories described below. The three categories are:

- 1 food handler has a symptom that indicates the handler may be suffering from a food-borne disease;
- 2 food handler knows he or she is suffering from a food-borne disease; and
- 3 food handler knows he or she is a carrier of a food-borne disease.

If the food handler does fall into at least one of the above categories the food handler is required, if he or she is at work, to comply with 14(1)(a),(b) and (c).

Category 1

Food handler has a symptom that indicates the handler may be suffering from a food-borne disease

Symptom has been defined to mean diarrhoea, vomiting, sore throat with fever, fever or jaundice. These symptoms may be indicative of a disease that is transmitted through food. For example, the common symptoms of hepatitis A are jaundice and fever, for Norwalk and Norwalk-like viruses, diarrhoea, fever and vomiting, and for *Salmonella typhi*, fever.

Fever with sore throat has been included to identify persons who may be suffering from *Streptococcus pyogenes*, a bacterial infection that can be transmitted through contaminated food. It does not include persons who have a sore throat but no fever. This may occur with the common cold.

A food handler does not fall under this category if the food handler knows he or she is suffering from one of the symptoms listed for another reason. Examples of this include:

- the food handler is suffering from vomiting because of pregnancy;
- the food handler is suffering from diarrhoea because of a diagnosed bowel disorder; and
- the food handler is suffering from fever because of a known infection.

However, if the food handler is suffering from one of the listed symptoms while at work and is in any doubt, he or she should inform his or her supervisor. The food handler should also seek prompt medical attention.

Category 2

Food handler knows he or she is suffering from a food-borne disease

Food-borne disease means a disease that is likely to be transmitted through contamination of food. Food handlers will not know they are suffering from a food-borne disease unless they have been diagnosed and tested by a medical practitioner. However, they may suspect they are suffering from a food-borne disease, which is why Category 1 above has been included.

Included overleaf are two tables of pathogens that are transmitted by food contaminated by infected food handlers. The first table indicates pathogens often transmitted by food contaminated by infected food handlers and the second table indicates pathogens occasionally transmitted. The tables also indicate the name of the disease associated with the pathogen. These tables have been derived from information contained within the US FDA 1999 Food Code.

While food handlers who are suffering from one of the diseases listed in the first table are considered to pose a higher risk of contaminating food than food handlers suffering from a disease in the second list, there are other factors to consider when determining the risk the food handler poses and what action needs to be taken. This is discussed further in paragraph 14(1)(b).

A food handler who knows that he or she is suffering from one of the diseases listed in the tables falls into Category 2.

Pathogens often transmitted by food contaminated by infected food handlers

Name of pathogen	Name of disease
Hepatitis A	Hepatitis A
Norwalk and Norwalk-like viruses	Norwalk disease or Norwalk-like disease
<i>Salmonella typhi</i>	Typhoid fever
<i>Shigella</i> species	Shigellosis
<i>Staphylococcus aureus</i>	Staphylococcal disease
<i>Streptococcus pyogenes</i>	Streptococcal disease

Pathogens occasionally transmitted by food contaminated by infected food handlers

Name of pathogen	Name of disease
<i>Campylobacter jejuni</i>	Campylobacter enteritis
<i>Entamoeba histolytica</i>	Amoebiasis
Enterohaemorrhagic <i>Escherichia coli</i>	Diarrhoea caused by <i>Escherichia coli</i> (enterohaemorrhagic strains)
Enterotoxigenic <i>Escherichia coli</i>	Diarrhoea caused by <i>Escherichia coli</i> (enterotoxigenic strains)
<i>Giardia lamblia</i>	Giardiasis
Non-typhoidal <i>Salmonella</i>	Salmonellosis
Rotavirus	Rotaviral enteritis
<i>Taenia solium</i>	Taeniasis
<i>Vibrio cholerae</i> O1	Cholera
<i>Yersinia enterocolitica</i>	Yersiniosis

Category 3

Food handler knows he or she is a carrier of a food-borne disease

A carrier of a food-borne disease means a person who is carrying a disease that is likely to be transmitted through contamination of food but does not include a person who is a carrier of *Staphylococcus aureus*. A person who carries a disease does not have the symptoms of the disease but still sheds the disease and is therefore capable of contaminating food. Food handlers who are carriers of food-borne diseases will not know they are carriers unless they have been diagnosed and tested. Food handlers who are not aware they are carrying a food-borne disease are not obliged to do anything.

A food handler who knows he or she is carrying one of the diseases specified in Category 2 above falls into Category 3.

- (a) **report that he or she is or may be suffering from the disease, or knows that he or she is carrying the disease, to his or her supervisor, as the case may be;**

If a food handler falls within Category 1, 2 or 3 above, the food handler must, if at work, inform his or her supervisor of this fact. The food handler is not obliged to inform his or her supervisor of this information if:

- the food handler is not at work while he or she is suffering or carrying one of these diseases or has a symptom that may indicate he or she is suffering from a food-borne disease; or
- the food handler is at work but does not know he or she is suffering or carrying one of these diseases and has no symptoms of a food-borne disease.

- (b) **not engage in any handling of food where there is a reasonable likelihood of food contamination as a result of the disease; and**

When determining what duties an affected food handler should be excluded from, the following factors need to be considered:

- what disease the food handler is suffering from or carrying — a food handler who is suffering from an active illness caused by any one of the following four pathogens, *Salmonella typhi*, *Shigella* spp., enterohaemorrhagic *Escherichia coli* and hepatitis A, is considered to pose the most risk due to the high infectivity and virulence of these pathogens;
- what duties the food handler undertakes — duties that involve direct contact with ready-to-eat food, or eating and drinking utensils would be considered higher risk than duties that do not involve these things;
- whether the food handler works at a business that provides food to a susceptible population — if the food business provides food to the young, the elderly or the immuno-compromised, such as occurs in hospitals, nursing homes and child care centres, greater precautions need to be taken.

Whether the food handler can safely undertake any duty that involves handling food will need to be assessed on a case-by-case basis. The relevant authority, together with the food handler affected and the supervisor of this food handler, should conduct this assessment, taking into account the factors listed above.

State and Territory health authorities have policies in place outlining the circumstances when persons need be excluded from certain duties. Generally, it would not be acceptable for a food handler to be at work while suffering vomiting and/or diarrhoea. Food handlers should not return to work until they have been symptom-free for 48 hours and have formed stools. Food handlers may be legally obliged to comply with an exclusion notice issued from a State or Territory health authority.

- (c) **if continuing to engage in other work on the food premises — take all practicable measures to prevent food from being contaminated as a result of the disease.**

If there are no or limited activities that the food handler can safely undertake that involve the handling of food, there may be other activities within the business the person can

undertake. Examples may include administrative duties or general cleaning duties provided these duties do not include contact with eating and drinking utensils or food contact surfaces.

An affected food handler may need to be restricted from a food business completely. This would occur if it were considered that:

- there were no food handling activities the food handler could undertake without there being a reasonable likelihood of food contamination as a result of the disease; or
- no other activities could be found for the food handler that he or she could safely undertake or would be able to undertake.

Note that a food handler may need to be restricted from working in the business, primarily because of the risk the person poses to other persons working in the business, rather than the risk to food, if the disease is highly infectious.

14(2) A food handler who suffers from a condition must, if at work:

‘Condition’ means an infected skin lesion or discharges from the ear, nose or eye. Examples of an infected skin lesion include an infected skin sore, boil, acne, cut or abrasion. A food handler who has any discharges from the ear, nose or eye due to an infection (for example colds, flu, sties and other eye infections) or an allergy is considered to be suffering from a condition. Note that if the food handler takes medication to dry up the discharge, the food handler is not considered to be suffering from the condition while the medication is working. If a food handler is suffering from a condition while at work he or she must do the following.

- (a) if there is a reasonable likelihood of food contamination as a result of suffering the condition — report that he or she is suffering from the condition to his or her supervisor; and**

A person who is suffering from a condition may pose an additional risk of contaminating food with the food-borne pathogen *Staphylococcus aureus*. While people of normal health can carry this pathogen as part of the normal microflora of the nose, throat, perineum or skin, various types of skin eruptions, inflammations and wounds harbour large numbers of this pathogen (AIFST 1997). It is therefore important that a food handler who is suffering from a condition while at work reports this fact to his or her supervisor. The only exception to this is where it is not reasonably likely that food contamination will occur as a result of the food handler suffering the condition. This would occur in the following cases:

- the food handler does not have any direct contact with food, food contact surfaces or eating and drinking utensils; or
- an infected skin lesion is present on a part of the food handler’s body that is NOT exposed and this skin lesion is covered so that the food handler cannot have contact with it while handling food.

- (b) if continuing to engage in the handling of food or other work — take all practicable measures to prevent food being contaminated as a result of the condition.**

Practical measures that the food handler may be able to take include:

- completely covering infected skin lesions with bandages or dressings and, if the skin lesion is on an exposed part of his or her body, covering the bandage or dressing with a waterproof covering (this may not always be practicable, particularly with acne);
- avoiding touching the infected skin lesion, or discharge from ear, nose or eye;
- washing and drying hands thoroughly if direct contact is made with an infected skin lesion or discharge;
- using medication to dry up discharges from the ear, nose or eye; and
- using disposable tissues to mop up any discharge, followed by thoroughly washing and drying hands.

14(3) A food handler must notify his or her supervisor if the food handler knows or suspects that he or she may have contaminated food whilst handling food.

A food handler is required to notify his or her supervisor if the food handler knows or suspects he or she has contaminated food while handling it. The food handler should notify his or her supervisor as soon as he or she practically can after the incident occurs. Notifying the supervisor that he or she may have contaminated food enables the supervisor to assess what should be done to ensure the safety or suitability of the food affected. The food may need to be discarded.

Examples where a food handler has or may have contaminated food include the following:

- the same gloves or utensils have been accidentally used for raw and then cooked food;
- jewellery has or may have fallen into food;
- bandaid has or may have fallen into food; and
- glass has been broken into or near exposed food.

15 Hygiene of food handlers

The personal hygiene practices of food handlers must be of a level that minimises the contamination of food.

15(1) A food handler must, when engaging in any food handling operation:

- (a) **take all practicable measures to ensure his or her body, anything from his or her body, and anything he or she is wearing does not contaminate food or surfaces likely to come into contact with food;**

A food handler is obliged, when engaging in any food handling operation, to comply with certain requirements that relate to personal hygiene to minimise the likelihood of food becoming contaminated. These requirements are listed and discussed on the next page.

His or her body does not contaminate food or surfaces likely to come into contact with food

This requires the food handler to take all practicable measures to ensure his or her body does not contaminate food or surfaces likely to come into contact with food. Practicable measures the food handler could take include:

- avoiding unnecessary contact with exposed food and in particular ready-to-eat food, for example not using fingers to taste food (note that contact with ready-to-eat food is more specifically covered by 15(1)(b)); and
- avoiding unnecessary contact with surfaces likely to come into contact with food, for example by handling clean glasses by the bottom or the stem instead of the inside.

Anything from his or her body does not contaminate food or surfaces likely to come into contact with food

Hair

Consumers are particularly sensitive to food contaminated by hair (US Food Code 1999). Hair can contaminate food directly if it is in the food or indirectly if persons touch their hair and then food. Requiring persons to restrain hair keeps dislodged hair from ending up in the food and may deter persons from touching their hair (US Food Code 1999).

All food handlers who are in contact with exposed food or surfaces likely to come into contact with food must at a minimum tie hair back if it is long. There is no direct requirement for food handlers to wear hats, hair coverings or nets, beard restraints or other coverings. However, these may be necessary depending on the type of food the food handler is preparing.

Hair in food is usually more of a food suitability concern than a food safety concern. Hair may be a food safety concern if it is present in potentially hazardous food that is being stored for long periods as the hair may contaminate the food with food-borne pathogens and there may be sufficient time for the pathogens to grow. This is of particular concern for potentially hazardous foods that rely on aseptic packaging for their safety. Where there is a food safety issue, there is a greater need for hair to be restrained by hairnets and the like. If food that is being prepared for immediate consumption becomes contaminated with hair, there is no food safety issue but it may cause concern to the consumer. The food would also be unsuitable.

Bodily secretions

These include saliva, mucus, sweat and blood. Bodily secretions are dealt with more specifically by paragraphs 15(1)(e)–(h).

Fingernails

Food handlers who are in direct contact with exposed food and surfaces likely to come into contact with food can take practical measures to prevent fingernails from contaminating food. These measures include:

- keeping fingernails short to avoid bits of fingernail contaminating food and to allow easy cleaning;

- not wearing nailpolish or other decorations on fingernails; and
- not wearing artificial fingernails.

Alternatively, the food handler could wear intact gloves while handling food or surfaces likely to come into contact with food. If a food handler has long nails, extra effort must be made to thoroughly wash under nails. Faecal matter can become trapped under nails and can easily contaminate food.

Anything he or she is wearing does not contaminate food or surfaces likely to come into contact with food

Clothes

The issue of clean clothing is discussed under paragraph 15(1)(c). Loose buttons from clothing may contaminate food and hence food handlers in direct contact with food or surfaces likely to come into contact with food should ensure that buttons on clothing are secure.

Jewellery

Jewellery can act as a reservoir for food-borne pathogens and may hinder thorough cleaning of hands and wrists. Jewellery or parts of jewellery may also fall into food and cause medical problems for consumers, such as chipped and/or broken teeth and internal cuts and lesions (US Food Code 1999).

Practical measures that food handlers who are in direct contact with exposed food and surfaces likely to come into contact with food can take to prevent jewellery from contaminating food include:

- wearing no jewellery or a minimum amount of jewellery, especially on hands and wrists;
- if any jewellery is worn on hands or wrists, ensuring that extra effort is made to clean under the jewellery, and the hands and wrists are thoroughly dried after washing;
- wearing gloves over jewellery on hands, if hands are to be used in direct contact with food;
- avoiding fiddling with jewellery, especially earrings for pierced ears as bacteria can grow in and around the hole; and
- ensuring jewellery worn is not loose, especially earrings.

Hair clips, hair pins, etc.

The main risk with hair clips and pins is that they can fall into food and possibly cause injury to a person who attempts to eat food containing the hair clip or pin. Food handlers should ensure that hair clips and hair pins are kept to a minimum and secured if the food handler is working in direct contact with food or surfaces likely to come into contact with food.

Adhesive dressings and other bandages or dressings

These items can easily fall into food if they are on exposed parts of the body and are not kept secure. Paragraph 15(1)(d) requires bandages and dressings that are used on exposed

parts of the body to be waterproof. If the bandage or dressing is on the hand, this can be easily achieved by covering the hand with a glove.

(b) take all practicable measures to prevent unnecessary contact with ready-to-eat food;

'Ready-to-eat food' is discussed in Division 1 of this standard, see page 40.

Ready-to-eat food will not be further processed to destroy any pathogens that may be present in it. Therefore, it is important that contact with ready-to-eat food is kept to a minimum. Food-borne viruses such as hepatitis A and the Norwalk virus can cause illness when present in very small numbers and the food handler may not be aware he or she is shedding the virus. If a food handler is shedding one of these viruses and makes direct contact with ready-to-eat food, the food may become contaminated with the virus and cause illness. A food handler may also contaminate food with other food-borne pathogens if direct contact is made.

Practical measures the food handler can take to prevent unnecessary contact with ready-to-eat food include:

- using clean tongs or other implements to handle the food;
- using gloves, provided the gloves are changed if they become contaminated (see clause 23 on page 113; and
- using other barriers, such as paper, in contact with the food.

The use of hands in direct contact with ready-to-eat food may be necessary in some circumstances, particularly if the task would be difficult to perform using gloves, for example, making cake decorations or other intricate foods. If direct hand contact is necessary, hands must be thoroughly washed and dried before the food is handled, in accordance with subclause 15(4).

(c) ensure outer clothing is of a level of cleanliness that is appropriate for the handling of food that is being conducted;

Dirty clothing may contaminate food either directly, if food comes into contact with it, or indirectly, if food handlers touch their dirty clothing and then touch food.

Some work activities are messier than others. It will be expected that the clothing of food handlers who are undertaking 'messy' activities will not be as clean as those who are involved in 'clean' activities. For example, the outer clothing of a butcher would not be expected to be as clean as that of a food handler preparing sandwiches.

Note that food handlers are obliged under paragraph 15(1)(a) to ensure that their outer clothing does not contaminate food or surfaces likely to come into contact with food. Clothing should be changed if it becomes so dirty that it is likely to contaminate food or surfaces likely to come into contact with food. This would include, for example, changing outer clothing between handling exposed raw food and then exposed ready-to-eat food if the clothing is contaminated and may contaminate the ready-to-eat food.

Wherever possible, aprons, overalls and other outer protective clothing should only be worn in food handling areas; they should be removed for toilet and other breaks.

- (d) only use on exposed parts of his or her body bandages and dressings that are completely covered with a waterproofed covering;**

Waterproof coverings are required on exposed parts of the body to prevent any seepage from the wound contaminating food either directly or indirectly if the food handler touches the dressing. A waterproof covering will also help to ensure the bandage stays affixed, particularly if the food handler is in a wet food handling environment. This will reduce the likelihood of the bandage or dressing falling into the food.

Bandages and dressings may include a waterproof covering. If they do not, a waterproof covering will need to be placed on top of the bandage or dressing. If the bandage or dressing is located on the hand, a suitable glove should be used as a waterproof covering.

Bandages, dressings and coverings have not been required to be coloured such that they can be easily located in food. However, where available, the use of such items may assist the food business locate them in food, if they do fall in.

- (e) not eat over unprotected food or surfaces likely to come into contact with food;**

Food handlers are not permitted to eat over unprotected food or surfaces likely to come into contact with food, to prevent food from becoming contaminated. If food handlers were to eat over exposed food or surfaces likely to come into contact with food, bits of the food handlers' food could fall into the food business's food or onto the surface. Food handlers are also likely to contaminate their fingers from contact with their mouth during eating. This requirement does not restrict food handlers from eating or drinking in areas where food is being handled provided that it is not over the food or surface.

- (f) not sneeze, blow or cough over unprotected food or surfaces likely to come into contact with food;**

This means, for example, that food handlers must sneeze and cough away from food or surfaces likely to come into contact with food. They are also not permitted to blow into bags that will come into contact with food.

- (g) not spit, smoke or use tobacco or similar preparations in areas in which food is handled; and**

Food handlers are not permitted to spit, smoke or chew tobacco in areas in which food is handled.

- (h) not urinate or defecate except in a toilet.**

Clause 16 of Standard 3.2.3 requires food businesses to ensure that adequate toilets are available for the use of food handlers working for the business. This requirement obliges food handlers to use these facilities. Note that these requirements apply equally to permanent and temporary food businesses.

15(2) A food handler must wash his or her hands in accordance with subclause (4):

- (a) whenever his or her hands are likely to be a source of contamination of food;**

The reference to 'whenever his or her hands are likely to be a source of contamination of food' is intended to capture any circumstance in which a food handler may need to wash his or her hands to protect the safety of food. Paragraphs (b) and (c) below, as well as subclause 15(3), specify circumstances in which a food handler must wash his or her hands, but not all circumstances have been listed. Other instances not specified when a food handler may need to wash hands include:

- after handling garbage;
- after performing cleaning duties such as mopping; and
- after handling animals.

The public often become concerned if they see a food handler handling money and then food, whether the food handler has a glove on or not. This may occur in a coffee shop or takeaway where the food handler is preparing sandwiches and taking money from the customer at the same time. It should not be necessary for the food handler to wash his or her hands after handling money as the food handler should not be contacting ready-to-eat food as required by paragraph 15(1)(b). Sandwiches and other ready-to-eat food should be prepared using tongs or other implements and if gloves are used they should be changed each time the task is disrupted by the need to handle money.

(b) immediately before working with ready-to-eat food after handling raw food; and

Raw food is food that will be cooked or otherwise further processed before it will be consumed. Examples include raw meat, fish and poultry and unwashed fruits and vegetables.

Ready-to-eat food is food that is in a form that is edible and does not need to be washed, cooked or further processed. Examples include cooked meat, poultry and fish, washed fruits and vegetables, salads, sandwiches, bread and cakes.

Food handlers who are directly handling raw food must wash their hands before directly handling ready-to-eat food, to prevent contamination from raw food being transferred to the ready-to-eat food. Raw food is more likely to contain food-borne pathogens as it has not yet been cooked or otherwise processed to destroy pathogens that may be present in the food. If these pathogens are transferred to ready-to-eat food, they could make the food unsafe.

(c) immediately after using the toilet.

It is essential that food handlers wash their hands immediately after using the toilet. Hands can become highly contaminated during toilet activities.

15(3) A food handler must, when engaging in a food handling operation that involves unprotected food or surfaces likely to come into contact with food, wash his or her hands in accordance with subclause (4):

(a) before commencing or re-commencing handling food;

Food handlers must wash their hands before they handle exposed food or surfaces likely to come into contact with food to minimise the likelihood of food becoming contaminated. Exposed food includes food that is not protected by packaging. Surfaces likely to come into

contact with food include eating and drinking utensils and equipment used to prepare food.

If a food handler stops handling exposed food or surfaces likely to come into contact with food to perform another work duty or to go on a break, the food handler must wash his or her hands again before recommencing the handling of the food or surface.

- (b) immediately after smoking, coughing, sneezing, using a handkerchief or disposable tissue, eating, drinking or using tobacco or similar substances; and**
- (c) after touching his or her hair, scalp or a body opening.**

If a food handler undertakes any one of these activities while handling exposed food or surfaces likely to come into contact with food, it is very likely that the hands of the food handler will become contaminated. The food handler is therefore required to wash his or her hands immediately after the completion of the activity, to remove this contamination.

A body opening includes the mouth, nose and ears.

15(4) A food handler must, whenever washing his or her hands:

- (a) use the hand washing facilities provided;**

The intent of this requirement is to require food handlers to wash their hands in the hand washbasin or basins provided and to prohibit the use of sinks that are being used for other purposes for hand washing. Other sinks must not be used for hand washing for the following reasons:

- the sink may become contaminated if used for hand washing, for example food preparation sink; and
- the hands may become contaminated if the sink being used is itself contaminated, for example slop sink.

Another reason for requiring hand washbasins to be used is that the hand washbasin should always be available for washing hands, as the other sinks may be in use. Food handlers need to have ready access to hand washing facilities at all times.

- (b) thoroughly clean his or her hands using soap or other effective means, and warm running water; and**

‘Thoroughly’ means that the food handler vigorously washes the entire surface of his or her hands including the undersurface of nails, using soap or other effective means.

Soap helps remove grease, dirt and transient bacteria from hands. Transient bacteria are bacteria that do not form part of the normal bacterial flora of the skin. Food handlers may use any type of soap to wash their hands. Liquid soap or antibacterial soap is not required — ordinary bar soap is effective in performing these functions.

Warm running water is required for the following reasons:

- to help remove grease from hands; and
- to encourage food handlers to wash hands — if the water available is too hot or too cold, food handlers may not wish to use the facility provided.

No temperature has been prescribed for warm running water. The temperature of warm running water is considered to be around 40°C. A temperature of 48°C and above is considered too hot and temperatures below 22°C are considered too cold.

Note that under subclause 15(5) certain food businesses may be able to obtain an exemption from the requirement for warm running water.

(c) thoroughly dry his or her hands on a single use towel or in another way that is not likely to transfer pathogenic micro-organisms to the hands.

A recent study on hand washing has observed that, after hand washing, the dryness of hands and fingertips was related to the transfer of bacteria, that is, the drier the hands the less likely the hands are to transfer bacteria (Patrick, Findon & Miller 1997). Food handlers are therefore required to thoroughly dry their hands after hand washing. It is not sufficient for food handlers to give their hands a quick wipe with a towel.

This study also found that the use of single-use towels allowed moisture to be removed much more quickly from hands than by the use of air dryers. The study reports that after 10 seconds of drying, single-use towels removed 96% of the water from a subject's hands, whereas an air dryer needed 45 seconds of drying time to achieve the same endpoint (Patrick, Findon & Miller 1997). Food handlers are therefore unlikely to be able to effectively dry their hands by the use of air dryers alone. However, this study found that the use of air dryers in combination with single-use towels was effective at drying hands.

Food handlers should therefore use single-use towels or a combination of single-use towels and an air dryer to thoroughly dry hands. The use of an air-dryer on its own is not acceptable.

Single-use towels include disposable towels as well as reusable towels. However, if reusable towels are used for hand drying, they can only be used once and must be washed and dried before being reused.

15(5) A food handler who handles food at temporary food premises does not have to clean his or her hands with warm running water, or comply with paragraph (4)(c), if the appropriate enforcement agency has provided the food business operating from the temporary food premises with approval in writing for this purpose.

Food handlers working in a temporary food premises do not have to wash their hands under warm running water or dry them using single-use towels, if an exemption in writing from these requirements and for alternative hand washing methods to be used has been provided from the appropriate enforcement agency. This exemption has been included to recognise that food handlers working for temporary food premises may not have access to these facilities. This will occur in situations where the temporary premises do not have access to:

- warm water for hand washing as only cold water is available; or
- water or sufficient water for hand washing, and alternative methods for hand washing need to be used.

The majority of temporary food premises should have access to running water for hand washing, and may also be able to provide warm running water. Temporary food premises can provide running water for hand washing by filling water containers that have a tap

valve. These containers should be filled with warm water, where possible. Where running water is available for hand washing, soap and single-use towels must also be available for food handlers to use and food handlers must use these facilities for hand washing.

Some temporary food premises may not be able to provide food handlers with running water for hand washing. This may occur on camping trips operating in remote areas. In such circumstances, the food business must provide an alternative system for hand washing, for example single-use wipes, and the food handler must use the alternative system provided. If water is not being used for hand washing, single-use towels are not required to be used for hand drying.

Subdivision 2 — Requirements for food businesses

16 Health of persons who handle food — duties of food businesses

This clause obliges the food business to ensure that persons:

- known to be suffering or carrying a food-borne disease, or
- known or reasonably suspected to be suffering from certain conditions

do not contaminate food.

16(1) A food business must ensure the following persons do not engage in the handling of food for the food business where there is a reasonable likelihood of food contamination:

Food handlers are required in paragraph 14(1)(b) not to handle food where there is a reasonable likelihood of food contamination if they are or may be suffering from a food-borne disease or are carrying a food-borne disease. This clause obliges food businesses to ensure that these food handlers do not engage in these activities. It also obliges the food business to ensure other affected persons handling food for the business do not engage in these activities. Other persons include friends and relatives of staff members. It also includes supervisors, managers and the proprietor of the food business.

The duties from which an affected person should be excluded will depend on a number of factors and should be assessed on a case-by-case basis. This is discussed further on page 85. If an affected person is excluded from performing certain duties, the food business must ensure the person does not perform these duties.

A food business is not required to keep written records of staff illness and conditions. However, such records will help the business keep track of what illnesses and conditions have been reported and what action, if any, was taken. Written records also allow the business to demonstrate to the relevant authority that the requirements are being complied with. If records are kept the following details should be noted:

- the name of the person afflicted by the illness or condition;
- the date when the illness or condition was reported;

- details of the illness or condition including how long the person has been suffering from the illness or condition and, in relation to illness, details of the person's symptoms;
- the action taken in response to the reported illness or condition, for example, if a person reports they are suffering from diarrhoea an appropriate action may be to send the person home; and
- the name of the person who determined what action should be taken — this would usually be a supervisor or manager.

(a) a person known to be suffering from a food-borne disease, or who is a carrier of a food-borne disease; and

A person includes:

- a food handler who reports to his or her supervisor that he or she is suffering a food-borne disease or knows he or she is carrying a food-borne disease, as required by paragraph 14(1)(a); and
- other persons reported to the business to be suffering from or carrying a food-borne disease.

What is considered a food-borne disease is discussed in detail on page 83.

(b) a person known or reasonably suspected to have a symptom that may indicate he or she is suffering from a food-borne disease.

A person includes:

- a food handler who reports to his or her supervisor that he or she is suffering from a symptom that may indicate he or she is suffering from a food-borne disease, as required by paragraph 14(1)(a); and
- any other person reported to the business, or reasonably suspected by the business, to be suffering from a symptom that may indicate the person is suffering from a food-borne disease.

'Symptom' has been defined and means diarrhoea, vomiting, sore throat with fever, fever or jaundice. Symptoms indicative of food-borne illness are discussed further on page 83. A business may reasonably suspect a person is suffering from a food-borne disease if he or she presents with one of these symptoms. If a person is known or suspected to be suffering from one of these symptoms, the business should discuss this with the person before a decision is made as to whether the person needs to be excluded from any duties. The person may be suffering from a symptom but has not reported it because the person knows that the symptom is not due to a food-borne illness.

16(2) A food business must ensure that a person who is known or reasonably suspected to be suffering from a condition and who continues to engage in the handling of food for the food business takes all practicable measures to prevent food contamination.

A person includes:

- a food handler who reports to his or her supervisor that he or she is suffering from a condition — this is only required where there is a possibility of food contamination

occurring as a result of the food handler suffering the condition (paragraph 14(2)(a)); and

- other persons reported to the business, or reasonably suspected by the business, to be suffering from a condition.

‘Condition’ has been defined and means an infected skin lesion or discharges from the ear, nose or eye. Conditions are discussed further on page 86. A business may reasonably suspect a person is suffering from a condition if he or she presents with one of these conditions. If a person does appear to be suffering from one of these conditions, the business should discuss this with the person before requiring the person to take all practicable measures to prevent contamination. Practical measures the food handler may be able to take are listed on page 87.

16(3) A food business may permit a person excluded from handling food in accordance with paragraph (1)(a) to resume handling food only after receiving advice from a medical practitioner that the person no longer is suffering from, or is a carrier of, a food-borne disease.

This applies to a person who is known to be suffering from or carrying a food-borne illness and it was determined that the person needed to be excluded from certain duties because there was a risk of food being contaminated. As previously discussed on page 85, a decision as to whether a person known to be suffering from or carrying a food-borne illness needs to be excluded from any duties needs to be made on a case-by-case basis. The relevant authority in conjunction with the food handler affected and the supervisor of the food handler should conduct this assessment, taking into account the factors listed on page 85.

If a decision has been made to restrict a person from certain duties, the person may only resume those duties when advice is received from a medical practitioner that the person is no longer suffering from or carrying the food-borne disease. The medical practitioner will need to determine how to assess this and whether any tests are required. However, advice may be sought from the relevant State or Territory health authority which may have guidelines outlining when an excluded person should be permitted to resume work duties.

17 Hygiene of food handlers — duties of food businesses

This clause requires food businesses to maintain adequate hand washing facilities on the food premises and to ensure the facilities are only used for personal washing.

17(1) Subject to subclause (2), a food business must, for each food premises:

This subclause specifies requirements for the maintenance of hand washing facilities on the food premises and the hygiene equipment that must be provided at each facility. These requirements must be complied with for every hand washing facility located on the premises, including those in toilets.

- (a) maintain easily accessible hand washing facilities;**

Subclause 14(1) of Standard 3.2.3 requires hand washing facilities to be located within areas where they can be easily accessed by food handlers. In this standard, food businesses are required to ensure that these facilities remain accessible after they have been installed. This means, for example, that food businesses are not permitted to obstruct hand washing facilities by placing equipment in front or on top of the facilities.

(b) maintain, at or near each hand washing facility, a supply of:

(i) warm running water; and

Paragraph 14(2)(b) of Standard 3.2.3 requires hand washing facilities to be connected to, or otherwise provided with, a supply of warm running potable water. In this standard, food businesses are required to maintain the supply of this water. This means, for example, that food businesses must not disconnect the supply of water to a hand washing facility and need to fix the facility if it breaks. For temporary premises, it means that a constant supply of warm running water needs to be provided unless an exemption has been granted (see subclause 17(3)).

Most temporary food premises will be able maintain a supply of running water for hand washing by filling water containers that have a tap valve. These containers should be filled with warm water, where possible.

Warm water has been required for the reasons outlined under paragraph 15(4)(b) on page 93. A temperature has not been specified for warm running water but an appropriate temperature for warm water is discussed on page 94.

(ii) soap; or

(iii) other items that may be used to thoroughly clean hands;

The food business must ensure that soap or other items that may be used to thoroughly clean hands are always available at or near each hand washing facility.

The food business may provide any type of soap. Liquid soap or antibacterial soap is not required. Soap helps to remove grease, dirt and transient bacteria from hands. Transient bacteria are bacteria that do not form part of the normal bacterial flora of the skin. Ordinary bar soap is effective in performing these functions.

'Other items' refers to alternatives to soap, provided that the alternative used is just as effective at removing grease, dirt and transient bacteria from hands.

(c) ensure hand washing facilities are only used for the washing of hands, arms and face; and

The food business must ensure hand washing facilities are not used for other purposes. For example, hand washing facilities must not be used for food preparation, to clean equipment or as a 'slop' sink. This is to ensure that the facility is always available for use and does not become contaminated.

(d) provide, at or near each hand washing facility:

(i) single use towels or other means of effectively drying hands that are not likely to transfer pathogenic micro-organisms to the hands; and

The food business must maintain a supply of single-use towels, or other means of effectively drying hands, at or near each hand washing facility. Air dryers alone are not considered to be an effective means of drying hands. As discussed on page 94, a recent study by Patrick, Findon and Miller (1997) found that air dryers took over four times longer to achieve the same drying result as single-use towels. However, air dryers and single-use towels can both be provided because they can be very effective if used in combination. If non-disposable towels are provided, they must be washed and dried between every use.

(ii) a container for used towels, if needed.

A container for the used towels must be provided at or near each hand washing facility. This is to prevent the used towels contaminating the area around the hand washing facility.

17(2) Paragraph (1)(c) does not apply in relation to hand washing facilities at food premises that are used principally as a private dwelling if the proprietor of the food business has the approval in writing of the appropriate enforcement agency.

This exemption is intended to allow food premises used principally as a private dwelling to use a sink as a hand washing facility and also to use the same sink for other purposes. This exemption recognises that domestic-style kitchens are not usually provided with designated hand washing facilities. For this reason, sink or sinks provided in the kitchen must be used for food preparation and cleaning utensils as well as hand washing.

The reasons for prohibiting hand washing facilities from being used for other purposes are to ensure that the facilities are always available and that they do not become contaminated. These concerns may be able to be overcome in a domestic kitchen if:

- only one or at most two people are using the kitchen and therefore a sink should always be available for hand washing;
- sinks are cleaned and sanitised between uses if there is risk of food contamination occurring.

It is the decision of the appropriate enforcement agency to determine whether it is appropriate for an exemption to be provided.

17(3) With the approval in writing of the appropriate enforcement agency, a food business that operates from temporary food premises does not have to comply with any of the requirements of paragraphs (1)(b)(i) or (1)(d) that are specified in the written approval.

This exemption is intended to allow food businesses that operate temporary food premises that do not have access to:

- warm water, to only provide cold running water for hand washing; and
- any running water or sufficient running water for hand washing, to provide alternative hand washing facilities.

The exemption must be in writing from the appropriate enforcement agency and indicate what requirements the business is exempted from and outline the alternative hand washing methods to be used.

The majority of temporary food businesses should have access to running water for hand washing, and may also be able to provide warm running water. Temporary food businesses

can provide running water for hand washing by filling water containers that have a tap valve. These containers should be filled with warm water, where possible. Where running water is available, single-use towels must also be available for food handlers to dry their hands.

Some temporary food businesses may not be able to provide running water for hand washing. This may occur on camping trips operating in remote areas. In such circumstances, the food business must provide an alternative system for hand washing, for example single-use wipes. If water is not being used for hand washing, single-use towels for hand drying do not need to be provided.

18 General duties of food businesses

The intent of this clause is to ensure that food businesses:

- inform food handlers of their health and hygiene obligations;
- only disclose information provided to the business by food handlers about their health or hygiene to certain persons and do not use this information for any purposes other than addressing the risk of food contamination; and
- take all reasonable measures to ensure persons on the premises do not contaminate food.

18(1) A food business must inform all food handlers working for the food business of their health and hygiene obligations under Subdivision 1 of this Division.

In Subdivision 1 of this standard, specific obligations are placed on food handlers. These requirements have been placed on food handlers to ensure that their actions do not result in food becoming unsafe or unsuitable. If a food handler is found not to be complying with any one of these requirements, the food handler can be prosecuted under the relevant State or Territory Food Act for non-compliance with this standard. The maximum penalty for a food handler breaching a requirement in Subdivision 1 is \$50 000.

It is therefore essential that food handlers are informed by the food business of their obligations under Standard 3.2.2. Food businesses may inform food handlers verbally of their obligations. However, it would be preferable if food handlers were provided, in writing, with a copy of all of the requirements. If the food business employs food handlers from non-English-speaking backgrounds, the business should consider providing, in writing, the requirements in the relevant languages.

18(2) A food business must ensure that any information provided by a food handler in accordance with Subdivision 1 of this Division is not disclosed to any person without the consent of the food handler, except the proprietor or an authorised officer, and that the information is not used for any purpose other than addressing the risk of food contamination.

In Subdivision 1, food handlers are required to report to their supervisor if they:

- know or suspect they are suffering from a food-borne disease (14(1)(a));

- know they are carrying a food-borne disease (14(1)(a));
- are suffering from a condition and there is a possibility of food contamination occurring as a result of this condition (14(2)(a)); and
- know or suspect they have contaminated food while handling it (14(3)).

If a food handler notifies his or her supervisor of any of the above, the supervisor must not disclose this information to any person without the consent of the food handler, with the exception of the proprietor of the food business or an authorised officer. An authorised officer is a person who has powers under the relevant State or Territory Food Act to enforce food legislation. This person will be an Environmental Health Officer or may be a Food Safety Auditor working for the local or State/Territory enforcement body.

The supervisor is also not permitted to use this information for any purpose other than to protect food from contamination. This restriction has been included to ensure that the information provided to supervisors from food handlers is not used for incorrect purposes.

18(3) A food business must take all practicable measures to ensure all people on the food premises of the food business:

This clause has been included to ensure that the food business takes 'all practicable measures' to ensure persons on the food premises do not contaminate food. 'Practicable measures' recognises that the food business will not be able to completely prevent persons on the food premises from contaminating food but there are steps that can be taken to minimise the risk. What are considered 'practicable measures' is discussed within each requirement below.

'All people' includes food handlers, tradespeople, visitors and members of the public.

(a) do not contaminate food;

A 'contaminant' is any biological or chemical agent, foreign matter, or other substance that may compromise food safety or suitability.

What 'practicable measures' need to be taken by the food business will depend on the type of food operations the business undertakes. For example, a food business that only handles packaged food will need to take fewer measures than a food business that has exposed food on the premises as exposed food is much more vulnerable to contamination.

If there are areas of the food businesses where there is exposed food or surfaces likely to come into contact with food, for example the kitchen, the following reasonable measures should be considered:

- where possible, restrict all persons except food handlers from these areas; and
- where persons have a legitimate reason for being in these areas, supervise these people, as far as practicable, to ensure they do not:
 - handle
 - sneeze, blow or cough over, or
 - eat over

exposed food or surfaces likely to come into contact with food.

If persons are in areas where food sensitive to contamination is being manufactured, food businesses may feel it necessary for these persons to take extra steps to protect this food from contamination, such as:

- wearing special protective clothing and hair coverings; and
- washing their hands before entering these areas.

(b) do not have unnecessary contact with ready-to-eat food; and

Ready-to-eat food is sensitive to contamination, as it will not be further processed to make it safe and suitable before it is consumed. If the food business is displaying unpackaged ready-to-eat food for self-service, the food business must comply with the specific requirements outlined in subclause 8(2), see page 66.

If the food business has other exposed ready-to-eat food on the premises, it should consider taking the steps listed for (a) above.

(c) do not spit, smoke, or use tobacco or similar preparations in areas where there is unprotected food or surfaces likely to come into contact with food.

The food business must take all practicable measures to ensure that people do not spit or smoke in food preparation areas and other areas where there are unprotected food or surfaces likely to come in contact with food. In a restaurant this includes the kitchen and the bar. It does not include customer dining and drinking areas as food in these areas has already been served to customers and is therefore no longer for sale. The exception is exposed food, such as in salad bars and smorgasbords, that is available for self-service in customer dining and drinking areas. The food business must take all practicable measures to ensure people do not spit or smoke where this food is exposed.

Practicable measures the business can take to ensure people do not smoke or spit in these areas include:

- placing signs in these areas to alert people that smoking is not permitted — prohibition signs in relation to spitting should not be necessary unless this has been a problem in the past;
- not providing ash trays in these areas;
- alerting persons who are found to be smoking or spitting in these areas that these activities are not permitted and asking persons to stop smoking or spitting;
- asking the person to leave the premises if the person continues to smoke or spit in these areas, despite being asked not to; and
- calling security staff or the police for assistance if the person continues to smoke or spit in these areas and refuses to leave the premises.

While this standard does not prohibit smoking in customer dining and drinking areas, except in areas where there are salad bars, smorgasbords and the like, other State and Territory legislation may prohibit or restrict smoking in these areas.

Division 5 — Cleaning, sanitising and maintenance

19 Cleanliness

This clause ensures that food premises, fixtures, fittings and equipment, as well as those parts of vehicles that are used to transport food, are maintained to an acceptable standard of cleanliness.

19(1) A food business must maintain food premises to a standard of cleanliness where there is no accumulation of:

- (a) **garbage, except in garbage containers;**
- (b) **recycled matter, except in containers;**
- (c) **food waste;**
- (d) **dirt;**
- (e) **grease; or**
- (f) **other visible matter.**

Food premises must be kept clean to minimise the likelihood of food becoming contaminated and to discourage pests.

The requirement indicates the outcome the food business must achieve from its cleaning system. The outcome is that the food premises must be maintained to a standard of cleanliness where there is no accumulation of the things listed. The food business will therefore need to have a cleaning system in place that ensures this outcome is achieved. If the food business does not have an effective cleaning program, an accumulation of dirt, grease, etc. is likely to occur in the premises.

The requirement recognises that garbage and recycled matter will be accumulated by the food business in containers, before it is collected or taken to a disposal centre. However, if the amount of garbage or recycled matter exceeds the capacity of the storage containers, the food business is not complying with the requirement.

In this requirement the containers do not need to be covered. However, food businesses are required in paragraph 24(1)(d) to take all practicable measures to prevent harbouring pests. This means that covered containers are usually necessary.

Food waste would usually be disposed of in the garbage. However, food waste has been specifically listed to ensure that it does not accumulate in other places in the premises. For example, food waste may build up behind equipment if these areas are not cleaned regularly.

'Other visible matter' has been listed to include other matter that may accumulate within premises and affect its standard of cleanliness, for example mould.

19(2) A food business must maintain all fixtures, fittings and equipment, having regard to its use, and those parts of vehicles that are used to transport food, to a standard of cleanliness where there is no accumulation of:

- (a) food waste;**
- (b) dirt;**
- (c) grease; or**
- (d) other visible matter.**

Fixtures and fittings have not been specifically defined but they include such items as benches, shelves, sinks, hand washbasins and cupboards, whether permanently fixed in the premises or moveable. They also include light fittings, ventilation ducts, pipes and electric wiring.

Equipment is defined (see page 11) and includes all equipment used in handling food as well as equipment used to clean food premises or equipment. Examples of equipment used in handling food are refrigerators and coolrooms (including associated motors), bain-marie units, and cooking and other processing equipment. Food vending machines are also classed as equipment. Examples of equipment used to clean food premises or equipment are dishwashers, brooms, mops, buckets and hoses.

This requirement, like the one in subclause (1), specifies the outcome to be achieved, that is, no accumulation of the things listed. However, in this requirement, there must also be regard to the use of the fixture, fitting or equipment. This recognises that some accumulation of food waste, dirt, grease or other visible matter may be acceptable in certain circumstances.

For example, grease filters in range hoods are designed to trap and accumulate grease and some accumulation of grease is expected. However, the food business would be expected to change or wash these filters regularly to prevent too much grease building up in the filter and rendering it ineffective.

Another example is cleaning equipment that may accumulate dirt etc. as part of the cleaning process, depending on what the equipment is used for. In these circumstances, the food business is not expected to maintain the equipment free of food waste, dirt, grease or other visible matter but is required to maintain it to a standard of cleanliness that is appropriate for its use.

20 Cleaning and sanitising of specific equipment

This requirement has been included to:

- minimise the transmission of infectious disease through eating and drinking utensils; and
- to protect food from contamination.

The role of eating utensils in the spread of infections was first recognised by AJ Cummings and his associates early in 1919 in an article which appeared in the *American Journal of*

Public Health entitled 'Distribution of Influenza by Indirect Contact — Hands and Eating Utensils'. Subsequent studies have also emphasised the importance of ensuring eating and drinking utensils are adequately cleaned and sanitised before customers use them.

Food contact surfaces must also be adequately cleaned and sanitised to prevent food from becoming contaminated when it comes into contact with the surfaces.

20(1) A food business must ensure the following equipment is in a clean and sanitary condition in the circumstances set out below:

(a) eating and drinking utensils — immediately before each use; and

Eating and drinking utensils must be in a clean and sanitary condition immediately before they are used. This does not mean that eating and drinking utensils must be cleaned and sanitised just before use — it means that eating and drinking utensils must be cleaned, sanitised and protected from contamination between being used by one person and the next person. If an eating or drinking utensil is not properly cleaned and sanitised, or has been contaminated after the cleaning or sanitising took place, the eating or drinking utensil is not considered to be in a 'clean and sanitary condition'.

Customers may retain eating and drinking utensils for reuse. For example, a customer may reuse a plate to serve himself or herself food from a smorgasbord, or a drink from a self-service bar. However, if a used eating or drinking utensil is returned to the food business, it cannot be used again until it has been cleaned and sanitised, whether or not the same person will be reusing the utensil. For example, if a drinking glass is returned by a customer to a bar, it cannot be reused by any person until it has been cleaned and sanitised.

(b) the food contact surfaces of equipment — whenever food that will come into contact with the surface is likely to be contaminated.

'Food contact surfaces of equipment' includes any equipment used for handling food that comes into contact with food. Examples are chopping boards and other preparation surfaces, mixing bowls, storage containers, display units, equipment used to wash food, cooking and other processing equipment, and thermometers.

There are many circumstances when food contact surfaces need to be cleaned and sanitised to avoid contaminating food that will come into contact with that surface. However, these circumstances will vary, depending on the type of food that will come into contact with the surface.

A food contact surface must be cleaned and sanitised between being used for raw food and ready-to-eat food. For example, if a person slices raw meat and then tomatoes for a salad, the board and knife must be cleaned and sanitised between these two uses or separate boards and knives used for each task.

However, this same food contact surface does not need to be cleaned and sanitised between the uses described above if the sliced raw meat and tomatoes will both be placed in a saucepan to be cooked for a casserole. This is because, in this circumstance, both foods are raw and are to be cooked before being eaten.

Food contact surfaces may need to be cleaned and sanitised if they have been used for long periods to prepare or process potentially hazardous foods. If an appliance is used continuously or intermittently to prepare or process a potentially hazardous food outside

safe temperatures, food residues remaining on this surface could become a source of contamination to foods that will later come into contact with this surface.

For example, if a meat slicer is used to slice cooked meat all day, it should be cleaned and sanitised at regular intervals to prevent food contamination occurring. If it is not cleaned and sanitised, meat residues left on the slicer throughout the day provide an ideal breeding ground for pathogenic bacteria to grow. These bacteria can then be transferred to meats sliced on the machine.

If equipment is being used with potentially hazardous food (at temperatures between 5°C and 60°C), it is recommended that it be cleaned and sanitised every 4 hours. This recommendation is in line with the US Food Code.

The food contact surface of an appliance used to prepare or process foods, particularly potentially hazardous foods, should be cleaned between batches or lots, to avoid the risk of contamination being transferred to each batch. However, cleaning between each batch may not be necessary for all foods, especially low-risk foods such as bread or confectionery.

20(2) In subclause (1), a ‘clean and sanitary condition’ means, in relation to a surface or utensil, the condition of a surface or utensil where it:

- (a) is clean; and**
- (b) has had applied to it heat or chemicals, heat and chemicals, or other processes, so that the number of micro-organisms on the surface or utensil has been reduced to a level that:**
 - (i) does not compromise the safety of the food with which it may come into contact; and**
 - (ii) does not permit the transmission of infectious disease.**

When an eating or drinking utensil or a food contact surface is required to be in a ‘clean and sanitary condition’, the process used to clean and sanitise the utensil or surface must achieve the two outcomes specified above. These two outcomes are that the utensil or surface must:

- be clean; and
- not contain micro-organisms at a level that would compromise food safety or permit the transmission of infectious disease.

‘Clean’ has been defined and means clean to touch and free of extraneous visible matter and objectionable odour. In effect this means that the cleaning process must ensure that the utensil or surface looks clean, feels clean and smells clean.

Procedures that food businesses are to use to ensure that utensils and surfaces are in a ‘clean and sanitary condition’ have not been described. Food businesses may use any procedure or a combination of procedures, provided that the two outcomes listed above are achieved.

To help food businesses, information on cleaning and sanitising procedures is provided in Appendix 4.

21 Maintenance

This clause has been included to ensure food premises, fixtures, fittings and equipment, and those parts of vehicles that are used to transport food and equipment are maintained in a good state of repair and working order so as not to compromise food safety and suitability.

This clause includes a general requirement relating to maintaining the food premises, etc., and a more specific requirement for eating and drinking utensils.

21(1) A food business must maintain food premises, fixtures, fittings, equipment, and those parts of vehicles that are used to transport food, in a good state of repair and working order having regard to their use.

Fixtures and fittings have not been specifically defined but they include such items as benches, shelves, sinks, hand washbasins and cupboards, whether permanently fixed in the premises or moveable. They also include light fittings, ventilation ducts, pipes and electric wiring.

Equipment is defined (see page 11) and includes all equipment used in handling food as well as equipment used to clean food premises or equipment. Examples of equipment used in handling food are refrigerators and coolrooms (including associated motors), bain-marie units, cooking and other processing equipment, and thermometers. Food vending machines are also equipment. Examples of equipment used to clean food premises or equipment are dishwashers, brooms, mops, buckets and hoses.

The parts of vehicles that are used to transport food have been mentioned separately as transport vehicles do not fall under the definition of food premises. Under this clause, only the part or parts of the vehicle used to transport food need to be maintained. For example, if the vehicle is used to transport chilled food and the refrigeration unit is broken down, this unit must be fixed. However, if the vehicle engine needs repairing, it does not need to be fixed under this clause.

Food premises, fixtures, fittings and equipment and those parts of vehicles that are used to transport food need to be properly maintained to:

- prevent contamination of food from flaking plaster, paint, timber, broken glass, leaking pipes, etc.;
- enable effective cleaning and, if necessary, sanitising;
- ensure pests do not gain access to the building or vehicle from holes in ceilings, walls, etc.; and
- ensure the equipment works as intended.

The clause refers to a 'good state of repair and working order having regard to their use'. A 'good state of repair' means that things are not broken, split, chipped, worn out, etc. 'Working order' means that the thing must work. These two matters relate to the use of the premises, fixture, fitting, equipment or vehicle. For example, if equipment is not being used or is being used (appropriately) for another purpose, it is not required to be in working order, for example a bain-marie unit that no longer operates is being used by the food business to display non-potentially hazardous food.

21(2) A food business must not use any chipped, broken or cracked eating or drinking utensils for handling food.

This clause has been included to specifically prohibit the use of cracked eating or drinking utensils for any purpose relating to the handling of food. Chipped, broken or cracked eating or drinking utensils are a food safety risk for the following reasons:

- they cannot be effectively cleaned and sanitised and therefore may allow the transmission of infectious diseases; and
- they may contaminate food directly if broken or chipped pieces of the utensil fall into the food.

Division 6 — Miscellaneous

22 Temperature measuring devices

This clause has been included to ensure that food businesses are able to accurately monitor the temperature of potentially hazardous food.

22 A food business must, at food premises where potentially hazardous food is handled, have a temperature measuring device that:

All food businesses that handle potentially hazardous food must have a temperature measuring device (thermometer) at the premises where the food is being handled. 'Handling' has been defined, see page 13. 'At the premises' means that the thermometer must be located at the premises where the potentially hazardous food is being handled. It cannot, for example, be located at a person's home. If a business has multiple premises, there must be a thermometer at each premises.

Food businesses that do not handle any potentially hazardous food are not required to have such a device, for example, a warehouse that stores frozen foods and/or refrigerated food that is not potentially hazardous.

(a) is readily accessible; and

The food business must be able to readily access the thermometer located on the premises. A business does not comply with this requirement if the thermometer cannot be found or cannot be readily accessed from a locked cupboard or drawer.

(b) can accurately measure the temperature of potentially hazardous food to $\pm 1^{\circ}\text{C}$.

This requirement means that the food business must have a thermometer that can accurately measure the temperature of food. This clause is satisfied if the business has a probe thermometer that is accurate to at least $\pm 1^{\circ}\text{C}$.

Thermometers that cannot be used to accurately measure the temperature of the food do not comply with this requirement. For example, fixed thermometers that are included with equipment to monitor the temperature of the equipment do not satisfy this requirement.

Accurate to $\pm 1^{\circ}\text{C}$ means that the thermometer can measure to within at least 1°C . For example, if a thermometer measures that the food is at a temperature of 5°C , and has an accuracy of $\pm 1^{\circ}\text{C}$, the actual temperature of the food will be a temperature between 4°C and 6°C .

If a food business already has a thermometer and does not know its accuracy limit, it will need to check the accuracy limit of the thermometer by referring to documentation provided with the thermometer or by contacting the supplier. The accuracy limit of the thermometer may also be indicated on the thermometer. If a food business is purchasing a thermometer, it must ensure it is accurate to at least $\pm 1^{\circ}\text{C}$. This information is available from the supplier.

Food businesses are encouraged to purchase thermometers with a narrow temperature range, as these thermometers will provide greater accuracy at a cheaper price. A thermometer that has a range of -50°C to 150°C is all that is required for measuring the temperature of food. If a food business needs to measure the operating temperature of processing equipment, it may need to purchase a thermometer with a wider temperature range. However, if this thermometer is to be used to measure the temperature of food as well, it must still have an accuracy of $\pm 1^{\circ}\text{C}$.

Note that thermometers based on type K thermocouples may not provide an accuracy of $\pm 1^{\circ}\text{C}$. This is because type K thermocouples have a very large temperature range, for example from -200° to 999°C , and therefore a 1°C accuracy is difficult to obtain.

Thermistor-type thermometers are readily available and have a high degree of accuracy because they operate over a narrower temperature range.

The use of mercury thermometers and glass thermometers has not been prohibited. These thermometers may be used, provided they are accurate to $\pm 1^{\circ}\text{C}$. If glass thermometers are used they should be encased in a shatterproof protector.

Clause 21 of this standard requires the food business to maintain the thermometer in a good state of repair and working order. This means the food business must ensure flat batteries are replaced, the thermometer is fixed or replaced if it breaks and that it is maintained to an accuracy of at least $\pm 1^{\circ}\text{C}$. Some thermometers are now fitted with a calibration test device, which enables the user to determine whether the thermometer is working correctly. However, the calibration test device should not be used as an alternative to regular calibration as it only checks the readout instrument and not the temperature probe.

The calibration of thermometers is best performed by the supplier of the thermometer or by a laboratory that is accredited to perform this task. The supplier will be able to recommend how often the thermometer should be calibrated but electronic thermometers are typically calibrated annually. Only food businesses that have the necessary knowledge, skills and equipment should calibrate their own thermometers. If a food business does its own calibration, the temperature of the instrument itself should not be altered but rather the business should record how far the instrument is out and the date, for example by placing a label on the instrument that indicates the date and correction needed. This will allow the business to monitor how inaccurate the instrument becomes. If a correction of more than 1°C is required, the thermometer should be returned to the supplier.

Other issues

Monitoring and recording the temperature of potentially hazardous food

There is no specific requirement for food businesses to use a thermometer to measure the temperature of potentially hazardous food it handles on the premises. However, a thermometer will enable the food business to monitor the temperature of potentially hazardous food and hence ensure it is complying with the temperature requirements in the standard. It may also be necessary if the food business wishes to use alternative temperature systems. Temperature requirements in this standard are:

- food receipt (subclause 5(3))

- food storage (subclause 6(2))
- food processing step (subparagraph 7(1)(b)(ii))
- food processing generally (subclause 7(2))
- cooling (subclause 7(3))
- reheating (subclause 7(4))
- food display (subclause 8(5))
- food transport (paragraph 10(b)).

The food business is required in subclause 5(3), when receiving potentially hazardous food, to take all practicable measures to ensure it only accepts this food if it is at a temperature of 5°C or below or 60°C or above, unless the food business transporting the food can demonstrate alternative temperatures are safe. To assess whether it should receive potentially hazardous food, the food business can take the practical measure of taking the temperature of the food when it arrives at the premises.

Where specific temperature requirements have been included in the standard, the business has been permitted to deviate from these temperature requirements provided the food business can demonstrate safe alternative systems. If the safe alternative system includes alternative temperatures, the food business is required to monitor and record the temperatures in order to be able to demonstrate that safe limits are not exceeded.

Example

A food business is not able to meet the times and temperatures specified for cooling potentially hazardous food in subclause 7(3). However, a food industry guideline provides advice on a safe alternative cooling system for the type of food the business is cooling. The food business uses a temperature logger to measure and record the cooling times and temperatures of the food to demonstrate that it is complying with the alternative cooling system.

Measuring the temperature of food

When measuring the temperature of food, the food business should be aware of the following:

- temperature readings are not instant and the person taking the measurement should wait until the temperature has stabilised before noting the temperature;
- the initial temperature of the thermometer probe can potentially affect the temperature of the food it is measuring — when taking measurements of hot and cold food with the same temperature probe, the probe should be allowed to return to near ambient temperature before placing the probe into the food at the other temperature extreme, to minimise incorrect readings;
- the temperature of a food being measured may not be even — for example if a food is being cooled in a refrigerator, the surface temperature may be cooler than the core of the food;
- the temperatures of food within a refrigerator, or cold or hot display unit are likely to vary and the business should not assume that because one food in the refrigerator or

display unit is within an acceptable limit that other food within the refrigerator or display unit will also be within this limit;

- where a temperature is specified within the standard for potentially hazardous food, all parts of the food must be at this temperature. If any part of the food is not at the specified temperature, the food does not meet the temperature requirement;
- when measuring the temperature of frozen food, the length of the thermometer probe should be placed between two frozen packages of the food; and
- packaged chilled food may also be measured by placing the length of the thermometer between two packages of the food to avoid destroying the packaging.

Example

Potentially hazardous foods are reheated and placed in a bain-marie unit. The proprietor uses a probe thermometer to measure the temperature of all foods in the unit. The proprietor finds that the coolest part of the unit is at the back left-hand corner. Temperature measurements of food in the unit are then taken on a routine basis at the back left-hand corner.

Cleaning and sanitising thermometers

Any part of a thermometer that is inserted into a food in order for a temperature to be taken is a food contact surface and must be cleaned and sanitised between uses, if this is necessary to prevent contamination of food (see paragraph 20(1)(b)). This part will be the probe component of the thermometer. If the probe is not cleaned and sanitised, contamination may be transferred from one food item to the next. The temperature probe will need to be cleaned and sanitised between being used to measure the temperature of raw food and ready-to-eat food.

Cleaning and sanitising the probe component of a thermometer should be carried out by:

- wiping away any food waste or other visible contamination;
- washing the probe with warm water and detergent;
- sanitising using an appropriate sanitiser (alcoholic swabs are often used) or by using hot water (at least 77°C or above);
- rinsing with water if a sanitiser is used and rinsing is necessary (refer to instructions that accompany the sanitiser); and
- allowing the probe to completely air dry or thoroughly drying with a single-use towel before reusing it.

23 Single-use items

This clause has been included to ensure that single-use items:

- do not contaminate food;
- do not allow the transmission of infectious diseases; and
- are not reused.

A single-use item is defined and means instrument, apparatus, utensil or other thing intended by the manufacturer to be used only once in connection with food handling, and includes disposable gloves. Other items included are drinking straws, disposable eating and drinking utensils, plastic containers for selling takeaway food, cardboard boxes for pizzas and other disposable wrappers or packaging materials used in contact with food.

The definition refers to items that the manufacturer intends to be used only once. There may be items that a food business considers can be reused but if this is not the manufacturer's intention, these items cannot be reused in contact with food or the mouth of a person.

For some single-use items it may be obvious that the item is intended by the manufacturer to be used only once. This fact may be evident from information provided with the item. It may also be evident from the nature of the item. For example, plastic drinking straws are not intended to be reused. If it is unclear whether or not an item can be reused in contact with food or the mouth of a person, advice should be sought from the manufacturer or supplier of the item.

23 A food business must:

- (a) **in relation to all single use items, take all practicable measures to ensure they do not come into contact with food or the mouth of a person if they are:**
- (i) **contaminated; or**

If the food business knows that a single-use item is contaminated it cannot be used in contact with food or the mouth of a person. For example, a single-use item is contaminated if it is not visibly clean, for example it is contaminated with dirt, hair, chemicals, glass, metal, wood splinters, food waste, insects or insect or rodent droppings.

- (ii) **reasonably suspected of being contaminated; and**

If the food business reasonably suspects that a single-use item is contaminated it cannot be used in contact with food or the mouth of a person. In the following examples it may be reasonable to suspect a single-use item has become contaminated:

- the contact surface of the item is handled by a customer and placed back for use by another customer;
- the items are being stored together and in some of the items there is evidence of vermin contamination — it is therefore reasonable to suspect that all of these items have become contaminated (unless the items were separately protected from contamination);
- the item is dropped on the floor; and
- the outer protective packaging has been damaged.

- (b) **in relation to single use items that are intended to come into contact with food or the mouth of a person:**
- (i) **take all practicable measures to protect them from the likelihood of contamination until use; and**

If a single-use item becomes contaminated or is reasonably suspected of being

contaminated, it cannot be cleaned and sanitised to enable it to be reused. It is therefore very important that these items are protected from contamination before they are used.

Practical measures that can be taken include:

- enclosing the item in protective packaging or a container;
- placing the item in a dispensing container if a customer is to access it, provided that the dispensing container enables only the customer to handle the item he or she is to use;
- storing the item away from chemicals; and
- storing the item in an area that is sealed from insects and rodents, for example a food storage area.

(ii) not reuse such items.

Single-use items must not be reused if they will come into contact with food or a person's mouth. These items have not been manufactured to permit effective cleaning and sanitising. If these items are reused, food coming into contact with these items may become contaminated or diseases may be transmitted from person to person.

Single-use items provided to customers for use cannot be reused by the food business — they may however be reused by customers. For example, customers may reuse plastic takeaway containers in their homes but food businesses are not permitted to reuse these containers. Customers may also refill disposable cups with drink at a self-service drink unit.

Disposable gloves may be used for one task only. Once a glove is removed from a hand, it cannot be reused. Disposable gloves must be changed between handling raw and ready-to-eat food. The same disposable gloves must never be used to handle raw food and then ready-to-eat food.

Food businesses may reuse single-use items for uses that do not involve contact with food or the mouth of a person. For example, used storage containers could be reused to collect soiled cutlery.

24 Animals and pests

This clause ensures that food premises are kept free from animals and pests with the exception of assistance animals.

Animals and pests can carry pathogenic organisms that can contaminate food. They may also contaminate food physically with hair, urine and faeces or by being present in the food in whole or part. Pests can gain access to food premises on food and packaging material and through doors and other openings. The food business is therefore not permitted, except in certain circumstances, to have live animals on the premises and is also required to take steps to prevent the entry of and to eradicate pests in the food premises.

24(1) A food business must:

- (a) subject to paragraph (b), not permit live animals in areas in which food is handled, other than seafood or other fish or shellfish;**

This requirement prohibits all animals from areas in which food is handled unless the live animal is seafood or other fish or shellfish. Live seafood and other fish or shellfish are permitted in areas in which food is handled to allow food businesses to keep decorative fish in tanks and to allow businesses to keep and sell live seafood, fish and shellfish on the premises.

Areas in which food is handled include areas in which food is made, manufactured, produced, collected, extracted, processed, stored, transported, delivered, prepared, treated, preserved, packed, cooked, thawed, served or displayed. Food businesses may keep security animals outside, provided the area is not used for outdoor dining or drinking.

(b) permit an assistance animal only in dining and drinking areas and other areas used by customers;

An assistance animal means an animal referred to in Section 9 of the *Disability Discrimination Act 1992* of the Commonwealth. Section 9 of the *Disability Discrimination Act 1992* refers to a guide dog, a dog trained to assist a person in activities where hearing is required and any other animal trained to assist a person to alleviate the effect of a disability.

Persons with an assistance animal are permitted to take the animal with them into the dining and drinking areas of food premises and any other areas used by customers. However, assistance animals are not permitted in non-customer areas such as the kitchen.

(c) take all practicable measures to prevent pests entering the food premises; and

The food business must do all that it practically can to prevent pests from entering the food premises. Practical measures that may be able to be taken include:

- providing screens to doors and openings and repairing screens if they become damaged;
- providing self-closing doors, double doors or air curtains at door entries; and
- ensuring there are no holes or gaps in ceilings, walls and floors — note that holes may have been made to provide service pipes, wires, etc., to the premises and these holes may not have been sealed.

(d) take all practicable measures to eradicate and prevent the harbourage of pests on the food premises and those parts of vehicles that are used to transport food.

Eradication

Practicable measures the business can take to eradicate pests on food premises and those parts of vehicles that are used to transport food include:

- hiring a professional pest controller — this will be necessary if pests cannot be adequately controlled by the food business; or
- using chemicals (sprays or baits) or physical means (traps) to kill or remove pests from the food premises.

Care should be taken to ensure any chemicals used do not contaminate food. Chemicals should not be used near exposed food. If this is unavoidable, non-spray chemicals should be used. If food does become contaminated or is likely to have become contaminated by chemicals it must be disposed of. If eating and drinking utensils or food contact surfaces are contaminated during treatment, they will need to be cleaned and sanitised before they are used.

Harbourage

Practicable measures the business can take to prevent harbouring pests on food premises and those parts of vehicles that are used to transport food include:

- keeping the premises and vehicle clean — note that this is a requirement of clause 19;
- not storing food and other items on the floor to assist cleaning and avoid providing areas for pests to harbour; and
- ensuring there is no unnecessary equipment stored on the food premises.

25 Alternative methods of compliance

This clause has been included to outline how food businesses can demonstrate that an alternative system they have in place will not adversely affect the microbiological safety of the food. Food businesses are permitted to have in place safe alternative systems for the temperature control of potentially hazardous food as well as for the cooling and heating of this food.

Food businesses are permitted to put in place alternative systems for the temperature control of potentially hazardous food. The following clauses are relevant:

- 5(3) Food receipt — the food business transporting the food is permitted to demonstrate it has a safe alternative system in place;
- 6(2)(a) Food storage;
- 7(3) Cooling;
- 7(4) Reheating;
- 8(5)(a) Food display; and
- 10(b) Food transportation.

The requirements for the storage, display and transportation of potentially hazardous food specify that potentially hazardous food must be kept under temperature control.

‘Temperature control’ is defined, see page 40. Within the definition of ‘temperature control’ a food business is permitted to deviate from the temperatures specified provided the business demonstrates it has a safe alternative system in place.

This clause specifies how a food business is able to demonstrate it has a safe alternative system in place. Various options are provided.

If a food business is not complying with the temperature and, where specified, the time and temperature requirements for potentially hazardous food, it is not complying with the

standard if it cannot demonstrate that it has a safe alternative system in place. The food business will need to demonstrate to the appropriate enforcement agency that it has the safe alternative system in place.

25 Without limiting the ways in which a food business can demonstrate that the temperature and any heating or cooling process it uses will not adversely affect the microbiological safety of food, a food business satisfies this requirement by complying with:

Listed below are four options for food businesses to demonstrate a safe alternative system. The first two options refer to food safety programs, the third to documented sound scientific evidence and the fourth to industry guidelines. Food businesses are not restricted to the options listed below and are permitted to utilise other methods. However, if other methods are used, the onus is still on the food business to demonstrate that the alternative system used will not adversely affect the microbiological safety of the food.

The business is not required to demonstrate that the alternative system will not adversely affect the physical or chemical safety of the food. This is because the food business is obliged to demonstrate that keeping the food at alternative temperatures for a specified time will not allow food-borne pathogens to grow to unsafe levels. Hence, the temperature requirements are limited to microbiological safety.

- (a) a food safety program that meets the requirements for food safety programs in the Act, regulations under the Act, or a food safety standard other than this Standard;**

This option has been included to recognise that 'food safety programs' may be required for certain food businesses by State and Territory Food Acts or regulations made under State and Territory Food Acts. For example, the Victorian Food Act requires certain food businesses to comply with the requirements in its Act for food safety programs.

If a food business is required to develop and implement a 'food safety program' within its State or Territory and wishes to demonstrate that it has a safe alternative system in place for the temperature control of potentially hazardous food through a food safety program, the food safety program must comply with the requirements for that program in the State or Territory where the business is located.

- (b) if no such requirements apply to the food business, a 'food safety program' as defined in this Standard;**

If a food business is not legally obliged to implement a food safety program but wishes to demonstrate that it has a safe alternative system in place for the temperature control of potentially hazardous food through a food safety program, the program must be in accordance with the definition of 'a food safety program'. See page 36 for a definition of 'food safety program'.

- (c) a process that according to documented sound scientific evidence is a process that will not adversely affect the microbiological safety of the food;
or**

Food businesses may implement a process for which there is documented sound scientific evidence that the microbiological safety of the food will not be adversely affected by the use

of this process. This evidence may be from published scientific papers or from written advice from expert organisations or persons. The advice provided in this guide in Appendix 1 on the use of time and temperature control for potentially hazardous food may be tendered as documented sound scientific evidence for food businesses to deviate from the temperatures specified.

Advice provided in documented sound scientific evidence will need to specify how long potentially hazardous food can be safely kept outside the specified temperatures without affecting the microbiological safety of the food. For example, in Appendix 1 it is indicated that potentially hazardous food can be safely kept at temperatures between 5°C and 60°C for a maximum total time of 4 hours.

Based on the advice, the food business will need to implement a process to demonstrate that the alternative times and temperatures are not exceeded. For example, if a food business wishes to utilise the advice provided in Appendix 1 and have potentially hazardous food outside temperature control for a maximum total time of 4 hours, it will need to implement a process to ensure this. It must also be able to demonstrate its compliance with this process.

Example

A catering company that makes and delivers potentially hazardous food determines that it would be easier to use time as a control for the growth of food-borne pathogens in the food rather than temperature. It is aware that it is permitted to do this provided that the whole time the food is unrefrigerated is kept to 4 hours or less and a process is put in place to ensure that this occurs.

Records are kept of how long the food is outside refrigeration while it is being prepared. Records of delivery times are also kept. The food business keeps the total time for preparation and delivery to less than 2 hours. It then labels the food being delivered with instructions to either refrigerate it when it is delivered or to consume it within 2 hours of delivery.

Note: If the preparation and the delivery time exceed 2 hours the food cannot be re-refrigerated and the food must be used immediately (see Appendix 1).

(d) a process set out in written guidelines based on sound scientific evidence that are recognised by the relevant food industry.

Industry guidelines that provide advice on implementing safe alternative systems based on sound scientific evidence may be available to food businesses. Examples of industry sectors that may develop these guidelines include restaurant and catering, hotel, bed and breakfast, meat, dairy, bakery, and supermarket. Advice on whether an industry guideline is available for the industry sector to which a food business belongs can be obtained by contacting the appropriate industry association. The industry association can also advise whether its guideline is recognised within the relevant sector.

Standard 3.2.3

Food Premises and Equipment

Standard 3.2.3

Food Premises and Equipment

(Australia only)

Purpose

This Standard sets out requirements for food premises and equipment that, if complied with, will facilitate compliance by food businesses with the food safety requirements of Standard 3.2.2 (Food Safety Practices and General Requirements).

The objective of this Standard is to ensure that, where possible, the layout of the premises minimises opportunities for food contamination. Food businesses are required to ensure that their food premises, fixtures, fittings, equipment and transport vehicles are designed and constructed to be cleaned and, where necessary, sanitised. Businesses must ensure that the premises are provided with the necessary services of water, waste disposal, light, ventilation, cleaning and personal hygiene facilities, storage space and access to toilets.

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Division 1 — Interpretation and application

1 Interpretation

In this Standard —

adequate supply of water means potable water that is available at a volume, pressure and temperature that is adequate for the purposes for which the water is used;

potable water means water that is acceptable for human consumption;

Editorial note:

The Australian Drinking Water Guidelines 1996, as amended, of the National Health and Medical Research Council and the Agriculture and Resource Management Council of Australia and of New Zealand (ARMCANZ) may be used by food businesses and authorised officers for guidance concerning what constitutes acceptable water.

sanitise means to apply heat or chemicals, heat and chemicals, or other processes, to a surface so that the number of micro-organisms on the surface is reduced to a level that:

- (a) does not compromise the safety of food with which it may come into contact; and
- (b) does not permit the transmission of infectious disease.

sewage includes the discharge from toilets, urinals, basins, showers, sinks and dishwashers, whether discharged through sewers or other means.

2 Application of this Standard

- (1) This Standard applies to all food businesses in Australia in accordance with Standard 3.1.1 (Interpretation and Application).

Editorial note:

Food businesses that operate from a farm, vineyard, orchard or aquaculture facility should refer to the definition of 'food business' in Standard 3.1.1 to determine if they must comply with this Standard. If they are involved in the substantial transformation of food or the sale or service of food directly to the public then they must comply with this Standard.

- (2) A food business may only use food premises and food transport vehicles that comply with this Standard.
- (3) A food business may only use equipment, fixtures and fittings in or on food premises and in or on food transport vehicles that comply with this Standard.

Editorial note:

An Australian Standard for the design, construction and fitout of Food Premises is being developed by Standards Australia. The Australian Standard will provide guidance to food businesses and authorised officers relating to the design, construction and fit-out of food premises. The Australian Building Codes Board is considering including specific requirements for food premises in the Building Code of Australia.

Division 2 — Design and construction of food premises

3 General requirements

The design and construction of food premises must:

- (a) be appropriate for the activities for which the premises are used;
- (b) provide adequate space for the activities to be conducted on the food premises and for the fixtures, fittings and equipment used for those activities;
- (c) permit the food premises to be effectively cleaned and, if necessary, sanitised; and
- (d) to the extent that is practicable:
 - (i) exclude dirt, dust, fumes, smoke and other contaminants;
 - (ii) not permit the entry of pests; and
 - (iii) not provide harbourage for pests.

4 Water supply

- (1) Food premises must have an adequate supply of water if water is to be used at the food premises for any of the activities conducted on the food premises.

Editorial note: 'adequate supply of water' is defined in Clause 1.

- (2) Subject to subclause (3), a food business must use potable water for all activities that use water that are conducted on the food premises.
- (3) If a food business demonstrates that the use of non-potable water for a purpose will not adversely affect the safety of the food handled by the food business, the food business may use non-potable water for that purpose.

5 Sewage and waste water disposal

Food premises must have a sewage and waste water disposal system that:

- (a) will effectively dispose of all sewage and waste water; and
- (b) is constructed and located so that there is no likelihood of the sewage and waste water polluting the water supply or contaminating food.

6 Storage of garbage and recyclable matter

Food premises must have facilities for the storage of garbage and recyclable matter that:

- (a) adequately contain the volume and type of garbage and recyclable matter on the food premises;
- (b) enclose the garbage or recyclable matter, if this is necessary to keep pests and animals away from it; and
- (c) are designed and constructed so that they may be easily and effectively cleaned.

7 Ventilation

Food premises must have sufficient natural or mechanical ventilation to effectively remove fumes, smoke, steam and vapours from the food premises.

8 Lighting

Food premises must have a lighting system that provides sufficient natural or artificial light for the activities conducted on the food premises.

Division 3 — Floors, walls and ceilings

9 Application

The requirements for floors, walls and ceilings specified in this Division apply to the floors, walls and ceilings of all areas used for food handling, cleaning, sanitising and personal hygiene except the following areas:

- (a) dining areas;
- (b) drinking areas; and
- (c) other areas to which members of the public usually have access.

10 Floors

(1) Floors must be designed and constructed in a way that is appropriate for the activities conducted on the food premises.

(2) Subject to subclause (3), floors must:

- (a) be able to be effectively cleaned;
- (b) be unable to absorb grease, food particles or water;

- (c) be laid so that there is no ponding of water; and
 - (d) to the extent that is practicable, be unable to provide harbourage for pests.
- (3) The following floors do not have to comply with subclause (2):
- (a) floors of temporary food premises, including ground surfaces, that are unlikely to pose any risk of contamination of food handled at the food premises; and
 - (b) floors of food premises that are unlikely to pose any risk of contamination of food handled at the food premises provided the food business has obtained the approval in writing of the appropriate enforcement agency for their use.

11 Walls and ceilings

- (1) Walls and ceilings must be designed and constructed in a way that is appropriate for the activities conducted on the food premises.
- (2) Walls and ceilings must be provided where they are necessary to protect food from contamination.
- (3) Walls and ceilings provided in accordance with subclause (2) must be:
- (a) sealed to prevent the entry of dirt, dust and pests;
 - (b) unable to absorb grease, food particles or water; and
 - (c) able to be easily and effectively cleaned.
- (4) Walls and ceilings must:
- (a) be able to be effectively cleaned; and
 - (b) to the extent that is practicable, be unable to provide harbourage for pests.

Division 4 — Fixtures, fittings and equipment

12 General requirements

- (1) Fixtures, fittings and equipment must be:
- (a) adequate for the production of safe and suitable food; and
 - (b) fit for their intended use.
- (2) Fixtures and fittings must be designed, constructed, located and installed, and equipment must be designed, constructed, located and, if necessary, installed, so that:
- (a) there is no likelihood that they will cause food contamination;
 - (b) they are able to be easily and effectively cleaned;
 - (c) adjacent floors, walls, ceilings and other surfaces are able to be easily and effectively cleaned; and

- (d) to the extent that is practicable, they do not provide harbourage for pests.
- (3) The food contact surfaces of fixtures, fittings and equipment must be:
 - (a) able to be easily and effectively cleaned and, if necessary, sanitised if there is a likelihood that they will cause food contamination;
 - (b) unable to absorb grease, food particles and water if there is a likelihood that they will cause food contamination; and
 - (c) made of material that will not contaminate food.
- (4) Eating and drinking utensils must be able to be easily and effectively cleaned and sanitised.

13 Connections for specific fixtures, fittings and equipment

- (1) Fixtures, fittings and equipment that use water for food handling or other activities and are designed to be connected to a water supply must be connected to an adequate supply of water.

Editorial note: 'adequate supply of water' is defined in Clause 1.

- (2) Fixtures, fittings and equipment that are designed to be connected to a sewage and waste water disposal system and discharge sewage or waste water must be connected to a sewage and waste water disposal system.
- (3) Automatic equipment that uses water to sanitise utensils or other equipment must only operate for the purpose of sanitation when the water is at a temperature that will sanitise the utensils or equipment.

14 Hand washing facilities

- (1) Subject to subclause (4), food premises must have hand washing facilities that are located where they can be easily accessed by food handlers:
 - (a) within areas where food handlers work if their hands are likely to be a source of contamination of food; and
 - (b) if there are toilets on the food premises — immediately adjacent to the toilets or toilet cubicles.
- (2) Subject to the following subclauses, hand washing facilities must be:
 - (a) permanent fixtures;
 - (b) connected to, or otherwise provided with, a supply of warm running potable water;
 - (c) of a size that allows easy and effective hand washing; and
 - (d) clearly designated for the sole purpose of washing hands, arms and face.
- (3) Paragraph (2)(a) does not apply to temporary food premises.

(4) With the approval in writing of the appropriate enforcement agency, food premises that are specified in the approval do not have to comply with any requirement of this clause that is also specified in the approval.

(5) Only food premises that are used principally as a private dwelling or are temporary food premises may be specified in an approval for the purposes of subsection (4).

Division 5 — Miscellaneous

15 Storage facilities

(1) Food premises must have adequate storage facilities for the storage of items that are likely to be the source of contamination of food, including chemicals, clothing and personal belongings.

(2) Storage facilities must be located where there is no likelihood of stored items contaminating food or food contact surfaces.

16 Toilet facilities

A food business must ensure that adequate toilets are available for the use of food handlers working for the food business.

17 Food transport vehicles

(1) Vehicles used to transport food must be designed and constructed to protect food if there is a likelihood of food being contaminated during transport.

(2) Parts of vehicles used to transport food must be designed and constructed so that they are able to be effectively cleaned.

(3) Food contact surfaces in parts of vehicles used to transport food must be designed and constructed to be effectively cleaned and, if necessary, sanitised.

Purpose

Standard 3.2.3 sets out requirements for food premises, fixtures, fittings, equipment and food transport vehicles. If food businesses comply with these requirements they will find it easier to meet the food safety requirements of Standard 3.2.2 *Food Safety Practices and General Requirements*.

Application of the standard to different types of food premises

The standard applies to the premises, equipment and food transport vehicles used by food businesses. The definition of food premises is broad and includes existing premises, new premises, domestic premises used for commercial purposes, temporary premises, mobile premises, vehicles and equipment. The obligations on food businesses are the same irrespective of the type of premises they use except where there are specific exemptions for specified premises.

There is no list of specifications that could be applied to the design and construction of food premises that will produce the 'ideal' premises to meet these standards. Food operations vary and the requirements for adequate and appropriate fixtures, fittings and equipment for those operations will differ. The 'ideal' fitout is also greatly affected by cost, suitability of the structure and other factors. Therefore, it is important that the evaluation of any premises takes into account the nature of the food operations and the food safety outcomes that are intended by the standard. Where the standard is not complied with, it may be possible to change the food operation to overcome defects in the premises rather than change the premises. Meeting the outcomes of the standard for food safety practices is the main priority.

This is briefly explained for the different types of premises below.

1 Existing premises

The design and construction of existing premises should be assessed for compliance with the outcomes of each requirement of this standard.

Existing food premises have been designed, constructed and/or altered under previous hygiene regulations, building laws and possibly local design and construction requirements. In many cases these requirements were prescriptive and required food businesses to design and build the premises and to install fittings and equipment to meet specified requirements. It may not be possible, due to space restrictions, costs, etc. to alter premises to meet modern concepts of ideal design and fitout. For example, it is generally recommended that coving is installed at the wall and floor junction of food processing areas to aid effective cleaning. If a food preparation area that does not have coving is being

kept clean and meets the requirements of the standard, there may be no advantage, only costs to the business, to legally require that coving.

2 New premises

There are greater opportunities to design, construct and fit out food premises to facilitate food safety practices if the requirements of this standard can be incorporated at the design stage.

Business should be encouraged, or may be required under enforcement agency registration systems, to comply with design and fitout requirements before opening the premises. It may not be easy to be specific on the fitout of new buildings when the exact nature of the food business that will operate in the premises is not known. However, the fitout should include as many features as possible that will enable premises, vehicles and equipment to be easily and effectively cleaned and meet other food safety objectives.

There are cost advantages to the business in installing features to assist food safety practices at the time of construction. Using the example of coving: coving integral to the junction of floor and wall, and installed as part of the fitout, is likely to be durable if installed correctly, and to cost no more than floor and walls installed without coving.

However, the design and fitout must take into account the food operations proposed for the premises. Businesses should not incur unnecessary expense for features that are not necessary. For example, if the food operations do not include wet cleaning of floors and the business does not propose to install floor wastes, then floor wastes should not be legally required by the enforcement agency. The authority could advise that installing floor wastes would allow the business to later change its cleaning procedures. However, if the business chooses not to act on the advice and later changes its cleaning operations, the business may then have to alter the premises.

3 Temporary premises

Temporary premises are structures set up for a specific, occasional event such as a fete or fair where the cost of providing premises to a permanent standard is unnecessary for food safety. There are specific exemptions from some of the requirements of this standard for temporary food premises based on practicalities. The most important part of temporary food operations is that the food safety practices in Standard 3.2.2 are met for the duration of the business's operation. Each type of event will have to be assessed separately.

4 Mobile premises

Mobile premises are not temporary premises. The term is used in this guide to mean permanent food premises that can be moved to new locations and might return to a base overnight. Their design, construction and fitout are usually restricted by space, weight and having to be self-sufficient in water supplies and waste disposal. A practical approach to applying this standard is appropriate.

5 Domestic premises used for commercial food handling

Domestic premises are used for commercial food operations such as bed and breakfast, farm home-stay, preparation of food for sales at markets and child care.

There are specific exemptions from some of the requirements of this standard for domestic premises based on practicalities.

Kitchens in domestic premises are usually not expected to have to withstand the same amount of use and cleaning as commercial premises and are generally not designed to commercial-standard specifications. Features such as kick plates and false bases to benches, and domestic model dishwashers are usual in domestic kitchens.

It is suggested that, if an enforcement authority seeks any changes in domestic premises, the changes relate to fixing food safety problems in the premises rather than non-compliance with design and fitout standards.

Division 1 — Interpretation and application

1 Interpretation

This clause includes definitions applicable to this standard only. Definitions that apply to more than one of the standards are specified in Standard 3.1.1. If a term has not been defined within this clause or Standard 3.1.1, reference should be made to the most recent edition of *The Macquarie Dictionary*, published by The Macquarie Library Pty Ltd.

Definitions

In this Standard —

adequate supply of water means potable water that is available at a volume, pressure and temperature that is adequate for the purposes for which the water is used;

The term is used in clause 4 **Water supply** and clause 13 **Connections** for specific fixtures, fittings and equipment.

potable water means water that is acceptable for human consumption;

In cases where there is doubt as to the acceptability of a particular water supply, reference should be made to the *Australian Drinking Water Guidelines 1996* as updated. These guidelines replace the National Health and Medical Research Council Standard for Drinking Water 1987. For further information on these Guidelines see the Bibliography.

The term is used in clauses 4 and 14.

sanitise means to apply heat or chemicals, heat and chemicals, or other processes, to a surface so that the number of micro-organisms on the surface is reduced to a level that:

- (a) does not compromise the safety of food with which it may come into contact; and
- (b) does not permit the transmission of infectious disease.

The definition makes it clear that businesses may use one or a combination of methods to sanitise. See the discussion under Standard 3.2.2, paragraph 20(2)(b).

The word is used in clauses 3, 9, 12, 13 and 17.

sewage includes the discharge from toilets, urinals, basins, showers, sinks and dishwashers, whether discharged through sewers or by other means.

The definition covers all waste water, whether or not it drains to a sewer, septic tank, vehicle tank or other disposal system.

The word is used in clauses 5 and 13.

2 Application of this Standard

2(1) This Standard applies to all food businesses in Australia in accordance with Standard 3.1.1 (Interpretation and Application).

2(2) A food business may only use food premises and food transport vehicles that comply with this Standard.

2(3) A food business may only use equipment, fixtures and fittings in or on food premises and in or on food transport vehicles that comply with this Standard.

It is an offence for food businesses to use food premises and food transport vehicles, and equipment, fixtures and fittings in or on those premises and vehicles, that do not comply with this standard.

An editorial note has been included in the standard to advise that Standards Australia is developing an Australian Standard to provide the food industry, the construction industry and governments across Australia with uniform criteria for the hygienic design, construction and fitout of food premises. Contact Standards Australia for further information.

The editorial note also advises that the Australian Building Codes Board is considering including specific requirements for food premises in the Building Code of Australia. These would apply to new food premises and alterations to premises that fall within the scope of the Building Code. Contact the Australian Building Codes Board for information.

Division 2 — Design and construction of food premises

3 General requirements

This clause intends food premises to be designed and constructed to:

- be appropriate for the purposes for which they are used;
- provide adequate space for food production and equipment;
- facilitate cleaning, sanitising and maintenance;
- prevent access by and harbourage of pests; and
- keep out dust, dirt, fumes, smoke and other contaminants.

3 The design and construction of food premises must:

- (a) be appropriate for the activities for which the premises are used;

Appropriate for use

Described below are some of the factors that help make premises suitable for handling food. The list is not exhaustive and it is important that assessment takes into account the particular food operations taking place on the premises.

Layout

Food contamination can be minimised by physically separating the areas where raw products are handled from the areas where the final product is ready for dispatch or service. Similarly, wash up areas and staff amenity areas should be separated from areas where food is prepared.

Layout of the premises can also affect the ease of keeping premises clean. For example, it helps cleaners if storage rooms for cleaning equipment are close to the areas where the equipment is used.

Staff and visitors may bring contamination into food handling areas if access doors are badly placed. Where possible, and where important to prevent food contamination, access to staff entrances, amenity rooms, change rooms and personal hygiene facilities should be located so that staff do not have to cross food preparation areas.

Location of equipment and facilities

Equipment and facilities are usually located where staff can readily use them. However, there may be cases where equipment cannot be located conveniently, particularly in premises set up for temporary events. For example, mobile coolrooms may have to be located some distance from stalls at a fair. Whether this type of situation is acceptable will depend on its likely impact on food safety. In the example on page 134, the question is whether food would be left at room temperature because staff do not have time to walk to the coolroom. Staff may make the effort to cope with unsatisfactory arrangements in the short term but problems may arise over longer term use of the premises.

Materials

Materials used to construct premises must be appropriate for food operations. They must not allow the migration of deleterious substances or impart colours, fumes or tastes to food. The materials should be durable under the conditions they are being used for and able to withstand cleaning chemicals.

Whether the premises are permanent or temporary is likely to affect the type of materials used in construction. For example, canvas would be appropriate for a stall for a one-day event but is inappropriate for a permanent structure.

Standard of workmanship

The standard of construction of the premises must match the use of the premises. For example, a stall used once a week at a market may be built to a lower standard of workmanship than permanent premises.

Standards of workmanship must be high in food preparation premises. For example, rough grouting between tiles, tiles laid unevenly or roughly finished rendering are not acceptable.

Location of air intakes and exhaust outlets

Clause 7 **Ventilation** requires businesses to ensure that premises have sufficient natural or mechanical ventilation. Although the clause does not include obligations for siting air intakes and exhaust outlets, the business should consider, under the general requirements, whether the intake air or the exhaust air will affect food safety or the suitability of another part of the premises.

Availability of power and other services

There is no specific requirement in the standard for premises to have power supplies. This is because businesses are unlikely to neglect to provide adequate power if they cannot operate without it. However, if there are circumstances where power is unavailable or intermittent and this impacts on food operations the premises would not comply with the subclause.

Adequate water supplies and waste disposal are covered by specific requirements in the standard because of their importance to food safety.

Other issues

Siting of garbage areas, access roads, sewage treatment plants and use of adjoining buildings are examples of other issues that could affect the suitability of the premises as food premises.

Example

The owner of a building proposes to open a basement as a restaurant. Refrigerators, washing facilities and toilets are two storeys above the basement. There is no plumbing or drainage to the basement.

The enforcement officer advises the owner that the premises would be inappropriate for this use unless a water supply and connections to the sewer, washing facilities including a handbasin, and refrigeration are provided in the basement.

(b) provide adequate space for the activities to be conducted on the food premises and for the fixtures, fittings and equipment used for those activities;

The word 'activities' includes all aspects of handling and preparing food for sale, displaying food for sale, serving food and associated activities, for example, storing packaging materials and chemicals, providing access for delivery and garbage vehicles, and storing garbage and recyclable material.

'Equipment' includes machinery and appliances used in connection with handling food and equipment used for cleaning the premises, cleaning the equipment and personal hygiene purposes. It includes sinks, hand washbasins, stoves, food-processing equipment, refrigerators, freezers, garbage containers and hot water services.

Space is also needed for food storage, ingredients, finished product storage, packing materials, cutlery, crockery and cooking utensils.

It is difficult to determine space requirements at the design stage unless the business can estimate the volume of trade accurately. However, factors that could be considered in establishing whether there is sufficient space are listed below — these factors could also be useful in evaluating existing premises:

- adequate space to permit a work flow that will separate food handling areas to prevent cross-contamination between food handled in one area and food in another;
- chilled, hot and dry goods storage space for ingredients, raw materials and final products (such as plated meals, prepared sandwiches or packaged products awaiting dispatch);
- storage space for recalled product and other product kept separate from product for sale;
- need for any additional equipment such as food preparation sinks to be installed to meet the requirements of the standards — this is particularly important if a dedicated sink is to be used for thawing foods, such as raw chickens, under cold running water. To prevent cross-contamination, separate sinks for washing ready-to-eat salads and vegetables should be available;
- staff numbers and protective clothing requirements — to assess changing room space;
- cleaning methods — to ensure that there is adequate space to manoeuvre cleaning equipment, to access areas for cleaning and to store chemicals;
- quantity and type of garbage and recyclable material produced — to assess garbage storage area requirements;
- water requirements — to assess any requirements for hot water storage (and cold if there is no mains or town supply); and
- sewage disposal — whether on-site storage and/or disposal is necessary.

The above list is not exhaustive but indicates the scope of the requirement.

Example

A small coffee shop business expands to operate an outside catering service. Sandwiches and salads are made for delivery later in the day to local businesses. There is insufficient space in the coolroom to store potentially hazardous sandwich fillings and ready-to-eat salads.

If the business does not have sufficient space to install another refrigerator, it will have to limit or cease the catering service.

(c) permit the food premises to be effectively cleaned and, if necessary, sanitised; and

Premises that are designed and constructed so that they can be effectively cleaned and sanitised are easier to clean, are more likely to be kept clean and therefore provide fewer opportunities for contaminating food.

Cleaning

‘Clean’ is defined in Standard 3.1.1 to mean ‘clean to touch and free of extraneous visible matter and objectionable odour’. Under Standard 3.2.2 clause 19 the business must maintain the premises to a standard of cleanliness where there is no accumulation of garbage or recycled matter (except in containers), food waste, dirt, grease or other visible matter.

Some factors that should be considered when evaluating whether new premises can be effectively cleaned are given below. Existing premises may have to be evaluated on the basis of performance against the food safety practices standard.

- Do ducts have access covers that can be removed to allow cleaning?
- Are there horizontal ledges created by pipe runs, windowsills, architraves, picture rails, etc. that could be avoided because they act as dirt traps?
- Could pipes, ducts, conduits, wiring and similar fittings be concealed in walls, floors or ceilings to allow easier cleaning of these surfaces?
- Are doorways and passages wide enough to allow cleaning equipment such as electric foaming machines to be used if that is the intended method of cleaning?

Sanitising

‘Sanitise’ is defined in the standard. In general terms it means to reduce the levels of micro-organisms on a surface so that the safety of food that comes into contact with the surface will not be affected and infectious disease will not be transmitted. Businesses will have to ensure that the surfaces they sanitise are designed and constructed to withstand the effects of sanitising hot water or chemicals. Note that for most food businesses it is necessary to only clean non-food contact surfaces and not sanitise them.

(d) to the extent that is practicable:

(i) exclude dirt, dust, fumes, smoke and other contaminants;

Dirt, dust, fumes, smoke and other contaminants must be excluded from the premises because they may contaminate food and food contact surfaces. Smoke and fumes may taint food.

The requirement also refers to 'other contaminants'. Contaminants include any biological, chemical or foreign matter that may compromise the safety or the suitability of the food. This includes microbiological contamination carried by people, materials or air.

The requirement includes contaminants that arise in one part of the premises and could cause a problem in another area. For example, dirt brought into a loading dock may not be a hazard to food in the dock but could cause a food contamination problem if carried into food preparation areas.

Sensitive food processing-operations, such as raw ingredient handling that may generate airborne contamination, should be separated from finished product areas and from areas for storing food packaging and food contact equipment that could contaminate finished product.

The business is only required to exclude contaminants to the extent that is practicable. This recognises that there may be situations where dirt and dust are unavoidable. For example, at an open air stall at a show where it would be impracticable to prevent dust and dirt entering the stall, it would be more appropriate to protect the food from contamination than dust proof the stall.

However, avoidable environmental contaminants including dirt and dust should be excluded so that the premises are easier to keep clean and food is less likely to be contaminated.

Some examples that illustrate the requirement are listed.

- If dust and dirt are likely to be blown through doorways, for example doorways opening to the exterior of buildings, then doors in doorways should be close fitting. (This will also help to deter pests.)
- Air intakes for ventilation systems must not draw in contaminated air.
- Toilet areas, laundries and living areas must be separated by airlocks or self-closing doors from areas handling exposed food. Alternatively, possible contamination should be removed by mechanical ventilation to areas not used for food preparation.

The design and construction of the premises should be assessed taking into account likely contaminants, ingredients used, the types of foods prepared and handling methods, movement of staff and products, and any controls in a food safety program that this business may implement.

(ii) not permit the entry of pests; and

Food businesses are required to proof premises against access by pests. 'Pests' is defined to include, but is not limited to, birds, rodents, insects and arachnids (spiders).

Excluding pests reduces the opportunities for contamination of food. Pests transmit spoilage and food poisoning micro-organisms, damage food and food packaging and might contaminate food with their bodies, faeces, urine and hair. In addition to contaminating food, rats and mice might nest in roof spaces and damage cables and pipework by gnawing.

The business is only obliged to exclude pests to the extent that it is practicable. For example, it might not be possible to prevent the occasional fly being carried into retail premises with customers or to avoid importing pests into premises in prepacked foods or cartons.

The type of pest-proofing measures that are required might vary across Australia. However, there are many well-known measures that will limit access by pests and some examples of these are listed below.

- Pest-proof doors and entrances into the building by installing flyscreen doors or self-closing doors.
- Install mesh screens at opening windows or other ventilation openings.
- Ensure drains, grease traps and ventilation pipes are sealed.
- Seal openings where pipes pass through external walls to prevent pests such as rats and mice entering food handling areas.
- Install appropriate flashing to the base of wooden doors if there is a problem with mice gaining access through doorways.

It is not intended that premises be pest-proofed when there is no likelihood of pests gaining access. In some instances the exclusion measures may be more appropriate to the whole complex, as in the case of a shopping mall containing a food hall.

(iii) not provide harbourage for pests.

Places in the premises that may provide harbourage should be eliminated. For example, where practicable, boxed-in areas that are difficult to completely seal should be opened up or provided with access for inspection and cleaning.

Due to the nocturnal habits of most pests, contamination of food may go unnoticed for some time until the infestation is large enough for pests to be spotted. In addition, it is difficult to eliminate large infestations.

Example

The architect seeks advice from the enforcement agency about whether to box in hot water pipes during renovations of a commercial kitchen or leave them exposed.

The advice is either leave exposed, encase solidly into the wall or (only if these options are not practicable) box in and seal so as not to harbour vermin.

4 Water supply

The outcome of this requirement is that potable water is available for washing food ingredients, cooking, adding to food and drinks, making ice, cleaning, sanitising and personal hygiene. Non-potable water is used only where it will not affect food safety.

4(1) Food premises must have an adequate supply of water if water is to be used at the food premises for any of the activities conducted on the food premises.

An adequate supply of water is defined to mean potable water that is available at a volume, pressure and temperature that is adequate for the purposes for which the water is used by the individual food business. Factors to be considered include the food handling

operations of the business, cleaning and sanitising operations, hours of operation and requirements during peak periods.

Temperature, volume and pressure (capacity) and potability (and the exemption from providing potable water) are discussed separately below.

Temperature

The subclause requires the business to have water at temperatures that are appropriate for the uses being made of the water in the food handling operations. The standard does not specify actual temperatures for water except to require water at hand washing facilities to be warm.

Businesses must also provide warm water for washing equipment. Warm water may be a mixture of hot and cold water or can be water heated to the required warm temperature.

Warm water for personal washing

Warm water must be provided for hand washing unless the business has a specific exemption under clause 14.

Warm water for personal washing is usually within the range 20°C–40°C. The temperature is not critical provided it is not so hot that it scalds and not so cold that people are reluctant to use it.

In most situations the only practical way to provide warm water is through a hot water system.

Equipment washing and sanitising

For guidance on temperature requirements for cleaning and sanitising, refer to Appendix 4.

A hot water system will be needed to achieve these temperatures.

Businesses may choose to sanitise using chemical (or other) sanitising methods, in which case they do not have to provide hot water for sanitising.

Some types of dishwashers, glasswashers and similar cleaning machines may need water at specified temperatures to operate the wash or rinse cycle. The machines' operating instructions should provide details.

Some cleaning and sanitising chemicals need water at certain temperatures. Refer to the chemical manufacturers for appropriate temperatures.

Other operations

The requirement for water at adequate temperatures applies to all activities at the food premises. Therefore, if the correct operation of cooking, food washing or other food processing equipment is dependent on water supplied to that equipment being at certain temperatures, the business must have a water system capable of supplying that water.

The temperature of water required to clean the premises will depend on the operations taking place and will have to be determined in each case.

Example

A café serves hot drinks, sandwiches and cakes using returnable cups, saucers, plates and cutlery. The enforcement officer visits the café and finds that the utensils and cutlery are not being sanitised.

The premises currently has a hot water system capable of delivering water at a maximum of 60°C.

The proprietor has the options of:

- sanitising by submerging the utensils in hot water (77°C for at least 30 seconds or equivalent time and temperature). A hot water system that will deliver water at a minimum of 77°C at the sink, a water heater in the sink if this is necessary to maintain the temperature to at least 77°C and a rinsing basket to submerge the utensils in the water will be needed;
- installing a dishwasher capable of sanitising;
- using disposable cups, plates and other utensils; and/or
- using a chemical sanitiser for eating and drinking utensils and for other utensils that require sanitising such as large mixing bowls, chopping boards etc. that will not fit in the dishwasher.

Capacity (volume and pressure)

The hot and cold water systems must have sufficient capacity to enable the business to carry out its operations even during peak operating times.

Business in areas where supplies are limited will have to ensure that water availability, pressure or volume does not limit the business's ability to carry out food operations and cleaning and sanitising.

Factors that need to be considered in calculating water capacity include:

- the number of appliances that have to be served (including any that are used in conjunction with the premises, such as showers);
- peak hot and cold water usage for different applications: cleaning, sanitising, washing food, adding as an ingredient and processing food;
- required temperature of water in the tank;
- length and size of pipe runs to appliances;
- recovery rate of water heaters;
- manufacturers' specifications for water requirements for appliances; and
- pressure requirements of equipment such as dishwashers.

Advice on specific issues regarding water supply may be sought from the local council and/or water authority

Potable water

4(2) Subject to subclause (3), a food business must use potable water for all activities that use water that are conducted on the food premises.

Potable water is defined as water that is acceptable for human consumption. The water must be safe to drink and must not introduce contaminants into food or beverages either as an ingredient or during cooking and cooling processes. The water must also be safe to use for cleaning and sanitising processes, and hand washing. Potable water must be used for making ice.

When assessing the potability of water supplies, the *Australian Drinking Water Guidelines 1996* may provide guidance.

The guidelines describe drinking water as ideally 'clear, colourless, and well-aerated with no palatable taste or odour, and it should contain no suspended matter, harmful chemical substances or pathogenic micro-organisms'.

The guidelines describe physical characteristics and microbiological and chemical quality, and include guidance on testing and sampling frequency. They also contain advice on disinfecting water supplies, and other barriers to the transmission of pathogenic organisms.

Further information on the *Australian Drinking Water Guidelines 1996* and where to obtain copies is in the Bibliography.

Businesses supplied with treated town water can usually assume that the supply is potable and need not take any additional precautions unless the supply authority has issued recommendations to treat the water or a higher standard is needed to produce the food, for example soft drinks.

Businesses with raw water supplies such as untreated town water or with non-reticulated water supplies may need to treat the water before use.

Storage tanks for potable water must be adequately designed and constructed to prevent contamination. The materials used in constructing tanks, and the roofs or other surfaces that collect the water, may contaminate the water. Animals and birds may gain access if the tank is not covered and inlets, outlets and overflows are not screened. Measures should also be taken to keep out leaves, dust, animal and bird droppings, and insects.

Exemption from using potable water

4(3) If a food business demonstrates that the use of non-potable water for a purpose will not adversely affect the safety of the food handled by the food business, the food business may use non-potable water for that purpose.

Businesses are permitted under subclause 4(3) to use non-potable water provided they can demonstrate to the appropriate enforcement agency that the water will not affect the safety of food produced by the business. It is the responsibility of businesses to provide evidence to an enforcement officer that the quality of the water and the use to which it is put will not affect food safety. Evidence may include the reasons why the water is non-potable and the systems in place to ensure that the water will not contaminate food or equipment that comes in contact with food on the premises. Examples of uses that may be appropriate for non-potable water include refrigeration equipment, fire-fighting and certain cleaning applications.

Use of clean seawater and clean estuarine water for ice making, chilling and cleaning purposes in the seafood/fish sector will be included in ANZFA's work in addressing the application of food safety standards to this industry.

If a food business uses potable and non-potable water supplies there must be no cross-connections between the two because of contamination risks. It is advisable to ensure that the systems are separate and to identify any pipes or taps that are connected to the non-potable supply. Note that failure to ensure that the water system is designed to prevent food contamination would be an offence under subclause 12 (fixtures, fittings and equipment must be designed so that there is no likelihood they will cause food contamination).

Example

Within the enforcement authority's jurisdiction is a small community of 500 people with one food premises, a combined grocery store and takeaway. The community has an untreated town water supply.

To ensure there is no contamination from water, the takeaway proprietor is advised to use boiled water for drinking and food preparation. The proprietor has a piped supply of town water to the sinks and handbasins. Eating and drinking utensils and food contact surfaces are sanitised with a chemical sanitiser after washing.

Mobile and temporary premises

The requirements apply to mobile and temporary food premises.

Businesses using vehicles that do not connect to reticulated supplies will have to ensure that the vehicles are fitted with water storage tanks with a capacity adequate for the period of trading between opportunities for refilling. For example, the Australian Institute of Environmental Health Code for Food Vending Vehicles recommends a minimum of 25 litres be stored for cleaning purposes. It does not provide guidance on capacity for other uses (drinking, handwashing and cooking).

Stalls at markets and similar places will have to be provided with tanks or other containers for clean water storage if there is no piped (hose) supply from a reticulated system. Guidance on water supply is available in the *Industry Guide to Good Hygiene Practice — Markets and Fairs Guide* published on behalf of the UK Institute of Environmental Health by Chadwick House Group Ltd. For example, the Guide states that water containers should hold a minimum of 9 litres per person working within the stall, stating that this should be adequate for hand, equipment, food washing and other potable water uses during the day. However, this is a guide and each business will have to be assessed according to its operations.

5 Sewage and waste water disposal

This outcome of this requirement is that sewage and waste water are disposed of effectively.

There must be no contamination of food or the water supply from the disposal system.

The requirement applies to all sewage and waste liquid produced by the business, including waste from cleaning and cooking processes, and toilets. Stormwater is also included. Solid waste is covered under clause 6.

Liquid waste is likely to contain pathogenic organisms, particularly the waste from toilets, personal washing and water contaminated by blood or soil. Such waste is a potential source of contamination of the premises, equipment and food. The intent of the requirement is to ensure that, whatever disposal system is in place, it completely removes sewage and waste water without endangering food safety.

The term 'disposal system' means the system that removes the waste from buildings, vehicles and stalls, and from the curtilage of the premises (that is, the land where the building, vehicle or stall is situated) that is within the control of the food business. This includes drains and sewers, holding tanks, grease arrestors and on-site treatment plants for sewage, waste water and stormwater.

5 Food premises must have a sewage and waste water disposal system that

(a) will effectively dispose of all sewage and waste water; and

To be effective, all sewage and waste water must be conveyed from all buildings on the site so as not to cause ponding or backflow into the building. Sewage and waste water disposed of on-site must be disposed of so as not to jeopardise food safety. Disposal both on-site and off-site must be in accordance with statutory requirements including statutory environmental requirements.

Example

The proprietor of a food business is converting a vehicle to use to prepare and sell sandwiches and hot food. He approaches the Council for advice on waste water storage and disposal.

The proprietor is advised to refer to the Code for Food Vending Vehicles produced by the Australian Institute of Environmental Health. This Code recommends that vehicles be fitted with a waste water tank of at least 50 litre capacity external to the vehicle with an outlet of sufficient diameter to facilitate easy flushing and cleaning. The proprietor is required to empty the tank in accordance with local authority requirements.

(b) is constructed and located so that there is no likelihood of the sewage and waste water polluting the water supply or contaminating food.

The intent of this requirement is that drainage pipes, grease arrestors, drain inlets and on-site sewage treatment plants are located where there is no risk of contamination. For

example, locating grease arrestors in food preparation areas can result in contamination problems when the arrestors are emptied. If contamination problems are likely to arise, the grease arrestor must be located outside the food preparation area and preferably outside the building.

The disposal system must also be constructed so that there is no likelihood of the liquid waste polluting the water supply or contaminating food. This is intended to ensure that the standard of workmanship is such that the system is not likely to leak, block, overflow or allow access by vermin into the food premises.

Temporary and mobile premises

The provisions apply to temporary and mobile premises.

Where there is no connection to a mains system businesses will have to ensure that temporary holding tanks and any associated pipes are properly constructed, do not leak and do not allow pests to have access to the vehicle or stall.

Arrangements for emptying will have to ensure that there is no risk of contamination during the emptying process.

As buckets or open containers placed under sink or basin outlets may cause contamination problems if they overflow, they must be emptied regularly.

Sites set aside for stalls and mobile premises at fairs, agricultural shows or similar events should not be located near sullage pits, soakaways or holding tanks because of possible contamination problems.

Toilets and handwashing facilities at fetes and markets

If a food business provides temporary toilets and hand washing facilities for staff and/or customers at a fete, market or similar event the business will have to ensure that disposal arrangements meet the requirements of the clause. For example, arrangements to empty holding tanks must not result in a food safety problem which could occur if pump-out pipes cross food preparation areas.

6 Storage of garbage and recyclable matter

The clause intends that storage facilities for garbage and recyclable matter are suitable for the volume and types of garbage and recyclable material produced by the food business.

They must not provide a breeding ground for pests and must be capable of being easily and effectively cleaned.

The broad nature of the requirement ensures that it is applicable to all types of food premises and the different types of garbage and recyclable material that are produced.

The word 'facilities' is intended to include all the areas and equipment used in connection with garbage and recyclable material storage. It includes:

- outside storage areas where bins are kept;
- garbage rooms;
- refrigerated garbage rooms;
- garbage chutes;
- bins, hoppers and other storage containers whether used outside the buildings or in food handling areas; and
- compactor systems and the rooms in which they are housed.

'Garbage and recyclable matter' includes food waste, paper, cardboard, glass, metal (whether recycled or not) and any other waste material produced by the business that has to be stored before it is removed.

6 Food premises must have facilities for the storage of garbage and recyclable matter that:

(a) adequately contain the volume and type of garbage and recyclable matter on the food premises;

The standard requires all the garbage and recyclable material to be contained. This means that the waste should be in bins, hoppers, wire cages or other containers that are appropriate for the type of waste. For example, paper can be stored in hessian-like material sacks and wire cages but food waste, which may leak liquids, must be placed in impervious containers.

The containers must be large enough or in sufficient numbers to contain all the waste produced by the business while awaiting the next waste removal from the premises.

The outside area or room that houses the containers must also be adequate for the volume and types of waste. There is no requirement to use refrigerated garbage rooms although this may be necessary for some businesses to prevent putrefaction and odour problems.

(b) enclose the garbage or recyclable matter, if this is necessary to keep pests and animals away from it; and

The garbage and recyclable matter must be enclosed if this is necessary to keep pests and animals away from it. The subclause is not intended or designed to prevent nuisances from litter or to prevent scavenging by people.

The intention is that containers that are in open air storage areas must have tight fitting lids in order to keep flies and other pests away. However, lids on containers used in food preparation areas are not specifically required. Lids inconvenience kitchen staff and handling the lids could pose a risk of food contamination. Lids may also not be necessary on containers in sealed garbage rooms because pests should not be able to access the garbage.

Recyclable material that does not attract pests but will afford harbourage, such as dry cardboard, can be baled, kept in an enclosure and removed regularly.

Example

Garbage from a café is placed in plastic garbage bags, which are left at the rear of the premises and collected twice weekly. Cats often tear the bags and the shopping centre has repeated infestations of mice attracted to the spilt garbage.

The enforcement officer advises the café proprietor to provide bins with tight fitting lids or a properly constructed garbage skip to store the garbage while it is awaiting removal.

(c) are designed and constructed so that they may be easily and effectively cleaned.

This requirement applies to the area where the waste is stored and to garbage chutes, bins or other containers used to hold garbage or recyclable matter.

Businesses should not have to go to the expense of providing external garbage areas (with associated drainage, reticulated water, etc.) if the current arrangements are not posing a food safety risk. However, if there are other issues, such as environmental problems or the type of waste necessitates it, businesses may need an external garbage area under other legislation.

If premises have a garbage room, the floors, walls and ceiling must comply with the requirements of clauses 10 and 11. They must be designed and constructed in a way that enables them to be cleaned. For example, floors may need to be graded and fall to a floor waste if the room is hosed to clean it.

They must not, as far as practicable, provide harbourage for pests. For example, walls should be smooth and free of cracks and crevices where insects could hide.

Garbage rooms are part of the premises and therefore have to comply with the requirements for sufficient ventilation and lighting under clauses 7 and 8.

Garbage chutes are a fitting within the premises and must comply with clause 12.

There is no requirement that garbage containers or garbage areas must be sanitised. There is no food safety justification for sanitising because food should not be in contact with the containers and hands should be washed after handling the containers if the next handling job could transfer contamination from the containers to food. Washing containers thoroughly with detergent and water should remove residues that are likely to attract pests.

Local legislation

Businesses should ensure that they are aware of any State/Territory or local requirements under building or other laws that apply to garbage and recyclable material. For example, in Tasmania and the Northern Territory there are requirements for garbage storage in the Building Code of Australia.

7 Ventilation

The clause is intended to ensure that natural or mechanical ventilation will minimise the likelihood of airborne contamination of food.

7 Food premises must have sufficient natural or mechanical ventilation to effectively remove fumes, smoke, steam and vapours from the food premises.

Ventilation provides fresh air in place of air containing unwanted fumes, smoke, steam or vapours. 'Ventilation' includes both the exhaust system to remove stale air and the system that provides the fresh air.

Air conditioning to provide cool working conditions for staff is not a requirement under the food safety standards. Staff discomfort from high ambient temperatures is an occupational health and safety matter.

Fumes, smoke, steam and vapours

The clause requires a business to remove air that is contaminated with 'fumes, smoke, steam and vapours'. Fumes, smoke, steam and vapours include all types of airborne matter that could cause hygiene, food safety or suitability problems if allowed to remain in food premises.

Sufficient, effective ventilation

The business must ensure that premises have ventilation systems that are sufficient and effective.

In judging whether or not a ventilation system is sufficient and effective, regard should be paid to the types of operations being carried out. Some suggested criteria follow:

- do the food operations or other activities (such as cleaning) produce fumes, smoke, steam or any vapours?
- does the ventilation system in place (or proposed) remove all steam and fumes?
- are air intakes and intakes for 'make-up air' located so that they provide 'fresh' air uncontaminated by fumes, smoke, etc.? and
- does the system draw air into 'clean' preparation rooms from areas of the premises where operations generate dust or airborne microbiological contamination that could cause contamination problems?

In assessing ventilation systems it is also relevant to consider compliance with other clauses in the standards. For example, the system should provide a positive pressure to prevent airborne dust, dirt and insects gaining access to the premises, thus meeting obligations under clause 3 General requirements, if this is appropriate to the activities in the premises.

Example

Common ventilation problems

Condensation in a bakery is causing mould growth on the walls and ceiling. The problem is that the oven is not provided with an effective exhaust system.

Grease is accumulating on the walls and ceiling above a deep fryer on a bench in a takeaway. The problem is caused by failure to install an exhaust hood over the deep fryer.

In both cases, local exhaust hoods and extraction fans are installed to remove condensation and grease-laden air produced by the equipment.

Natural or mechanical systems

The business may choose to ventilate the premises either naturally, by having openings such as windows and/or vents, by installing a mechanical ventilation system or by a combination of the two.

Natural ventilation will only be suitable in premises where there is little or no cooking that generates steam or greasy air. Businesses should always consider mechanical extraction systems when building or altering premises and should note it is usually more expensive and inconvenient to install extraction hoods and ductwork over cooking equipment once the business is operating.

Guidance on design and installation of mechanical systems

All parts of a mechanical ventilation system, such as fans, kitchen exhaust hoods and ductwork are 'fixtures, fittings and equipment' under clause 12 and must comply with the requirements of that clause.

Guidance on the design and installation of mechanical ventilation systems may be found in Australian Standard 1668.2 *The use of mechanical ventilation and air-conditioning in buildings Part 2 Mechanical ventilation for acceptable indoor-air quality*. This sets out requirements for air handling systems that ventilate enclosures by mechanical means.

Ventilation systems in existing premises

The enforcement agency will have to judge whether existing ventilation in operating premises meets the intent of the standard. Existing businesses that do not have any of the problems normally caused by poor ventilation should not be required to upgrade or alter their existing systems. Evidence of a problem includes grease on walls and ceilings and flaking paint in cooking and wash up areas.

Example

The walls of the pot wash area of a large hotel kitchen are badly affected by condensation. During washing, steam from hot water condenses on the walls causing flaking paint and mould growth despite efforts by the business to maintain them.

The enforcement officer notifies the business that it is an offence not to provide sufficient ventilation. The officer refers the business to Australian Standard 1668.2 for guidance on exhaust ventilation.

Ventilation in new premises

Premises that are undergoing fitout or are recently completed have to meet natural and/or mechanical ventilation requirements in the Building Code of Australia (BCA). Under the BCA, premises must be provided with means of ventilation with outdoor air which will maintain adequate air quality. If the air is provided through a mechanical air handling system, the system must control the circulation of objectionable odours and the accumulation of harmful contamination by micro-organisms, pathogens and toxins.

In a commercial kitchen, an exhaust hood that complies with Australian Standard 1668 Parts 1 and 2 will satisfy the BCA requirements. The provisions have regard to room sizes and apply to hoods over cooking apparatuses which have power inputs above specified levels. Where the equipment is outside the specifications, mechanical ventilation systems meeting the general requirements of the Australian Standard are deemed to comply with the BCA.

Example

A group of retail shops are built to lock-up stage. The builder receives the compliance certificate from the building authority.

One shop is purchased and fitted out as a restaurant. The proprietor installs a cooking range but does not install any mechanical ventilation. Natural ventilation is very limited.

The enforcement officer, noting that a fitout is under way, advises the proprietor that he will have to comply with the food safety standard requirements regarding ventilation.

The proprietor ignores the advice and opens for business. The enforcement officer visits the premises and notes condensation on the kitchen ceiling. The enforcement officer requires the proprietor to provide mechanical ventilation on the grounds that the existing ventilation is not effectively removing steam.

Mobile premises

The requirement applies to mobile premises such as takeaway caravans and cruise boats.

Advice on requirements is contained in the Australian Institute of Environmental Health *National Code for Food Vending Vehicles and Temporary Premises Part A*.

Domestic premises

The clause applies to domestic premises used for commercial operations such as bed and breakfast. However, the size and type of cooking appliances is usually not within the scope of Australian Standard 1668. Domestic mechanical systems are likely to meet the objectives of the clause unless there is considerable frying or other cooking that generates greasy air and/or steam.

Preventing nuisances

Food businesses should note that inappropriate siting of flues and vents may result in odour or other problems from extracted air that may cause a nuisance to adjoining

premises or to public areas. However, the clause is not intended to address these problems as they are not food safety issues. Businesses should comply with the relevant State and Territory legislation.

8 Lighting

This clause requires natural and/or artificial light that is sufficient to enable staff to carry out food handling operations, cleaning and sanitising and other activities on the premises.

8 Food premises must have a lighting system that provides sufficient natural or artificial light for the activities conducted on the food premises.

Sufficient lighting

Lighting must be sufficient to enable food handlers to readily see whether areas and equipment are clean, to detect signs of pests and to clearly see the food and equipment they are handling. Specific tasks, such as inspecting food, taking measurements or monitoring equipment, require higher levels of lighting than general food operations.

Australian Standard 1680 Part 1-1990 *Interior lighting: General principles and recommendations* and AS/NZ 1680.2.4 1997: *Industrial tasks and processes* provide comprehensive information on interior lighting. These standards set out recommendations for 'good seeing conditions' in buildings by means of appropriate lighting and interior colour treatment.

One of the main elements in lighting is a sufficient level of illuminance. Levels of illumination are measured in lux (lumens/square metre). Australian Standard 1680 contains recommended maintenance illuminances for various types of tasks. Part 2.4 gives recommendations for industrial tasks and processes including food processing.

Examples of minimum maintenance levels

Activity	Level of illuminance (lux)
Food and equipment storage areas	110–150
Retail, dishwashing, handwashing, toilet areas	200–300
At food preparation surfaces	500
For reading inspection and monitoring equipment (by provision of local lighting)	600–1200

Low levels are acceptable in dining areas, the customer side of counters and bars, etc. when the areas are open to the public but the business must provide supplementary lighting to permit cleaning and inspection for pests.

The BCA has requirements for natural and artificial lighting. For example, for new work or alteration subject to BCA requirements, artificial lighting systems must comply with the relevant parts of Australian Standard 1680.

Division 3 — Floors, walls and ceilings

9 Application

9 The requirements for floors, walls and ceilings specified in this Division apply to the floors, walls and ceilings of all areas used for food handling, cleaning, sanitising and personal hygiene except the following areas:

- (a) dining areas;
- (b) drinking areas; and
- (c) other areas to which members of the public usually have access.

Dining areas include seating areas of restaurants, outdoor dining areas of restaurants and customer areas of takeaways.

Drinking areas include the customer side of bars and outdoor drinking areas of premises.

Other areas to which customers have access include customer areas of supermarkets and other retail shops, customer areas of warehouses and public toilets.

The requirements of other Divisions in this standard will apply to these areas.

10 Floors

The intention is that floors are appropriate for the area, able to be effectively cleaned, impervious to grease, food particles and water and do not provide harbourage for pests.

The requirement applies to floors in parts of the premises used for food handling such as kitchens, storerooms, coolrooms and to external areas where food is handled, for example, loading docks. It also applies to areas used for washing and cleaning equipment and utensils, and to toilet and other personal hygiene areas, provided there is no public access.

It does not apply to dining and drinking areas and areas where the public have access.

10(1) Floors must be designed and constructed in a way that is appropriate for the activities conducted on the food premises.

‘Appropriate’ is defined in the dictionary to mean ‘suitable or fitting for a particular purpose’ and this is the meaning intended here. In deciding whether or not the floor is appropriate, consideration should be given to food safety factors such as:

- whether the materials of which the floor is made, or the ground surface if it is being used, could produce dust or other material that could contaminate food;
- the type of materials (food scraps, oil and grease, water, chemicals) that could be spilt on the floor and need to be removed through cleaning, cleaning methods and materials available to the business; and

- whether the floor is of sufficient durability to withstand the type of cleaning operations used and degree of wear and tear occurring during food handling or other activities in the area.

The business may also consider other factors such as cost, occupational health and safety issues and appearance.

Specific requirements

10(2) Subject to subclause (3), floors must:

Subclause (2) contains specific requirements for floors. The majority of businesses would have to provide floors that meet these requirements, but note the exemptions in subclause (3).

(a) be able to be effectively cleaned;

Floors must be capable of being effectively cleaned to remove accumulations of food waste, dirt, grease or other visible matter. Such accumulations provide food for pests, enable microbial growth and could directly contaminate food. The food waste, dirt, grease or other visible matter on the floor may be from a variety of sources including food spills, food handlers' shoes and food packaging brought into the premises.

Generally, to be effectively cleaned, floors in kitchens and other areas where food is prepared or cooked should be smooth (within occupational health and safety guidelines), free from cracks and crevices, and resistant to hot water, steam and/or chemicals. It is also important in permanent premises that the floor is durable otherwise the business will be faced with replacement costs and associated disruption. Examples of floors that meet the criteria include glazed tiles with flush epoxy grouting, sheet vinyl and epoxy resin.

The same criteria would apply to floors in wash up areas.

The type of floors that are suitable for staff amenity areas, including wash rooms, will depend on the extent to which food residues are carried into these areas and the method of cleaning necessary to keep the floors clean. Glazed tiles, sheet vinyl and epoxy resin would be suitable, as would flooring for storage areas (referred to opposite).

There is no requirement that the floor be capable of being sanitised, that is, withstanding chemical sanitisers or the high temperatures of hot water or steam sanitising. Such a requirement is not considered necessary because food should not be in direct contact with the floor and walking on the floor negates the sanitiser's effect. Cleaning methods should be adequate to remove soil as well as reduce micro-organisms to a safe level. However, if a business sanitises floors, the floor must be able to withstand the effects of sanitising to be appropriate under subclause (1).

If an enforcement agency considers that the type of food operation necessitates that the floor must be capable of being sanitised to ensure very low levels of contaminants (for example, very low levels of listeria) in the environment, this could be required under clause 3 **General requirements**. Clause (3)(c) of this standard states that the design and construction of food premises must permit the premises to be effectively cleaned and, if necessary, sanitised.

Coving

There is no specific requirement for coving at the junction of the floor and wall. However, coving should be provided in new premises in areas where floors are intended to be or likely to be cleaned by flushing with water. It may also help cleaning where the floor has to be frequently swept. Installing coving at floor-wall junctions behind stoves and food preparation benches may make these difficult-to-access areas easier to keep clean.

In existing premises it should not be necessary to install coving unless there are problems with cleanliness. Installing coving on existing floors is not always successful as it is likely to create ridges or ledges that can trap dirt and it may be difficult to ensure that the coving adheres strongly to the surface beneath. If a business has difficulty keeping an existing wall-floor junction clean it is preferable to improve the cleaning rather than install coving over existing surfaces.

Storage areas

Requirements for floors in food and equipment storage areas, for example dry goods stores, do not have to be as stringent as in food preparation areas because the cleaning regime may not need to be as rigorous.

Floors in these areas should be smooth and free of cracks and crevices in order to be capable of effective cleaning but they may not need to be made of materials that will withstand frequent contact with cleaning chemicals. In addition to the floor finishes above, concrete trowelled to a smooth finish is suitable, provided dense mixes are used and it is properly cured and has a steel- or machine-float finish.

An exception to the above would be coolrooms if they are frequently entered from food preparation areas and grease from floors is walked in.

Use of carpet, mats and duckboards

Carpet and other absorbent matting are not capable of being effectively cleaned and are therefore unsuitable in any food preparation, storage or wet area.

Mats (including dust control mats) and duckboards are equipment and must comply with the requirements for equipment in clause 12 **General requirements**.

(b) be unable to absorb grease, food particles or water;

The floor surface must be impervious to grease, food particles and water to enable these substances to be removed by cleaning.

(c) be laid so that there is no ponding of water; and

Water remaining on floors could provide a water source for pests and encourage their presence in the premises. It could also be a source of microbial contamination.

This means that the floor surface should be either even and horizontal or even and graded to a floor waste (or other drainage point). There must be no dips or hollows where water can collect and, if the floor is graded, it must be sufficiently graded towards the floor waste (or other point) to allow water to drain away.

Floors flushed with water or hosed down must be graded and a floor waste (drain or gully) installed so that the water drains to a drainage system. However, if the floor is dry cleaned,

a wet vacuum cleaner is used or the floor is wet mopped and the mop removes remaining water, there is no need for a fall or a floor waste provided the floor is even.

(d) to the extent that is practicable, be unable to provide harbourage for pests.

The floor must be installed so that there are no places where pests such as cockroaches could harbour and breed. For example, tiles and vinyl sheeting must be firmly attached to the surface beneath to prevent pests harbouring under the tiles or vinyl sheeting. Floors in poor condition (that is, with cracked tiles or torn vinyl) also provide a place for pests to harbour.

The requirement is only applicable to the extent that it is practicable. It would be difficult to exclude every crack or crevice in a floor. Note that failure to maintain floors in a good condition is an offence under Standard 3.2.2, subclause 21(1).

Exemptions for floors in temporary premises and in other premises with the approval of the appropriate enforcement agency

The following exemptions provide flexibility to businesses that either use food premises infrequently, for example, a stall setting up at a market or a sporting group operating a barbecue outside at a sporting event. They also allow the use of floors that traditionally have presented no food safety problems such as dirt floors in wineries and unsealed timber floors in some older premises.

10(3) The following floors do not have to comply with subclause (2):

- (a) floors of temporary food premises, including ground surfaces, that are unlikely to pose any risk of contamination of food handled at the food premises; and**

Businesses using a temporary food premises may use the existing ground surface, such as grass, concrete, paving or dirt, provided the surface would not pose a food safety hazard. This will permit businesses to sell packaged foods and food directly from the barbecue at fetes, markets, sporting events and similar functions.

If the ground surface is unsuitable, floors that do not comply with clause 10(2) may be installed, provided their use does not pose a food safety hazard. Examples of floors that may be suitable are groundsheets and sealed timber boards.

- (b) floors of food premises that are unlikely to pose any risk of contamination of food handled at the food premises provided the food business has obtained the approval in writing of the appropriate enforcement agency for their use.**

For premises other than temporary premises the business will have to obtain a written exemption from the enforcement authority for floors that do not meet the criteria in clause 10(2). The exemption is only available if the floor does not present a food safety hazard. However, there are likely to be very few types of premises that could justify floors that do not meet the requirements of clause 10(2).

Example

A grocery store has an unsealed timber floor in a storeroom. During an inspection of the premises the enforcement officer advises the business that the timber floor in the storeroom does not meet the requirements of subclause 10(2) in that it could absorb grease, food particles and water. The grocery store proprietor agrees to store only packaged, non-perishable food in that storeroom, to sweep it out regularly and to check regularly for pests. The enforcement officer notes the proprietor's agreed action and approval to use the floor on the inspection report and provides a copy to the store proprietor.

Domestic premises

The clause applies to kitchens, storerooms and personal hygiene areas of domestic premises used for food business purposes, for example bed and breakfast, home-stay and commercial child care.

11 Walls and ceilings

The intention is that all walls and ceilings are appropriate for the area and are provided where they are necessary to protect food. They must not provide places for pests to hide and must be capable of being kept clean.

Walls and ceilings that protect food must be sealed to prevent dirt, dust and pests getting into the area and must be impervious to grease, food particles and water. They must be easy to clean.

The requirement applies to walls and ceilings in permanent buildings, in mobile food premises and in temporary premises such as tents and stalls. It does not apply to walls and ceilings in dining and drinking areas or areas where the public have access, for example, the retail area of a shop or the living areas of a bed and breakfast. However, clause 3 **General requirements** does apply to these areas. Also note the comment regarding adequate toilet facilities under clause 16.

Drafting of the requirements recognises that some food premises do not have walls and ceilings. For example, a stall selling canned drinks and prepacked snacks at a market may not have walls or a roof. It also recognises that walls and ceilings are designed and constructed for a variety of purposes such as weather protection and security, not necessarily to protect food.

11(1) Walls and ceilings must be designed and constructed in a way that is appropriate for the activities conducted on the food premises.

Where premises have walls and ceilings, their design and construction must be appropriate for the types of activities that are taking place in the premises.

Criteria for judging whether or not the wall and ceiling design and construction are appropriate include:

- the food handling activities taking place in the area — whether the surfaces are subject to splash or soiling;
- the likelihood of material, such as paint flakes, contaminating food;
- whether food will come into contact with wall surfaces;
- a need to withstand heat from cooking processes and impact from equipment;
- cleaning methods — whether they are wet or dry and the properties of cleaning chemicals used;
- the likelihood of pest infestation and the types of pests;
- ease of maintenance and replacement of worn or damaged areas; and
- ease of cleaning, particularly if the surface is broken by access panels, window sills, etc.

For example, areas where wet processes are carried out will need walls that are impervious to moisture and able to withstand the harsh action of cleaning compounds. Processes that generate dust will need smooth hard surfaces that cannot trap and hold dust.

Example

The proprietor of a grocery shop wishes to store bottles of wine in a section of the dry goods store separated from the remainder of the store by a metal mesh wall. The proprietor seeks advice from the enforcement authority as to whether the metal mesh wall would satisfy the requirements and is informed that, provided the mesh can be cleaned (and is kept clean), it would be appropriate.

11(2) Walls and ceilings must be provided where they are necessary to protect food from contamination.

Walls and ceilings are likely to be needed to protect the safety and/or suitability of the food where:

- unprotected (unpacked) food is handled or stored and could be contaminated by dust, dirt or other airborne material; and/or
- packaged food could be damaged by the weather, dust, dirt or pests.

Walls and ceilings may not be necessary where processing or storage equipment adequately protects the food being processed or stored, nor at temporary premises such as barbecues where raw food is kept in containers and cooked food is sold directly off the hotplate.

Walls and ceilings in areas where food must be protected

11(3) Walls and ceilings provided in accordance with subclause (2) must be:

The requirements for walls and ceilings needed to protect food in accordance with subclause 11(2), that is, walls and ceilings in areas where open food is handled and/or stored such as kitchens and processing areas, are more stringent. They are in addition to the requirements in subclause 11(4).

(a) sealed to prevent the entry of dirt, dust and pests;

The junction between walls, and between walls and the ceiling must be tightly joined to provide a seal to prevent dust, dirt and pests such as cockroaches accessing the food area.

Ceilings should be of continuous construction so that there are no spaces or joints. If access is needed to the space above the ceiling then access panels should be located outside the processing area. If this is impossible the access panel should fit very tightly in its surround.

As a general rule, drop-in panel ceilings should not be installed in food preparation areas in new premises because they are very difficult to seal. In existing premises, if the panels are well-fitting and the business keeps the ceiling clean, they should be permitted to remain.

(b) unable to absorb grease, food particles or water; and

The walls must be impervious to grease, food particles and water. Wall surfaces in kitchens and other processing areas must be finished with materials such as ceramic tiling, vinyl sheeting or stainless steel. Other materials such as steel-trowelled concrete or cement render, coated or sealed to be impervious, may be appropriate.

Plasterboard and similar absorbent wall surfaces are not suitable unless protected by ceramic tiles or other impervious material in areas that are likely to be splashed by water or be in contact with food. This is particularly important for walls which have to withstand frequent cleaning.

Although the requirement applies to ceilings, in many instances plasterboard ceilings painted with washable paint will provide a surface that is impervious enough to prevent it absorbing any steam, etc., that is not removed by ventilation exhaust systems.

(c) able to be easily and effectively cleaned.

Walls must be capable of being easily and effectively cleaned. This is to ensure that the business provides surfaces that staff can clean quickly because they may need to clean them frequently, often daily or more often. The time involved in cleaning is a major cost for most businesses. Cleaning is made easier when surfaces are smooth and clear of unnecessary fittings such as posters, pictures or shelves.

Ceilings are likely to need less frequent cleaning but the surfaces should still permit ease of cleaning. In new premises, stippled ceilings, rough plaster ceilings, acoustic tiles, etc., are unsuitable for food preparation areas because they are difficult to clean. Existing premises will need to be assessed on their compliance with food safety outcomes.

Surfaces are not required to withstand sanitising. Walls and ceilings should not generally come into contact with food and it should be sufficient to ensure they are clean. However, if it is necessary to sanitise walls and ceilings to maintain food safety and the business installs a surface that breaks down as a result of the sanitising process, action could be taken under subclause 3(c) **General requirements**.

Example

The painted wall above a preparation bench in the restaurant is frequently soiled by food waste and is scrubbed each evening. The surface needs frequent repainting and the enforcement officer advises the proprietor that the wall finish is not suitable. The proprietor is required to install stainless steel, tiles or other materials that will withstand heavy wear.

Requirements for all walls and ceilings

11(4) Walls and ceilings must:

(a) be able to be effectively cleaned; and

'Effective' is not defined because the dictionary definition of 'achieving the desired or required result' is appropriate. The desired (or required) standard of cleaning is in relation to the use of the area that the surfaces enclose.

In a dry goods store where all food is packaged, the walls and ceiling are unlikely to get greasy or contaminated by food. However, they may get dusty and need cleaning on a regular basis, although not necessarily frequently. The types of materials selected by businesses for these areas are likely to be based on cost. Block work and faced brickwork, painted with unraked joints, are examples of materials that could be suitable, even though they have rough finishes and are not particularly easy to clean.

In staff areas (toilets, change rooms and hand wash areas) and in cleaning areas (for example pot wash and dish wash areas) the standard of cleanliness will need to be higher. Therefore, surfaces that are smooth, free of cracks and ridges, and impervious to grease and moisture would be more appropriate. In these areas ceramic tiles or another smooth, impervious, durable material will be necessary, to withstand frequent cleaning with water and detergents.

Ceilings should be smooth and finished in washable paint. For walls in areas of heavy wear, for example where there may be damage from trolleys, it may be necessary to provide stainless steel panels and corner protectors to ensure that the surfaces remain capable of being cleaned 'effectively'.

Kitchens and other food preparation areas are likely to have walls and ceilings that are necessary to protect food from contamination and therefore must comply with subclause 11(4).

(b) to the extent that is practicable, be unable to provide harbourage for pests.

The requirement applies to the extent that is practicable and should be interpreted taking into account the use of the area and the total approach to pest control for that business.

In food processing areas, for example, wall tiles and sheet finishes (for example vinyl or stainless steel) should adhere directly to the wall so that there are no gaps where cockroaches or other pests could hide. Ledges where wall surfaces join, and other pathways for mice and rats, should be avoided. Any holes or gaps that would allow pests into wall and ceiling cavities should also be avoided.

Access should be provided to spaces above false or suspended ceilings so that the spaces can be inspected for signs of pests.

Division 4 — Fixtures, fittings and equipment

12 General requirements

The clause requires fixtures, fittings and equipment to be adequate for the production of safe and suitable foods and fit for their intended use.

They must be designed, constructed, located and installed so that they will not contaminate food, can be easily and effectively cleaned and do not provide harbourage for pests.

Adjacent surfaces must be able to be easily and effectively cleaned.

Food contact surfaces must be made of material that will not contaminate food, can be easily and effectively cleaned and, where necessary, sanitised, and are impervious to grease, food particles or water.

The scope of this requirement is very broad and covers all fixtures, fittings and equipment in the premises and on food transport vehicles. Food businesses may only use fixtures, fittings and equipment that comply with the standard in food premises or on vehicles.

The terms 'fixtures' and 'fittings' are not defined because the dictionary definitions⁴ are appropriate and ensure that all types of fixtures and fittings in food premises are included. Examples of inclusions are benches, shelves, sinks, washbasins and cupboards, light fittings, garbage chutes, conveyors and ventilation ducts.

'Equipment' is defined in Standard 3.1.1 and includes all equipment used in handling food and in cleaning such equipment. It includes refrigeration motors and associated equipment and monitoring equipment.

Food vending machines are equipment (they are specifically exempted from the definition of food premises in Standard 3.1.1). Mobile insulated handcarts used for selling packaged ice cream and bain-marie units on the pavement outside premises (used by that restaurant business to serve food to passers-by) are also equipment.

12(1) Fixtures, fittings and equipment must be:

- (a) **adequate for the production of safe and suitable food; and**

The intent of the requirement is to ensure that food premises are adequately equipped to receive, store, process, package and sell safe and suitable food, the premises are kept clean and free of pests, and staff can comply with the requirements for personal hygiene.

Some examples of operations and criteria for judging whether or not adequate provision has been made are given on the next page.

4 Fixture — something securely fixed in position; a permanently attached part or appendage of a house etc., for example an electric light fixture. Fitting — anything provided as equipment, parts, accessories etc. The term 'fixtures, fittings and equipment' is used to ensure that all such items on the food premises (or on a food transport vehicle) fall within the scope of the standard.

Type of operation carried out by business	Criteria for judging adequacy
Cooking/processing	Adequate equipment to ensure that the process reaches the temperature or other parameter required to destroy pathogens.
Cooling and refrigerated storage of potentially hazardous foods	Adequate equipment to cool food in accordance with the requirements of Standard 3.2.2 and hold food under temperature control. Adequate refrigerated space to cater for large functions (if appropriate).
Displaying potentially hazardous foods	Adequate refrigerated or hot display counters to ensure that all displayed food is displayed in accordance with temperature requirements of Standard 3.2.2 and is protected from contamination.
Transporting chilled potentially hazardous food	Refrigeration equipment, insulated containers or other containers if this equipment is appropriate on the vehicle to ensure food is capable of being maintained at 5°C or below.
Washing fruit and vegetables	Where food handling involves frequent washing of fruit and vegetables a food preparation sink should be installed.
Utensil and equipment washing and sanitising	Double bowl or triple bowl sinks for sanitising and/or dishwashers that sanitise.
Personal washing	All staff have easy access to hand washing facilities in accordance with clause 14.
Floor and general cleaning requirements	Single bowl sink, cleaners sink, hose connections, curbed drain connected to the sewer or other facility for cleaning the equipment used for cleaning the premises and for disposing of dirty water.

Note that temperature displays, alarms and data loggers fitted to equipment will assist with monitoring the temperature of potentially hazardous food.

Also note that the number of sinks for equipment washing and sanitising and for food preparation will depend on the food operations carried out by the business. In new premises it is advisable to separate food washing operations from equipment washing. This may not be possible in existing premises, and food handling, cleaning and sanitising operations will have to suit the situation.

Example

A kitchen at a restaurant has a single bowl sink. During an inspection of the food business the enforcement officer observes the sink being used for washing equipment and rinsing poultry before cooking.

The enforcement officer requires the proprietor to install a food preparation sink. The officer advises that the food preparation sink should be sanitised before washing ready-to-eat food.

(b) fit for their intended use.

'Fit for their intended use' covers the design features, construction materials, method of construction and mode of operation.

Design

A refrigerator that is used by a business to cool potentially hazardous food to 5°C within the time prescribed in Standard 3.2.2 must maintain an airflow and temperature that enables that to be achieved.

A glasswasher that is used by a business to sanitise glasses by means of temperature must operate on wash, rinse and dry cycles that leave the glasses clean and sanitary. The same applies to glasswashers that use sanitising chemicals.

The requirement does not prevent equipment designed for one purpose from being used for another. For example, a chilled display cabinet with the chilling unit disconnected may be used to display dry goods. Also, a business may designate a sink for hand washing provided it does not use the sink for other purposes.

Example

In a takeaway, chilled ready-to-eat meat dishes are placed in the bain-marie when the business opens at 8.30 a.m., to reheat for the lunch-time trade. The bain-marie is designed to hold heated food hot and is not intended by the manufacturer to reheat food from cold.

The proprietor of the business is advised that if the business wishes to reheat food it must install an oven to reheat the food rapidly and then transfer the food to the bain-marie.

Materials

The type of materials used in the construction must be fit for the intended use. For example, timber is not usually suitable for contact with ready-to-eat food because of the difficulty in maintaining it to a sufficiently high standard of cleanliness. Instead, synthetic surfaces made specifically for food contact use are recommended because they are easier to clean and sanitise effectively.

In some circumstances timber is suitable, for example blocks manufactured specifically for and used for raw meat by butchers. The timber surfaces must be made of hard, close-grained wood and must not be scored, split, cracked or softened.

Another example is the use of a grade of stainless steel that is insufficiently resistant to the corrosive properties of the food being processed. A wide range of stainless steels is available and it is important to select the grade appropriate for the use.

Specific requirements for design, construction, location and installation

The following requirements are intended to make cleaning food premises and equipment easier and less time consuming, thereby increasing the likelihood that cleaning will be effective. The requirements are particularly relevant to equipment that is fixed in place or too heavy to move.

The subclause addresses:

- design of the fixtures, fittings and equipment;
- standard of construction;
- location in the area; and
- method of installation.

The subclause states that the requirement for installing equipment applies only 'if necessary'. This is because some equipment is freestanding, that is, it can be moved for cleaning.

12(2) Fixtures and fittings must be designed, constructed, located and installed, and equipment must be designed, constructed, located and, if necessary, installed, so that:

- (a) there is no likelihood that they will cause food contamination;**

The following examples illustrate situations where likely contamination has been controlled.

- Equipment containing bearings and gears is designed so that lubricant does not drip from the equipment. If some dripping is inevitable and could contaminate food, the equipment is located so that there is no likelihood that the lubricant will be in contact with the food. Similarly, oils, solvents, release sprays (used to free equipment or stop squeaking) and other materials used in equipment or for maintenance cannot leak from the equipment.
- Lines carrying liquid waste from equipment, lines carrying detergent to dishwashers or drains carrying waste from appliances are not located directly above food handling areas or across food and food containers.
- Glass thermometers are used only where other types are inappropriate and if they are fitted with shatterproof guards. Similarly, light fittings are designed so that, should a globe break, glass will not fall onto food.
- Electronic insect killing devices are designed and constructed so that the dead insects are caught by the device and do not fall on food or equipment.
- Clean-in-place equipment is designed and constructed so that it is either self-draining or can be effectively drained to prevent cleaning and sanitising solutions remaining in the system and contaminating food. The design ensures that there are no parts that cleaning and sanitising solution cannot reach.
- Equipment openings, covers and lids are designed to protect stored or prepared food from contaminants and other foreign matter that could fall into the food.

- The drip gutter on kitchen exhaust hoods catches the grease and condensation to prevent drips on food or equipment.
- Condensate from refrigeration motors and air conditioning equipment is collected and discharged to a drain to prevent food contamination.
- Parts in machinery are designed to avoid trapping and holding food particles, especially in inaccessible parts of the machine.

(b) they are able to be easily and effectively cleaned;

This requirement covers all of the surfaces of fixtures, fittings and equipment whether or not they actually come into contact with food. Food contact surfaces are specifically covered by subclause (3). It is important that equipment etc. can be kept clean, otherwise food residues provide food for pests and a growth medium for micro-organisms.

Equipment etc. must be designed, constructed, located and (if it is fixed) installed so that cleaning can take place effectively using normal cleaning methods. All surfaces of the equipment must be able to be reached with cleaning equipment with sufficient ease to ensure cleaning is possible and able to be carried out at sufficient frequency to maintain cleanliness.

Factors that make equipment easy to clean include:

- smooth surfaces with rounded edges and no open joints, embossing or other rough surfaces or joints which can trap dirt;
- nozzles or taps that are easy to dismantle;
- if dismantling is necessary for cleaning, it can be done without special tools, or if tools such as screwdrivers or allen keys are necessary they are readily available to maintenance and cleaning personnel;
- readily accessible access panels in ducts;
- readily removable grease filters in kitchen extraction hoods;
- mounting shelves 25 mm or more from the wall or other surface they are fixed to so that food cannot lodge at the wall-shelf junction;
- either butting equipment so close together that debris cannot fall between or leaving enough space to reach to clean the sides;
- ensuring safety shields are removable;
- fitting wheels or castors to equipment to enable it to be easily moved, preferably by one person;
- ensuring service wires, pipes or hoses (gas, electricity, water) can be disconnected (or are flexible and long enough to enable the equipment to be moved); and
- designing dust control mats (as used in customer areas of supermarkets) to be cleanable.

(c) adjacent floors, walls, ceilings and other surfaces are able to be easily and effectively cleaned; and

Paragraph 12(2)(b) requires the fixtures, fittings and equipment to be easily and effectively cleaned. Paragraph 12(2)(c) requires the surfaces that are adjacent to the fixtures, fittings

and equipment also to be easily and effectively cleaned. These surfaces are the walls and floors adjacent to where the fixtures, fittings and equipment are installed, and also the surfaces of adjoining equipment.

Space should be allowed between equipment and walls to allow access, or equipment should be butted so close together that food debris etc. cannot get in between. There is guidance on spacing equipment in the Australian Standard for food premises (when available).

Installing equipment on castors, rollers or legs enables it to be moved. Installing fixed equipment on plinths or legs raised above the floor enables floors to be hosed without soaking the underside of equipment.

(d) to the extent that is practicable, they do not provide harbourage for pests.

Fixtures, fittings and equipment can provide suitable harbourage for pests such as cockroaches and mice if there are cavities where they can hide. Boxed-in compartments such as bases to bench units, boxed-in water heaters and other inaccessible spaces should not be used.

The requirement must be complied with only to the extent that it is practicable.

Specific requirements for food contact surfaces

There are specific requirements for food contact surfaces. The term 'food contact surface' is not defined but is intended to mean any surface which comes into direct contact with unprotected food. Examples are processing equipment, chopping boards, eating and drinking utensils, and containers in which food is processed or stored. Bench tops are food contact surfaces if unprotected food is placed directly on the surface.

12(3) The food contact surfaces of fixtures, fittings and equipment must be:

(a) able to be easily and effectively cleaned and, if necessary, sanitised if there is a likelihood that they will cause food contamination;

Food contact surfaces should be smooth, free of cracks, chips, crevices, ridges or grooves that could harbour bacteria and impair the surfaces' ability to be easily and effectively cleaned. However, not all surfaces will be able to meet these specifications because of the function of the surface. Therefore the requirement has been drafted in broad terms to allow the function of the surface to be taken into account when assessing compliance. For example, surfaces used for sawing, shredding or grating food and some types of conveyor belts could not be considered smooth yet the surface is necessary for their use.

Containers that have been used as packaging for one food must not be reused unless they are made of materials capable of being cleaned and, if necessary, sanitised to prevent cross-contamination. For example, plastic containers for mayonnaise and ice cream may be used for storing stock or other foods.

Cardboard or wood containers used as fruit and vegetable packaging should not be used for unpackaged ready-to-eat foods because they cannot be cleaned and sanitised to ensure that there is no likelihood they could contaminate the food.

(b) unable to absorb grease, food particles and water if there is a likelihood that they will cause food contamination; and

The surfaces must be impervious to grease, food particles and water if there is a likelihood that they will absorb material that could contaminate food they are in contact with. For example, unglazed earthenware should not be used for eating and drinking utensils.

The subclause does not apply if the surface will not contaminate the food it is in contact with. For example, pervious surfaces such as paper coffee filters and timber tables in sound condition used for rolling bread dough would comply.

(c) made of material that will not contaminate food.

Materials used for food contact surfaces must not contaminate food. Potential sources of contamination are chemicals migrating into the food from glazes on crockery or metals used to manufacture cooking equipment. Examples include:

- lead in ceramic, china and crystal utensils, solders, flux and pewter;
- galvanised metal in contact with acidic foods; and
- copper and copper alloys in contact with acidic foods.

12(4) Eating and drinking utensils must be able to be easily and effectively cleaned and sanitised.

Eating and drinking utensils may transfer pathogens that cause infectious disease to people using them. Therefore, to ensure that the business uses eating and drinking utensils that will withstand cleaning and sanitising processes, a specific requirement has been included.

Eating and drinking utensils must be able to be sanitised; by chemicals or using hot water.

Other issues

Windows, doorways and other openings in walls and ceilings

Architraves around doorways and windows, window frames, window sills and other surrounds to openings in walls and ceilings are fittings attached to the wall or ceiling and are covered by the requirements of clause 12. Doors and curtains (such as plastic strip curtains) are also considered to be fittings.

Doors should be able to be easily and effectively cleaned, especially any handles, knobs or plates that come into contact with food handlers' hands, and they must be constructed so that they do not allow insect infestation.

13 Connections for specific fixtures, fittings and equipment

The clause requires fittings, fixtures and equipment to be connected to the water supply and the drainage system of the premises.

Dishwashers, glasswashers and other automatic washing equipment must only sanitise when the water has reached sanitising temperature.

13(1) Fixtures, fittings and equipment that use water for food handling or other activities and are designed to be connected to a water supply must be connected to an adequate supply of water.

The subclause applies to fixtures, fittings and equipment that are designed to be connected to the water supply and are being used for a purpose that needs water (that is, they are not being used for some other purpose). This means that sinks, basins, dishwashers, glass washers, hose connections, ice making machines and any other water-using equipment that is designed to be connected to the water supply must be so connected, that is, plumbed in.

This is to prevent contamination from using non-potable water and to ensure a constant supply at appropriate temperature and pressure.

The requirement does not apply to equipment that is used with water but is not designed to be connected to the supply. Examples are bowls used for washing utensils and containers of water for handwashing at temporary food premises.

Example

A small café has a sink in the kitchen. The sink is connected to the mains cold water supply but there is no hot water. The proprietor boils the jug whenever warm water is needed to wash utensils and pours the water into the sink.

The enforcement officer requires the proprietor of the business to provide piped hot water to the sink to comply with subclause 13(1) on the grounds that the sink is used for washing utensils, cold water is not adequate for effective washing and the sink is designed to be connected to the water supply.

Application to mobile food premises

Subclause 13(1) requires sinks and basins in mobile food premises to be connected to the water supply.

13(2) Fixtures, fittings and equipment that are designed to be connected to a sewage and waste water disposal system and discharge sewage or waste water must be connected to a sewage and waste water disposal system.

The subclause requires all fixtures, fittings and equipment designed to be connected to the drainage system and which discharge sewage or waste water to be connected to the drainage system of the premises. The system is the disposal system installed under clause 5 and may or may not be mains sewerage.

The fixtures, fittings and equipment must both discharge waste water and be designed to be connected to drainage for the requirement to apply. Some equipment may discharge waste water but not be intended to be connected to the drainage system. For example, some food processing equipment discharges cooking water to waste channels in the floor rather than having a direct connection to a drain. Also, a piece of equipment designed to be connected to drainage may be used for another purpose, for example a refrigerated cabinet can be switched off and used to display shelf-stable foods and therefore will not discharge condensate from the refrigeration motor.

Example

Sinks in an extension to a restaurant kitchen are connected to a new sewer serving the premises. However, the proprietor of the restaurant proposes to connect a new sink in an existing part of the kitchen to an absorption trench to save costs.

The proprietor is required to connect the sink to the sewer in accordance with local drainage requirements.

Temporary and mobile premises

Stalls and other temporary premises are unlikely to use equipment that is designed to be connected to the drain. They are more likely to use bowls, buckets or tubs for washing.

However, on mobile premises which may have sinks and basins, these sinks and basins must be directly connected to a waste water tank or sewer. The tank or sewer would be the 'disposal system' under clause 5.

The subclause will not apply if mobile premises do not have any waste water. This could be the case in vehicles selling pre-packaged foods such as canned drinks.

13(3) Automatic equipment that uses water to sanitise utensils or other equipment must only operate for the purposes of sanitation when the water is at a temperature that will sanitise the utensils or equipment.

The subclause requires that automatic sanitising equipment that uses hot water to sanitise must only operate when the water is at the sanitising temperature.

Standard 3.2.2 requires eating and drinking utensils, and food contact surfaces that could contaminate the food they are in contact with, to be sanitised. This subclause applies to businesses that use their automatic equipment to sanitise using hot water.

The reason for the requirement is that, although it is possible to assess visually whether a utensil has been machine-cleaned thoroughly, it is not possible to visually assess the effectiveness of the sanitising process. Therefore, it is important that equipment that is to sanitise actually does so. The requirement prevents the practice of operating machines shortly after they are switched on and either before the water has had the time to heat up or when the water supplied to the machine is not at sanitising temperature.

For further discussion on sanitising see Standard 3.2.2 and Appendix 4.

Businesses should contact the manufacturers of machines they intend to use for sanitising for information, if they need to establish that the machine's time and temperature cycles will in fact sanitise.

Domestic-type dishwashers

In the past, businesses using automatic equipment for washing have been required to install a commercial dishwasher that met the time and temperature specifications of the regulations. Factors such as the cost of commercial equipment may have deterred some businesses from installing automatic equipment. Instead, these businesses manually wash eating and drinking utensils and equipment.

The intent of the subclause is to ensure that any machine that is capable of sanitising can be used by businesses. This includes machines designed for the domestic market. However, machines designed for the domestic market are likely to have disadvantages compared with commercial machines, as they tend to be smaller, slower and less robust and are unlikely to be suitable for other than very low volume washing and sanitising operations.

Note that there is discussion of manual and machine dishwashing and the effectiveness of commercial and domestic types of machine in Appendix 4.

Example

A continuous dishwasher used by a large catering company is used to sanitise eating and drinking utensils. The manufacturer of the machine specifies that the machine is designed to sanitise when the temperature indicator reads 80°C. Although staff are aware that the dishwasher must not be used until a temperature-indicator light turns on, the machine can be operated when the light is off.

The proprietor of the business is in breach of the requirement and must rewire the machine so that the temperature indicator light and the operating switch of the machine are linked to prevent use when the light is off.

14 Hand washing facilities

The intention of this requirement is that designated, appropriate hand washing facilities are available and accessible.

Clause 14 specifies where the washing facilities are to be located, describes them and provides for some exemptions for temporary food premises and domestic premises used by food businesses.

Thorough washing and drying of hands is an important factor in the prevention of food-borne illness. Standard 3.2.2 specifies the occasions when food handlers are obliged to wash and dry their hands and requires them to use only the facilities provided and maintained by the business for hand washing.

The standard uses the term 'facilities' rather than specifying that businesses must provide 'handbasins'. This is to provide for circumstances where it is not possible to provide a handbasin. For example, in temporary food premises, such as a tent or stall, a container filled with warm water and fitted with a tap could be used.

Location of hand washing facilities

14(1) Subject to subclause (4), food premises must have hand washing facilities that are located where they can be easily accessed by food handlers:

Accessible hand washing facilities enable and encourage food handlers to use them.

Basins (or other facilities) that are located behind or obstructed by other equipment, walls, partitions or doorways are likely to be inaccessible. Basins that are located above or under benches may be too low or too high to be accessible. In these situations access may be awkward. These locations would not comply with the standard.

The actual location of the basins (or other facilities) in any particular area of the premises should be decided having regard to the layout of the food handling areas and the needs of the people working there.

Example

A café proprietor is refurbishing the kitchen of the café. The kitchen has a basin behind a door that is difficult to access particularly when the door is open. Staff prefer to use the wash up sink to wash their hands.

The proprietor must relocate the basin so it is nearer to the preparation benches and easier to access. This will encourage staff to use the basin and prevent any cross-contamination between the sink and hands.

(a) **within areas where food handlers work if their hands are likely to be a source of contamination of food; and**

Food businesses must provide hand washing facilities within areas where food handlers work and where the hands of the food handlers are likely to be a source of contamination of food. The requirement ensures that there are facilities in areas where unprotected food is handled, for example in food preparation areas.

Within areas where food handlers work

'Within' is intended to ensure that the facilities are in close proximity to food handlers. This ensures that food handlers are not discouraged from washing their hands by having to walk outside the food handling area. In the kitchen of a typical food service establishment a food handler should not have to travel more than 5 metres to the nearest basin. In large food production factories or where there are special circumstances and facilities that use water are restricted (such as in packing hygroscopic food) longer distances may be appropriate.

Hands likely to contaminate food

A judgment will have to be made in each food business about whether the food is likely to be contaminated by hands and therefore whether hand washing facilities will be required.

'Contamination' and 'contaminant' are defined in Standard 3.1.1. They refer to biological or chemical agents, foreign matter or other substances that may compromise food safety or suitability. Therefore, hand washing facilities must be provided for food handlers if their hands are likely to transfer micro-organisms including bacteria, viruses and parasites, chemicals or foreign material into the food that could make the food unsafe or unsuitable.

Guidance on providing hand washing facilities under subclause 14(1) is given overleaf.

Each situation must be assessed individually because foods handled within businesses vary.

Type of food business	Hand washing facilities
<p>Handling unprotected foods</p> <p>For example, commercial kitchens in restaurants, hotels, hospital and other health care facilities, takeaways, coffee shops, bars.</p> <p>Catering kitchens, airline meals assembly.</p> <p>Manufacturing ready-to-eat foods including baked goods, dairy products, meat products, ready-to-eat fruit and vegetable products.</p> <p>Preparing ready-to-eat raw meat and fish.</p> <p>Butchers.</p> <p>Raw fruit and vegetables.</p> <p>Handling clean equipment and eating and drinking utensils.</p>	<p>There must be hand washing facilities where the food handlers work.</p>
<p>Handling packaged food</p> <p>Warehouses, cash and carry premises, chemists, newsagents, display areas of supermarkets.</p> <p>Storage areas, stock receival areas and loading areas of food premises.</p>	<p>Hand washing facilities are not required under this clause.</p>

In a takeaway, if food is handled in a servery area of a takeaway, for example where staff prepare sandwiches, in addition to the kitchen, the intention is that a basin be installed in both.

If food premises are divided into separate food handling areas as may occur in a supermarket with a delicatessen, butchery, seafood area and bakery, hand washing facilities must be available in each area.

Example A food business employs a forklift driver to move packaged food from one section of a warehouse to another area. The driver is classified as a food handler under the standards. However, his hands are not a source of contamination of food and no hand washing facilities are necessary in the warehouse.

Numbers of basins

The subclause does not specify how many basins have to be installed. However, it is not efficient for a business if staff have to wait to wash their hands or travel too far to wash their hands.

Kitchens and other areas where food for food service is prepared (restaurants, cafés, takeaways) must have at least one handbasin in the area.

Additional numbers will depend on the size, layout and use of the area, and staff numbers.

Example

A production kitchen is used to prepare meals and sandwiches for catering. Although there are no dividing walls there are three distinct food handling operations taking place. In one, sandwiches are made and meals portioned into containers, in another raw ingredients are prepared and cooked and in the third returned utensils are washed.

Management installs three washbasins each visible from, and convenient to, one of the work areas. This is to limit cross-contamination between contaminated raw foods in the preparation kitchen and ready-to-eat foods in the portioning area. It also limits contamination from soiled eating and drinking utensils contaminating hands of staff handling ready-to-eat foods.

Example

A hospital kitchen is divided into separate work areas. Salads are prepared in one area, meat in another and desserts in a third area. There is one handbasin. It is located on the wall immediately outside the desserts area and is visible to food handlers within the dessert area. Other food handlers have to leave their areas to use the basin.

The hospital is required to install a basin within the area preparing salads on the grounds that hand hygiene is extremely important when preparing ready-to-eat food. A basin is also required in the meat area. This is on the grounds that the hands of the meat workers are likely to be a source of contamination for foods prepared in other areas if a basin is shared.

(b) if there are toilets on the food premises — immediately adjacent to the toilet or toilet cubicles.

Standard 3.2.2 requires food handlers to wash their hands immediately after using the toilet to minimise the transfer of pathogens on hands to surfaces in the premises. Standard 3.2.3 requires a basin immediately adjacent to any toilets (or toilet cubicles) that are part of the food premises.

A basin in the toilet cubicle or in the area immediately outside the cubicle would comply with the requirement.

Not all existing or new premises have toilets provided as part of the premises. Shared public and staff toilets are often provided in shopping malls and for fetes, fairs and similar events. There are no specific obligations under these standards on businesses to ensure that handbasins are available at these public facilities, but note the comments about the adequacy of toilet facilities under clause 16 on page 177. Also, other laws such as building laws may require them to be provided.

The business should be aware that staff might not have had an opportunity to wash their hands adequately in public facilities. It is good practice to provide a basin at the staff entrance to the food preparation area because it will enable staff to thoroughly wash their hands before resuming work and before there are opportunities to contaminate surfaces in this area.

Specific requirements for hand washing facilities

14(2) Subject to the following subclauses, hand washing facilities must be:

(a) permanent fixtures;

The facilities have to be a permanent fixture unless the premises are temporary.

(b) connected to, or otherwise provided with, a supply of warm running potable water;

The subclause requires that the facilities be connected to, or otherwise provided with, a supply of warm running water. In permanent premises the basin must be connected to a piped supply of warm running potable water. If a separate hot and cold water supply is provided a mixer tap (preferably the single-level type) or common outlet is required.

Example

When testing the handbasin at a café the enforcement officer considers the water to be cold. The officer checks the supply and the basin is connected to the cold water supply only.

The café proprietor is required to either provide a supply of hot water to the basin and install a single outlet for hot and cold water or otherwise provide warm running water.

(c) of a size that allows easy and effective hand washing; and

Hand washing facilities must be of sufficient size to enable them to be used by food handlers. There must be sufficient distance under the water spout (or water outlet) for food handlers to have room under running water to move their hands about to be able to effectively wash them.

In regard to basin size, for guidance purposes only, a basin of 11 litres capacity with minimum dimensions of 500 mm by 400 mm 'off the wall' will be adequate for most food handlers.

Automatic units which are installed above handbasins are available. These heat the water, automatically dispense water and soap and automatically turn off. These should be installed in such a way as to provide room for the food handler to wash under the water running from the unit.

(d) clearly designated for the sole purpose of washing hands, arms and face.

'Designated' means that the facilities must be identifiable in some way that indicates that they are for the sole purpose of washing hands, arms and face.

The business might do this by one of the following methods:

- installing a conventional handbasin of a design that is easily recognisable as such and providing soap and drying facilities only at that basin (or basins);
- putting up a sign that states 'For hand washing only';
- an illustration of hands being washed; or
- indicating that the facility is not to be used for food and utensil washing.

If one compartment of a double bowl sink is designated for hand washing the sign must clearly indicate which part. The use of one compartment of a double bowl sink would only be acceptable if the business did not need two compartments for the food handling activities of the business or had other sinks available for food preparation, cleaning and sanitising.

14(3) Paragraph (2)(a) does not apply to temporary food premises.

Hand washing facilities at temporary premises are not required to be permanently fixed in place as this would be impractical.

Temporary premises are stalls at fetes and shows, after which they are dismantled. Temporary premises do not include mobile food vehicles that are permanently equipped to prepare and sell food and which may move from site to site. Mobile food premises must have permanent hand washing facilities fitted.

Exemptions for domestic premises and temporary premises

14(4) With the approval in writing of the appropriate enforcement agency, food premises that are specified in the approval do not have to comply with any requirement of this clause that is also specified in the approval.

14(5) Only food premises that are used principally as a private dwelling or are temporary food premises may be specified in an approval for the purposes of subsection (4).

In addition to the specific exemption in 14(3), premises that are used principally as private dwellings and temporary premises are exempt from the requirements of the clause if the food business has approval from the enforcement agency. The approval must specify which of the requirements do not have to be met.

Domestic premises

Bed and breakfast and family day care organisations are examples of businesses that may seek approval to continue to operate in premises that are designed for domestic use and may not have handbasins in the kitchen.

The enforcement authority would have to be satisfied that there is a washbasin that is adjacent to the kitchen or is easily accessible from the kitchen. Alternatively, if the kitchen has a double bowl sink, one compartment could be designated for hand washing if this does not pose a food safety hazard.

Hand washing at a single bowl sink may also be acceptable depending on the food handling operations taking place in the kitchen and how much use is made of the sink. Where there is only one food handler in the kitchen (as could be the case with bed and breakfast and family day care) only one job of either washing dishes or preparing food can (usually) occur at once, making cross-contamination less likely.

However, in a bed and breakfast that had sufficient guests to warrant the kitchen operating at a 'commercial' level with several staff working there at one time, approval should not be given to operate without a designated hand washbasin in the kitchen.

Businesses operating in domestic premises may also seek approval for exemption from having a basin immediately adjacent to the toilet or toilet cubicles. This recognises that private homes may not have handbasins located in the same cubicle as the toilet. If the enforcement authority is satisfied that the business can safely use other hand washing facilities, an exemption may be granted.

Temporary premises

Businesses such as market stalls and caterers on outback tours may obtain prior approval from the enforcement agency to use gels and other hand washing agents. This may be appropriate where water is either not available or supplies of water are limited.

Other issues relating to hand washing

Hands-free taps

Businesses are not specifically required in the standard to install hands-free taps. On the basis of the very limited information available, it is unlikely that food safety would benefit from replacing the conventional taps currently installed at most kitchen and toilet handbasins with hands-free taps.

However, new work in existing premises, renovation of existing premises and building of new food premises provide an opportunity to include hands-free taps (or single-lever mixer taps) at basins in food preparation areas and at toilet handbasins.

Designating one bowl of a double compartment sink or a single bowl sink for hand washing

Some existing premises might not have a handbasin in food handling areas. The standard does not prohibit designating one bowl of a two-compartment sink or a spare single bowl sink as the hand wash facility. It is important that all food handling, and cleaning and sanitising operations are taken into account when assessing the use of a sink compartment. Using one compartment of the sink for hand washing and also for other uses would not comply with the standard.

Example

A proprietor of a café serving only cakes and drinks uses a dishwasher to wash and sanitise all eating and drinking utensils, chopping boards and other small pieces of equipment. One half of the double bowl sink is designated as the handbasin. A sign above this compartment states 'Hand washing only — no other uses' and soap and paper towels are located on a shelf above the sink. The other half of the sink is used for general cleaning such as washing bench tops.

Requirements in the Building Code of Australia (BCA)

The BCA contains requirements for the number of handbasins that must be installed as part of the provision of sanitary fittings. This applies to all premises that fall under the scope of the BCA. There are specific requirements for handbasins in food preparation and storage premises in Tasmania and the Northern Territory. There are requirements for meat premises and delicatessens in Queensland.

Division 5 — Miscellaneous

15 Storage facilities

The intention of the requirement is that adequate storage facilities are available for items that are likely to be a source of food contamination. Storage must be located where there is no likelihood of stored items contaminating food or food contact surfaces.

15(1) Food premises must have adequate storage facilities for the storage of items that are likely to be the source of contamination of food, including chemicals, clothing and personal belongings.

Although the subclause specifically refers to storage for chemicals, clothing and personal belongings, the requirement applies to any items that are to be stored and which are likely to contaminate food, for example, chemicals to maintain equipment (such as lubricants) and storage for oil and fuel for vehicles.

Adequate storage for clothing and personal belongings

The aim of the requirement is to provide staff with space to store their belongings and avoid the storage of clothing, bags, etc. on bench tops or other places where food is stored or prepared.

Outdoor clothing, soiled uniforms, handbags and other personal belongings are likely to contain foreign material such as hair, dust and dirt particles, and micro-organisms, all of which could contaminate food and equipment.

Compliance with 'adequate' will depend on the nature of the business. In a small business a designated cupboard for personal items may be sufficient but a change room with lockers or cupboards may be necessary if staff have to change clothes.

Adequate space for cleaning and other non-food-use equipment and chemicals

Equipment used for cleaning is often contaminated with micro-organisms. Cleaning chemicals are dangerous if ingested and contamination of food and food contact surfaces must be avoided. Similarly, equipment used to control pests may be contaminated with pesticides and in turn could contaminate food, utensils, etc. Pesticides could cause a serious health hazard if they were ingested.

The business will have to provide an area for storing chemicals and cleaning equipment. Ideally, this should be a separate storage area designated for that purpose or, if small amounts of chemicals are stored, a cupboard. If chemicals are in unopened, sealed containers and do not emit odours then a part of a storage area for packaged dry goods or unused equipment could be used. Opened containers should be stored separately from food and food equipment.

Storage areas for hazardous chemicals are not specifically required to be lockable. This would usually be a security or occupational health and safety issue.

Adequate space for other items

Office equipment

Office equipment (paperclips, pins, staples, pens, etc.), paperwork, files, invoices and maintenance equipment (tools, nails, paint, etc.) will also require sufficient room for storage if kept at the premises.

Dirty linen

The business must provide adequate storage for dirty linen, tablecloths, tea towels, aprons, etc. where these are used by the business.

Note that storage for items that need to be protected from contamination, for example food packaging materials, is mentioned under clause 3(b).

15(2) Storage facilities must be located where there is no likelihood of stored items contaminating food or food contact surfaces.

Storage outside food preparation areas is preferable. This reduces the risk that contamination from the stored items will contaminate food. However, if this is not possible the storage should be provided in a cupboard, locker or other designated area.

The storage should not be in a place where small items such as paperclips are likely to fall into food or food containers, for example, shelving above preparation benches is unlikely to be suitable.

Storage may be required for equipment that is likely to be contaminated by materials that could contaminate food.

Example

A hotel has a storeroom for dry goods and eating and drinking utensils. The ground maintenance staff want to use the storeroom for garden equipment. The ground maintenance staff are asked to find other storage separate from food areas because of the likely presence of soil on the garden equipment that could contaminate the food and utensils.

Requirements under the Building Code of Australia (BCA)

New work may have to comply with requirements in the BCA that apply in some States, for example in Queensland and Tasmania.

16 Toilet facilities

The outcome of the requirement is that toilet facilities for the use of food handlers are available either on the premises or available elsewhere.

16 A food business must ensure that adequate toilets are available for the use of food handlers working for the food business.

Adequate

The following factors are suggested as a guide to the interpretation of 'adequate'.

Factor in deciding whether facilities are adequate	Comment
Numbers of toilets	The BCA provides guidance on what would be considered to be adequate numbers of toilets. Reference can also be made to industry guides. Segregating toilets for male and female use is not a food safety issue.
Shared toilets with customers	Separate toilets for food handlers and customers are not required and 'combined' toilets should be considered adequate. A designated 'staff only' toilet may assist a proprietor with his responsibilities to keep the toilet available at all times and clean.
Always accessible	Toilets must be accessible at all times that the business is operating. Toilets that are not on the premises must be accessible at all times when staff are working.
Clean toilets	The toilets must be clean and operating properly whether on or off the premises.
Suitably located	Toilets should not be entered directly off a food preparation area but through a ventilated lobby. There must be no likelihood that droplet-borne contamination will affect the safety of food. The toilets should also be located within a reasonable distance from the food handlers' work area. A 'reasonable distance' is the maximum distance that an ordinary person would be expected to walk in the time available for breaks etc. and takes into account the time needed to negotiate doors, stairs and corridors to reach the toilets. To prevent customers from contaminating food, access to customer toilets should not be through food preparation areas.
Suitable design and construction	Toilets on the premises are part of the premises and must meet this standard. Toilets off-site must also meet the requirements to be considered adequate, for example they should be designed and constructed to be able to be kept clean and should be adequately lit and ventilated.
Adequately equipped	The facilities should be provided with handbasins with a supply of warm potable running water for hand washing, and suitable drying facilities.

Toilets that are not part of the food premises

It is not possible to take action to remedy the defects in regard to the toilet facilities off the premises under these standards, as they are not part of the food premises.

However, as the business has not complied with the requirement, there is a contravention of the standard. The responsibility is that of the food business proprietor to ensure that adequate toilets are available. Proprietors should make arrangements with the management of offsite toilets to ensure compliance.

For example, if the toilets in a shopping mall are under the control of the shopping mall management and are not kept clean then the food business has committed an offence under this standard for failure to provide adequate toilets. The person responsible for the toilets has not committed any offence under these standards although he or she may have failed to comply with other legal obligations.

New premises

New buildings (and altered buildings) will have to meet the requirements of the BCA.

Mobile premises

The clause applies to mobile premises. The proprietor of the business operating from the vehicle should nominate the toilet facilities that are available to the business during operating hours. Facilities could include toilets at a service station, another business, a residential property or a porta-loo on site. Whether the toilets were close enough to the site used by the mobile premises or otherwise appropriate would have to be evaluated in each case.

Example

A mobile fish vendor parks his vehicle in a service station driveway to sell fish every Tuesday. He obtains permission from the service station proprietor to use the toilets at the service station.

17 Food transport vehicles

The outcome of this requirement is that vehicles used to transport food are designed and constructed to protect the food being transported.

The parts of the vehicle used to transport food are capable of being effectively cleaned and surfaces in contact with food are capable of being sanitised if necessary.

The requirement only applies to vehicles used to transport food. Food transport vehicles do not have to comply with the other requirements of this standard because they are excluded from the definition of food premises in Standard 3.1.1. 'Vehicles' includes any mode of transport whether self-propelled or not and whether used on land or sea or in the air.

Vehicles used for preparing or selling food are not covered by this clause. They are defined as food premises and have to comply with the requirements for food premises.

17(1) Vehicles used to transport food must be designed and constructed to protect food if there is a likelihood of food being contaminated during transport.

Vehicles used to transport food must protect the food from contamination if there is a risk that the food will be contaminated.

Vehicles used to transport food that is unpackaged, for example, raw meat, bread and cakes must be designed and constructed to protect the food from airborne dust, dirt, vehicle fumes and rain. It may not necessary to completely enclose loads such as whole fruit and vegetables. However, produce intended for consumption without peeling or any other process that could remove contamination should be protected.

The food compartment should be separate from the driver's compartment or any passenger areas. This will prevent personal items that could get into the food (pens, paperclips, cigarette butts) being in the food compartment. It will also prevent contamination from any micro-organisms carried by the driver or passengers that could be transmitted by coughs and sneezes.

The food must be protected from contamination from the vehicle such as flaking paint, dripping water from fan units and grease from overhead rails. If the problem does not arise from a design and construction problem with the vehicle it may be covered by clause 10 in Standard 3.2.2, which requires food to be protected during transport. If it is a maintenance problem clause 21 in Standard 3.2.2, which requires food transport vehicles to be maintained in a good state of repair, may apply.

Food must be separated from contaminants while on the vehicle. Contaminants include chemicals, which taint or are toxic, or other foods which may impart odours or may mix with the food and contaminate it.

Cooked and raw foods may be carried on the same vehicle provided they are adequately separated and or packaged and there is no risk of spillage or contact. For example, packs of raw meat may be carried with cooked meats or other foods provided there are no opportunities for contamination of the cooked meat. Raw, unwashed vegetables should be kept separate from cooked and ready-to-eat foods. Designing the vehicle to include partitions, separate compartments, shelves etc. will assist in segregating loads and preventing cross-contamination.

17(2) Parts of vehicles used to transport food must be designed and constructed so that they are able to be effectively cleaned.

The requirement only applies to the area where the food is placed. For example, it would not generally apply to the driver's compartment, passenger areas or, if the food is placed in a specific compartment of the vehicle, to the rest of the holding area of the vehicle.

Interpretation of 'effective' should have regard to the degree to which the food being transported would be affected by the ability of the interior surfaces to be cleaned. The types of surfaces that are provided in vehicles need to be appropriate for the type of food being transported. For example, a truck used to transport raw potatoes could have a timber floor and metal or canvas sides. In this example, the main purpose of cleaning will be to remove soil and pests that could have been carried with the load.

A truck carrying unpackaged foods such as meat carcasses should have metal or other impervious interior surfaces to withstand repeated contact with hot water and cleaning detergents. Cleaning will have to be of a higher standard to remove any microbiological contamination.

17(3) Food contact surfaces in parts of vehicles used to transport food must be designed and constructed to be effectively cleaned and, if necessary, sanitised.

If the food is unpackaged and in direct contact with the interior surfaces of the vehicle as in the case of a milk tanker, the surfaces will have to be capable of withstanding sanitising by steam, hot water or chemicals.

There may be specific requirements in other legislation for food transport vehicles; for example, laws applicable to meat transport may refer to the *Australian Standard for Transportation of Meat for Human Consumption*.

Example

A take-away pizza business delivering takeaway pizzas uses the cars owned by the delivery drivers. These cars are therefore food transport vehicles and this clause applies.

The proprietor of the business is assured by the enforcement agency that, provided the pizzas are completely enclosed in new pizza boxes and then enclosed in outer bags that are removed before giving the pizza to the customer, they can be transported in the passenger area of the car. There is minimal likelihood of any contamination on the passenger seat coming in contact with the pizza carton or pizza.

Appendix 1

The use of time as a control for potentially hazardous food

A food business is required to maintain the temperature of potentially hazardous food either at or below 5°C or at or above 60°C during transport, storage and display unless the food business can demonstrate that maintaining food at another temperature for a specific length of time will not adversely affect the microbiological safety of the food.

Clause 25 of Standard 3.2.2 specifies ways in which a food business can demonstrate the safety of its alternative temperature system, see page 116. This appendix provides advice, based on documented sound scientific evidence, on the use of time to control the growth of food-borne pathogens in potentially hazardous food.

It is safe for potentially hazardous food to be between 5°C and 60°C for a limited time because food-borne pathogens need time to grow to unsafe levels.

The maximum time a potentially hazardous food can be safely at temperatures between 5°C and 60°C will depend on the temperature of the food. Food poisoning bacteria grow at the fastest rate at temperatures around 40°C. Hence if the food is at 40°C, the time that the food can be safely at this temperature is much less than if it is at 20°C. Advice is provided below on the maximum time that potentially hazardous food can be outside temperature control, based on a worst-case scenario.

As a general rule, the **total time** that a ready-to-eat potentially hazardous food can be at temperatures between 5°C and 60°C is 4 hours. This is the limit specified within the US Food Code and the UK Food Safety (Temperature Control) Regulations 1995. The 4-hour limit is based on a worst-case scenario. After this time the food must be discarded. The total time is the sum of the time the food is at temperatures between 5°C and 60°C after it has been cooked or otherwise processed to make it safe. For example, if raw meat is cooked, count the time the food is at temperatures between 5°C and 60°C after it is cooked. The cooked food may have been at temperatures between 5°C and 60°C when it was transported, prepared and served.

If the food is to be re-refrigerated, the total time a food can be at room temperature and then be safely put back in the refrigerator to use later is 2 hours. This 2-hour limit is based on advice provided in the UK's guidance notes on its Temperature Control Regulations. This advice states that 'in normal circumstances, a single limited period of up to 2 hours outside temperature control is unlikely to be questioned'.

The '4-hour/2-hour rule' is summarised below.

Any ready-to-eat potentially hazardous food, if it has been at temperatures between 5°C and 60°C:

- for a total of less than 2 hours, must be refrigerated or used immediately;
- for a total of longer than 2 hours but less than 4 hours, must be used immediately; or
- for a total of 4 hours or longer, must be thrown out.

If a food business wishes to maintain potentially hazardous food between the temperatures of 5°C and 60°C for time periods longer than the 2 hours and 4 hours specified above, it will need to be able to demonstrate that the extension in time will not compromise the safety of the food. For example, if a potentially hazardous food will be stored at a maximum temperature of 15°C, it will be able to be safely kept at this temperature for longer than 4 hours. However, food businesses will need to be able to justify this extension on the basis of sound scientific evidence, as the amount of time that is safe will vary depending on the type of food and the pathogens of concern.

Use of time as a control for potentially hazardous food that has been cooked and cooled

Food businesses may still utilise the '4-hour/2-hour rule' for potentially hazardous food that has been cooked and cooled, provided the business can demonstrate that the food was cooled in accordance with subclause 7(3) of Standard 3.2.2. If potentially hazardous food has not been cooled safely, it may not be safe for this food to be outside temperature control. If the food is cooled safely, pathogens that survive the cooking process will not be able to multiply during the cooling process and when this food is removed from refrigeration it will still take over 4 hours for the pathogens to multiply to dangerous levels.

Example

A food business cooks and cools chickens for use in sandwiches. It then displays these sandwiches at ambient temperature over the busy luncheon period. In order to demonstrate that this practice is safe, the business:

- establishes and documents a cooling process for the chickens that ensures the cooling temperatures and times specified in Standard 3.2.2 subclause 7(3) are complied with;
- records the time when the cooled chicken is removed from refrigeration; and
- records the time at which the chicken sandwiches must be discarded (this is 4 hours from the time the chickens are removed from refrigeration).

Food that has been cooked or otherwise processed for safety by another business

If a food business wishes to utilise the '4-hour/2-hour rule' for potentially hazardous food it has not itself cooked or otherwise processed to ensure its safety, the business will need to know the temperature history of the food. The business will need to know whether, following the cooking or other process step, the food has spent any time at a temperature between 5°C and 60°C. If any of the available time has been 'used up' before the business receives the food, this time must be counted. If the business does not know the temperature history of the food and is not able to obtain this information, it cannot make use of time to control the growth of food-borne pathogens and must keep the food at or below 5°C or at or above 60°C.

Example

A food business purchases precooked and chilled chicken. It uses this chicken in sandwiches that will be displayed at ambient temperature over the busy luncheon period. In order to demonstrate this practice is safe, the business receives, in writing, from the business that cooks and chills the chicken, advice that the purchased chicken is cooled in accordance with Standard 3.2.2 subclause 7(3), and spends less than 30 minutes between 5°C and 60°C from the time it is removed from refrigeration until the time it is delivered to the business. The business then demonstrates that this chicken spends less than 3½ hours outside temperature control before it is sold.

Appendix 2

Food Premises Notification Form

Contact Details	
Name of proprietor	
Business address of proprietor	
Trading name of food business	
<p>Contact details</p> <p><i>PLEASE NOTE: If this is a single food business then complete details in this section. If there are multiple premises (within the jurisdiction of the relevant enforcement agency) then complete details under the section 'Location of all food premises' below.</i></p>	<p><input type="checkbox"/> Business hours phone number: _____</p> <p><input type="checkbox"/> After hours phone number: _____</p> <p><input type="checkbox"/> Facsimile number: _____</p> <p><input type="checkbox"/> Email address: _____</p>

Food premises notification form

Nature of Business Information

NOTE:

The food business is required to notify the enforcement agency of any changes to the information provided below. The new information must be provided to the enforcement agency before the changes occur. Any changes to the information may affect the classification of a food business.

1(a) What is your business type?

- ✓ Please tick all boxes that apply:
- | | |
|---|---|
| <input type="checkbox"/> Manufacturer/processor | <input type="checkbox"/> Hotel/motel/guesthouse |
| <input type="checkbox"/> Retailer | <input type="checkbox"/> Pub/tavern |
| <input type="checkbox"/> Food service | <input type="checkbox"/> Canteen/kitchen |
| <input type="checkbox"/> Distributor/importer | <input type="checkbox"/> Hospital/nursing home |
| <input type="checkbox"/> Packer | <input type="checkbox"/> Childcare centre |
| <input type="checkbox"/> Storage | <input type="checkbox"/> Home delivery |
| <input type="checkbox"/> Transport | <input type="checkbox"/> Mobile food operator |
| <input type="checkbox"/> Restaurant/café | <input type="checkbox"/> Market stall |
| <input type="checkbox"/> Snack bar/takeaway | <input type="checkbox"/> Charitable or community organisation |
| <input type="checkbox"/> Caterer | <input type="checkbox"/> Temporary food premises |
| <input type="checkbox"/> Meals-on-wheels | <input type="checkbox"/> Other _____ |

(b) Please provide more detail about your business type.

(For example: butcher, bakery, seafood processor, soft drink manufacturer, milk vendor, service station.)

2. Do you provide, produce or manufacture any of the following foods?

- ✓ Please tick all boxes that apply:
- | | |
|---|---|
| <input type="checkbox"/> Prepared, ready-to-eat* table meals | <input type="checkbox"/> Confectionery |
| <input type="checkbox"/> Frozen meals | <input type="checkbox"/> Infant or baby foods |
| <input type="checkbox"/> Raw meat, poultry or seafood | <input type="checkbox"/> Bread, pastries or cakes |
| <input type="checkbox"/> Processed meat, poultry or seafood | <input type="checkbox"/> Egg or egg products |
| <input type="checkbox"/> Fermented meat products | <input type="checkbox"/> Dairy products |
| <input type="checkbox"/> Meat pies, sausage rolls or hot dogs | <input type="checkbox"/> Prepared salads |
| <input type="checkbox"/> Sandwiches or rolls | <input type="checkbox"/> Other _____ |
| <input type="checkbox"/> Soft drinks/juices | |
| <input type="checkbox"/> Raw fruit and vegetables | |
| <input type="checkbox"/> Processed fruit and vegetables | |

3. What is the nature of your food business?		
To be answered by all businesses:		
(a) Are you a small business*?	yes	no
(b) Is the food that you provide, produce or manufacture ready-to-eat* when sold to the customer?	yes	no
(c) Do you process* the food that you produce or provide before sale or distribution?	yes	no
(d) Do you directly supply or manufacture food for organisations that cater to the sick, elderly, children under 5 years of age or pregnant women (such as hospitals, nursing homes or child care centres)?	yes	no
To be answered by manufacturing/processing businesses only:		
(e) Do you manufacture or produce products that are not shelf stable*?	yes	no
(f) Do you manufacture or produce fermented meat products such as salami?	yes	no
To be answered by food service and retail businesses only (includes charitable and community organisations, market stalls and temporary food premises):		
(g) Do you sell ready-to-eat* food at a different location from where it is prepared?	yes	no

* Refer to definitions below.

Definitions for the purposes of notification

Process, in relation to food, means activity conducted to prepare food for sale including chopping, cooking, drying, fermenting, heating, pasteurising, or a combination of these activities.

Note: This is not the same definition for process that is used in the food safety standards. Thawing and washing have been removed from this definition as these processes present a very low risk to food safety and are not relevant for the purposes of this form.

Ready-to-eat food means food that is ordinarily consumed in the same state as that in which it is sold and does not include nuts totally enclosed in the shell or whole fruit and vegetables intended for further processing by the customer.

Shelf-stable means non-perishable food with a shelf life of many months to years.

Small business is a business that employs less than 50 people in the ‘manufacturing’ sector or which employs less than 10 people in the ‘food services’ sector.

Note: When determining the number of employees of a business where casual and part-time employees are involved, their weekly hours are added together and divided by the number of hours per week stipulated in the award for employees of that business. Only staff involved in food handling operations should be included.

Location of all Food Premises		
Complete details of business location for all food premises within the jurisdiction of the enforcement agency.		
Trading name	Location	Contact numbers and details
		<input type="checkbox"/> (BH) _____ <input type="checkbox"/> (AH) _____ <input type="checkbox"/> Fax _____ <input type="checkbox"/> Email _____ _____
		<input type="checkbox"/> (BH) _____ <input type="checkbox"/> (AH) _____ <input type="checkbox"/> Fax _____ <input type="checkbox"/> Email _____ _____
		<input type="checkbox"/> (BH) _____ <input type="checkbox"/> (AH) _____ <input type="checkbox"/> Fax _____ <input type="checkbox"/> Email _____ _____
		<input type="checkbox"/> (BH) _____ <input type="checkbox"/> (AH) _____ <input type="checkbox"/> Fax _____ <input type="checkbox"/> Email _____ _____

Additional Notification Information for Mobile Food Vendors

Are you a mobile vendor (e.g. ice cream van) or do you vend permanently stationed at one site (e.g. after hours takeaway van)?

Mobile vendor / Permanently stationed vendor
(Please indicate)

For mobile vendors please provide the address at which the vehicle is normally garaged or housed:

For permanently stationed vendors please provide the address of the site:

Temporary Events Permit

Application Form

- 1 Name, location, date(s) and time(s) of event:

Name:

Location:

Date(s):

Time(s):

- 2 Name, address and postal address (if different) of company/body responsible for the event:

Name:

Address:

Postal address:

- 3 Name and contact details of event organiser/coordinator or person responsible for organising/coordinating food stalls:

Name:

Postal address:

Telephone: (business hours):

(after hours):

Mobile:

Fax:

4 Details of stalls and stall holders:

Name and/or number of stall	Name of stallholder or name of food business and proprietor	Address of stallholder or food business	Phone, mobile and fax numbers of stallholder/food business	Types of food to be sold
			Ph: Mobile: Fax:	

Appendix 3

Cooling of meats after cooking — Report by Campden & Chorleywood Food Research Association

The Department of Health, London, funded the Campden & Chorleywood Food Research Association to identify safe rates of cooling for meat products, which because of their size and shape are inherently slow to cool. The findings of this work are reported in the document outlined below.

Gaze JE, Shaw R & Archer J, *Identification and Prevention of Hazards Associated with Slow Cooling of Hams and Other Large Cooked Meats and Meat Products*, Review no. 8, Project no. 16286, Campden & Chorleywood Food Research Association, 1998.

This document can be purchased from:

Campden & Chorleywood Food Research Association
Chipping Campden
Gloucestershire
GL55 6LD UK

Phone: +44 1386 842 000
Fax: +44 1386 842 100
Website: www.campden.co.uk

The document makes the following recommendations for cooling cured and uncured cooked meats.

Uncured products

For a typical uncured cooked meat product, made from good quality raw material under hygienic conditions and with sound process controls, the document recommends the limitations set out in the table below for cooling time from completion of the cooking process.

Temperatures	Good practice (time in hours to achieve temperature specified)	Maximum (time in hours to achieve temperature specified)
To 50°C	1	2.5
From 50°C to 12°C	6	6
From 12°C to 5°C	1	1.5
Total time to 5°C	8	10

Cured products

For products which are cured (defined as minimum 2.5% salt on water phase and 100 ppm nitrite in-going), the document recommends the limitations set out in the table below for cooling time from completion of the cooking process.

Temperatures	Good practice (time in hours to achieve temperature specified)	Maximum (time in hours to achieve temperature specified)
To 50°C	1.25	3.25
From 50°C to 12°C	7.5	7.5
From 12°C to 5°C	1.25	1.75
Total time to 5°C	10	12.5

Note that the document states that if the product may be expected to contain high levels of spores (for instance if significant levels of untreated herbs and spices are distributed throughout the product), the above cooling times may not be safe and advice should be sought.

Appendix 4

Cleaning and sanitising surfaces and utensils

This appendix includes information on cleaning and sanitising eating and drinking utensils and food contact surfaces. *This information is provided for guidance only and businesses are not legally obliged to clean and sanitise at the temperatures and times specified.*

Cleaning and sanitising are separate procedures, and sanitising is distinct from sterilising.

Cleaning in the food industry is a process that removes visible contamination such as food waste, dirt and grease from a surface. This process is usually achieved by the use of water and detergent. During the cleaning process, microorganisms will be removed but the cleaning process is not designed to destroy microorganisms.

Sanitising is a process that destroys microorganisms, thereby reducing the numbers of microorganisms present on a surface. This is usually achieved by the use of both heat and water, or by chemicals.

Sterilising is a process designed to destroy all microorganisms including microorganisms that have formed a protective coat — these protective coats are called spores. Eating and drinking utensils and food contact surfaces do not need to be sterilised.

Cleaning and sanitising should usually be done as separate processes. A surface needs to be thoroughly cleaned before it is sanitised as sanitisers are unlikely to be effective in the presence of food residues and detergents.

Cleaning

The thorough cleaning of eating and drinking utensils and food contact surfaces is a critical step before sanitising for the following reasons:

- any food residue or other soil left after the cleaning process will protect the bacteria from the sanitation step;
- any food residue or other soil left after the cleaning process will react with the sanitiser, making the sanitiser less effective against microorganisms;
- thorough cleaning will physically remove most of the microorganisms present — the US National Sanitation Foundation⁵ (NSF) reports that dishwashers can remove greater than 99.9% of the bacteria with the removal of food residue and other soil; and
- the heat used to clean is critical in contributing to the total heat needed to effectively sanitise (by heat) the utensil or food contact surface.

5 The National Sanitation Foundation is a United States organisation founded in 1944. It is an independent not-for-profit organisation whose principal functions include standards development and maintenance and third-party certification of products and equipment.

A food business must use a cleaning process that ensures the utensil or food contact surface looks clean, feels clean and smells clean. Thorough cleaning can be achieved by:

- pre-scraping the utensil or surface to remove most of the food residue present;
- using warm water (see comments below), detergent and agitation to remove food residue; and
- rinsing the detergent and food residue away.

The NSF has found that the temperature of the wash water is extremely significant in providing effective heat-sanitising as the heat accumulated by the utensil during the washing stage contributes to the total heat needed for sanitising. However, the water temperature needed to effectively clean a utensil or surface will depend on the type of food residue to be removed from the utensil or surface.

Warm to hot water will be needed for cleaning if grease is to be removed but the temperature should not be so hot that it impedes the cleaning process by baking food residue onto the surface. The NSF found that the best temperature for washing utensils in the food service industry was between 54°C and 60°C and that higher temperatures tended to bake food residue on (Mallman et al. 1947). Therefore, if hot water is used to sanitise the utensil or surface, the water temperature for cleaning should not be lower than 54°C to ensure that enough heat is accumulated during washing for effective sanitising to take place.

The detergent used should be appropriate for the task. Ordinary household detergents will usually suffice for manual washing in the food service industry but food manufacturers may need special detergents depending on the food residue to be removed. Mechanical dishwashers need to use detergents that are appropriate to the equipment.

Detergents containing sanitisers are not required. If such detergents are used, they are unlikely to be able to clean and sanitise a surface to the standard required. If they are used, a separate sanitising step is still likely to be needed. Advice on whether a detergent that contains a sanitiser can adequately clean and sanitise to the standard required should be sought from the manufacturer or supplier of the product.

Agitation to help remove food residue and other soil is either achieved manually through the use of brushes, scourers etc. or mechanically through the use of dish- or glasswashers. Mechanical dishwashers rely on the pressure of the water as well as the overall design of the unit to provide the agitation necessary to remove food residue and other soil.

There may be circumstances where cleaning without water is necessary. This is allowable provided the outcome is achieved, that is the utensil or surface is clean to touch and free of extraneous visible matter and objectionable odour.

Sanitising

Sanitising eating and drinking utensils and food contact surfaces can be achieved through the use of hot water, chemicals or other processes. These are described separately on the following pages.

Hot water

Hot water is the most common method of sanitising eating and drinking utensils and food contact surfaces. Hot water sanitising can be achieved manually or mechanically through the use of a dish- or glasswasher.

The temperature needed to destroy infectious diseases present on an eating or drinking utensil or a food contact surface is not clearly indicated in the literature. The NSF has conducted many studies on the use of hot water for sanitising in the food service industry.

The first comprehensive studies on mechanical dishwashing processes were sponsored by the NSF and carried out by Dr WL Mallman at Michigan State University. The first research report was published in 1947. Further work was carried out and in March 1964 the NSF published a summary report on the study of dishwashing machines.

Commercial dishwashers

The work of the NSF has been used to specify comprehensive and prescriptive requirements for the manufacture of dishwashers in the US and has also been used by other countries such as Canada. In Australia, the requirements specified in the previous New South Wales Food (General) Regulation (1997) for cleaning and sanitising eating and drinking utensils were based on the NSF studies.

The findings of the NSF's work show that sanitising utensils using hot water is complicated and that it is not simply a matter of prescribing a hot water temperature for effective sanitising to be achieved. The main findings of the NSF work can be summarised as follows:

- thorough cleaning before sanitising is critical to enable effective sanitising to take place;
- effective sanitising by hot water is achieved by the total heat accumulated by the utensil during the cleaning and rinsing stages of a wash cycle;
- the volume, pressure and temperature of the water are significant factors for effectively cleaning and sanitising utensils in a dishwashing machine; and
- the overall design of the dishwashing machine is important in ensuring that all surfaces of the utensils are exposed to the cleaning and rinsing action of the machine for effective cleaning and sanitising to take place.

The NSF has produced two standards for dishwashers and glasswashers:

1. NSF 26-1980 *Pot, Pan, and Utensil Commercial Spray-Type Washing Machines*, NSF International Standard.
2. ANSI/NSF 3-1996 *Commercial Spray-Type Dishwashing and Glasswashing Machines*, American National Standard/NSF International Standard.

Copies of these standards can be purchased from NSF International or from Standards Australia.

NSF International
789N Dixboro Road or PO Box 130140
Ann Arbor, Michigan 48113-0140 USA

Phone: +1 734 769-8010
Fax: +1 734 769-0109
E-mail: info@nsf.org
Internet: <http://www.nsf.org>

Standards Australia
Sydney Information Centre
(inquiries)

Phone: (02) 9746 4748
Fax: (02) 9746 4765
E-mail: sic@standards.com.au

While the two NSF Standards specify comprehensive criteria for the manufacture of dishwashers and glasswashers, it is not certain whether machines built to these standards remove or destroy all infectious diseases that may be present on a utensil. It is ANZFA's understanding that the studies that were used to develop the design criteria specified in these standards were the studies conducted by the NSF in the 1940s and 1960s. The machines are required to have water temperatures and time cycles that produce a cumulative heat factor that is twice as great as the time-temperature standard for pasteurising milk (Bryan & DeHart 1975). The studies did not cover the destruction of food-borne viral pathogens such as hepatitis A as there were no testing methods for these viruses at the time.

The most heat-resistant infectious disease that may be transmissible through an eating or drinking utensil appears to be hepatitis A. Hepatitis A is highly resistant to heat and chemicals. The exact temperature necessary to destroy hepatitis A is not known but the Therapeutic Goods Administration in Australia has advised (verbally) that preliminary work being conducted in Germany suggests that a temperature of over 90°C may be necessary. Sodium hypochlorite can be used to destroy hepatitis A but very high concentrations are needed (5000 ppm or a 1:11 dilution) (Block 1991).

Until further studies are conducted on the destruction of hepatitis A, there is no absolute evidence that dishwashers and glasswashers designed to NSF Standards or any other current standards will destroy hepatitis A. However, it should also be noted that there is no evidence either that hepatitis A survives current cleaning and sanitising processes as there have been no known outbreaks (to ANZFA's knowledge) attributed to hepatitis A from cleaned and sanitised eating and drinking utensils. The cleaning and rinsing phases may be effectively removing or diluting the hepatitis A to safe levels and hence destruction may not be necessary.

Manufacturers and suppliers of commercial dishwashers need to ensure that the dishwasher achieves the outcomes of this clause, that is, that it so thoroughly cleans and sanitises the utensil that infectious diseases are not transmitted. However, in recognition of the lack of certainty in this area, dishwashers and glasswashers that either meet the NSF Standards or the previous New South Wales regulations are considered to meet the requirements of this clause.

Dishwashers and glasswashers that do not meet these requirements may still be used, but the supplier or manufacturer of the machine should provide evidence as to their efficacy.

All eating and drinking utensils and food contact surfaces should be thoroughly dry before being reused. If these utensils or surfaces are used while still wet there is a greater chance that any microorganisms remaining on the utensil or surface will be transferred to food or a person's mouth.

Domestic dishwashers

Domestic dishwashers are occasionally used by smaller food businesses that only generate a small volume of dirty eating and drinking utensils. In such situations the installation of a commercial-type dishwasher may not be cost-effective. How effective domestic dishwashers are at cleaning and sanitising is uncertain. However, Bryan and DeHart conducted a study in the US in 1975 to determine whether domestic dishwashers available in the US could meet the same cleaning and sanitising outcome as commercial dishwashers. This study recognised that it is seldom economical or practical to use either commercial dishwashers or hand washing for food service operations in child care centres, family day care, nursing homes and other small food businesses serving food once a day or serving food three times a day to only a few people (Bryan & DeHart 1975).

This study concluded that domestic dishwashers that met certain criteria could provide the same cleaning and sanitising outcome as a commercial dishwasher. These criteria were that:

- (a) dishwashers should have properly functioning temperature-activated sanitising cycles that have to sense a temperature of 65.6°C or higher before the machine advances to the next step; or
- (b) dishwashers with either no sanitising cycle or a time-controlled sanitising cycle and forced airflow drying should only be operated with inlet water temperature above 68°C.

Domestic dishwashers that met the above criteria were able to provide an equivalent outcome because, although they operated at lower temperatures, their cycles were much longer — about one hour.

ANZFA is not aware of any other published studies that have been conducted on the efficacy of domestic dishwashers in terms of the removal and/or destruction of pathogenic microorganisms. It is recommended that further studies be conducted on domestic dishwashers available in Australia, particularly modern models. Until these studies are carried out, domestic dishwashers that meet either criterion (a) or (b) above are permissible. Note that it is not expected that domestic dishwashers would normally be installed in food premises. Most food businesses within the food service sector will need to install commercial dishwashers because of the volume of dirty eating and drinking utensils.

Domestic dishwashers that do not meet the above criteria may also be acceptable if the suppliers or manufacturers of the machines provide evidence as to their efficacy.

Manually sanitising with hot water

Manually sanitising eating and drinking utensils and food contact surfaces is very difficult with hot water. To achieve an adequate level of sanitation, a temperature of 77°C is likely to be needed and the utensils or surfaces need to be in contact with water at this temperature for at least 30 seconds. A temperature of 77°C for a period of 30 seconds for manual washing is required in the US Food Code and was also previously specified within the New South Wales Food (General) Regulation 1997.

To ensure that utensils or food contact surfaces are in contact with hot water at a temperature of 77°C for 30 seconds, hot water would need to be delivered to a sink at or above 77°C and the sink would need to have a heating element in it to maintain the temperature of the water at least at 77°C.

However, manually sanitising at this temperature raises occupational health and safety concerns. To avoid burns, rinsing baskets would need to be used to immerse the utensils or equipment, and care would need to be taken to ensure burns did not occur from splashing.

While manual sanitising may be able to be carried out at lower temperatures, a longer contact time would be necessary to ensure that an equivalent sanitising outcome was achieved. However, this still requires the sink to contain a heating element to ensure the temperature of the water is maintained at a minimum temperature.

Due to the above difficulties, it is recommended that food businesses do not manually sanitise using hot water but instead use dishwashers or chemical sanitisers.

Chemicals

Chemical sanitisers can be used to sanitise eating and drinking utensils and food contact surfaces. This can be achieved through sanitising manually or by the use of dishwashers that use chemical sanitisers for sanitising instead of hot water.

Advice on chemical sanitisers that are suitable for use for eating and drinking utensils and food contact surfaces must be obtained from the supplier or manufacturer of the sanitiser. The supplier or manufacturer should be able to provide information on what the sanitiser can be used for and what the sanitiser can achieve in destroying microorganisms when it is used correctly.

Sanitisers will not work correctly if the surface to be sanitised has not been thoroughly cleaned first. If the surface is not clean, the sanitiser will react with the soil left on the surface, reducing the effectiveness of the sanitiser. Food residue and other soil left on a surface will also provide protection to microorganisms.

Sanitisers will only work correctly if they are used in the correct concentrations and the instructions are followed. The effectiveness of chemical sanitisers can be directly affected by the temperature, pH, concentration of the sanitiser solution used (too little or too much) and the hardness of the water (US Food Code 1999). Instructions should always be read and followed. If they are not clear, further advice should be sought from the supplier or manufacturer of the chemical.

Some of the most commonly used chemical sanitisers in the food industry are chlorine-based compounds. While advice on using chlorine-based sanitisers should be provided when purchasing the sanitiser, the information in the table opposite has been provided for guidance and to illustrate the importance of following instructions when using chemical sanitisers.

The table indicates the minimum concentration of a chlorine solution to use, depending on the pH and temperature of the water.

After the sanitiser has been applied for the necessary time, the instructions should indicate whether the sanitiser needs to be rinsed off.

After the sanitation process is completed, the eating and drinking utensil or food contact surface should be thoroughly dry before it is reused. Air drying is preferable. If towels are used they must be clean and dry.

Minimum concentration (mg/L or ppm)	Minimum temperature (°C) for water at pH 10 or less	Minimum temperature (°C) for water at pH 8 or less
25	49	49
50	38	24
100	13	13

Source: US Food Code 1999.

Other processes

Processes other than heat and chemicals may be used to sanitise eating and drinking utensils and food contact surfaces, for example dry steam cleaning and ultraviolet radiation. Technological advances are also being made in this area and other processes, such as irradiation, pulsed electric fields and microwaves, may be able to be used successfully in the future.

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Clause 3 General requirements

Australian Building Codes Board, 1996, *Building Code of Australia* and 1998, *Guide to the BCA Class 2–9 Buildings, Commonwealth and States and Territories of Australia*, published by CCH Australia Ltd on behalf of the ABCB.

Australian Institute of Environmental Health, 1991, *National Code for Food Vending Vehicles and Temporary Food Premises*, Australian Institute of Environmental Health, Canberra.

Australian Institute of Environmental Health, 1993, *National Code for the Construction and Fitout of Food Premises*, Australian Institute of Environmental Health, Canberra.

Chadwick House Group Ltd, *Industry guide to good hygiene practice*, (Guides to the UK Food Safety (General Food Hygiene) Regulations 1995 and Food Safety (Temperature Control) Regulations 1995). Chadwick House Group Ltd, trading subsidiary of the UK Chartered Institute of Environmental Health. Guides are available by food sectors: *Baking* (1997), *Catering* (1997), *Fresh produce* (1999), *Markets and fairs* (1998), *Retail* (1997), *Wholesale distributors* (1998).

Food and Agriculture Organization & World Health Organization, 1997, *Codex Alimentarius food hygiene basic texts: Recommended international code of practice — General principles of food hygiene*, CAC/RCP 1–1969, Food and Agriculture Organization & World Health Organization, Rome.

Forsythe, SJ & Hayes, PR, 1998, *Food hygiene, microbiology and HACCP*, 3rd edn, Aspen Publishers Inc., Gaithersburg, Maryland, USA.

Guidelines and regulations:

Guidelines and regulations made under State and Territory occupational health and safety legislation (space requirements in workplaces). For example, *Workplace Amenities Advisory Standard 2000*, Department of Employment, Training and Industrial Relations, Brisbane, Queensland.

NSW Meat Industry Authority, 1999, *New South Wales standard for construction and hygienic operation of retail meat premises*, NSW Meat Industry Authority, Chatswood, New South Wales.

Shapton, DA & Shapton, NF (editors), 1991, *Principles and practices for the safe processing of foods*, Woodhead Publishing Ltd, Cambridge.

Victorian Meat Authority, 1998, *Victorian standard for hygienic production of meat at retail premises*, Victorian Meat Authority, Abbotsford, Victoria.

Clause 4 Water supply

Australian Standards:

AS 3500.1.1–1998 *National plumbing and drainage: Water supply — Performance requirements*.

AS/NZS 35001.2–1998 *National plumbing and drainage: Water supply — Acceptable solutions*.

AS 3500 4.1–1997 *National plumbing and drainage: Hot water supply systems — Performance requirements*.

AS/ANZ 4.2–1997 *National plumbing and drainage: Hot water supply systems — Acceptable solutions*.

Guidelines and regulations:

State and Territory occupational health and safety legislation and guidelines. For example, *Regulations made under the Queensland Workplace Health and Safety Act 1995*, *Workplace Amenities Advisory Standard 2000*, Department of Employment, Training and Industrial Relations, Brisbane, Queensland (water temperatures).

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National Health and Medical Research Council & Agriculture and Resource Management Council of Australia and New Zealand, 1996, *The Australian drinking water guidelines 1996* (as amended), Commonwealth of Australia, Canberra.

The guidelines are subject to ongoing review.

These guidelines are available on the website of the Commonwealth Department of Health and Aged Care www.health.gov.au/nhmrc/publicat/contents.htm in PDF format and can be downloaded at no charge. A summary of the full guidelines is also available.

The guidelines include detailed information on:

- each group of water quality characteristics: microorganisms, physical and chemical characteristics and radiological characteristics, including guideline values and a discussion of how the guideline values have been determined;
- guidance on developing monitoring programs including sampling; and
- special problems associated with the supply of water to small communities.

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World Health Organization, 1998, *Guidelines for drinking-water quality: Volume 2 Health criteria and other supporting information*, 2nd edn 1996, addendum to Volume 2 1998, WHO, Rome.

Clause 5 Sewage and waste water disposal

Australian Institute of Environmental Health, 1991, *National Code for Food Vending Vehicles and Temporary Food Premises*, Australian Institute of Environmental Health, Canberra.

Australian Standards:

AS/NZS 3500 *National plumbing and drainage Part 2.1 Sanitary plumbing and drainage — Performance requirements*.

AS/NZS 3500 *National plumbing and drainage Part 2.2 Sanitary plumbing and drainage — Acceptable solutions*.

Clause 7 Ventilation

Australian Standard:

AS 1668.2 *The use of mechanical ventilation and air-conditioning in buildings Part 2 Mechanical ventilation for acceptable indoor-air quality*.

Clause 8 Lighting

Australian Standards:

AS 1680 Part 1–1990 *Interior lighting: General principles and recommendations.*

AS/NZ 1680.2.4 1997 *Industrial tasks and processes.*

Note that there are other parts to this Australian Standard which may be relevant in particular circumstances:

Part 2.1 Circulation spaces and other general areas.

Part 2.2 Office and screen based tasks.

These Australian Standards replace AS 1680 *Interior lighting: Recommendations for specific tasks and interiors.*

Chadwick House Group Ltd *Industry guide to good hygiene practice — retail guide*, Chadwick House Group Ltd, London. (Note that this is one of a series of guides. Guides are also available for baking, catering, fresh produce markets and fairs, and wholesale distributors.)

Health Canada, 1999, *Proposed Food Retail and Food Services Code, January 1999*, Health Canada, <http://www.hc-sc.gc.ca> (accessed March 1999).

Clause 12 Fixtures, fittings and equipment

Australian Standards:

AS 1731 1983 *Frozen food retail cabinets.*

AS/NZS 4020 1999 *Products for use in contact with drinking water.*

Shapton, DA & Shapton, NF (editors), 1991, *Principles and practices for the safe processing of foods*, Woodhead Publishing Ltd, Cambridge.

Clause 16 Food transport vehicles

Australian Food & Grocery Council, Australian Supermarket Institute and Refrigerated Warehouse & Transport Association of Australia, 1999, *The Australian cold chain guidelines 1999*, Australian Food & Grocery Council, Australian Supermarket Institute and Refrigerated Warehouse & Transport Association of Australia, Australia.

Agriculture and Resource Management Council of Australia and New Zealand, 1995, *Australian Standard for Transportation of Meat for Human Consumption*, SCARM Report no. 56, CSIRO Publishing, Collingwood, Vic. (Note that SCARM Reports are also available for *Construction of Premises Processing Meats for Human Consumption*, *Construction of Premises Processing Animals for Human Consumption* and *Hygienic Production of Meat for Human Consumption*.)

Glossary of definitions

This glossary is an alphabetical listing of all the definitions included in Standards 3.1.1, 3.2.2 and 3.2.3. The applicable standard is referenced in the brackets that follow each definition.

adequate supply of water

potable water that is available at a volume, pressure and temperature that is adequate for the purposes for which the water is used. (Standard 3.2.3)

appropriate enforcement agency

an enforcement agency prescribed by the regulations under the Act for the purposes of enforcement of the Act or similar purposes. (Standard 3.1.1)

authorised officer

a person authorised or appointed under the Act or other legislation for the purposes of enforcement of the Act, or similar purposes, such as an 'authorised officer', 'environmental health officer' or 'inspector'. (Standard 3.1.1)

carrier of a food-borne disease

does not include a person who is a carrier of *Staphylococcus aureus*. (Standard 3.2.2)

clean

clean to touch and free of extraneous visible matter and objectionable odour. (Standard 3.1.1)

condition

an infected skin lesion or discharges from the ear, nose or eye. (Standard 3.2.2)

contaminant

any biological or chemical agent, foreign matter, or other substances that may compromise food safety or suitability. (Standard 3.1.1)

contamination

the introduction or occurrence of a contaminant in food. (Standard 3.1.1)

environmental conditions

conditions under which certain food may be required to be stored including temperature, humidity, lighting conditions and atmosphere. (Standard 3.2.2)

equipment

a machine, instrument, apparatus, utensil or appliance, other than a single-use item, used or intended to be used in or in connection with food handling and includes any equipment used or intended to be used to clean food premises or equipment. (Standard 3.1.1)

food-borne disease

a disease that is likely to be transmitted through consumption of contaminated food. (Standard 3.2.2)

food business

a business, enterprise or activity (other than primary food production) that involves:

- (a) the handling of food intended for sale; or
- (b) the sale of food;

regardless of whether the business, enterprise or activity concerned is of a commercial, charitable or community nature or whether it involves the handling or sale of food on one occasion only. (Standard 3.1.1)

food handler

a person who directly engages in the handling of food, or who handles surfaces likely to come into contact with food, for a food business. (Standard 3.1.1)

food handling operation

any activity involving the handling of food. (Standard 3.1.1)

food premises

any premises including land, vehicles, parts of structures, tents, stalls and other temporary structures, boats, pontoons and any other place declared by the relevant authority to be premises under the Food Act kept or used for the handling of food for sale, regardless of whether those premises are owned by the proprietor, including premises used principally as a private dwelling, but does not mean food vending machines or vehicles used only to transport food. (Standard 3.1.1)

food safety program

a program set out in a written document retained at the food premises of the food business, including records of compliance and other related action, that:

- (a) systematically identifies the potential hazards that may be reasonably expected to occur in all food handling operations of the food business;
- (b) identifies where, in a food handling operation, each hazard identified under paragraph (a) can be controlled and the means of control;
- (c) provides for the systematic monitoring of those controls;
- (d) provides for appropriate corrective action when that hazard, or each of those hazards, is found not to be under control;
- (e) provides for the regular review of the program by the food business to ensure its adequacy; and
- (f) provides for appropriate records to be made and kept by the food business demonstrating action taken in relation to, or in compliance with, the food safety program. (Standard 3.2.2)

food safety standards

standards contained in Chapter 3 of the *Australia New Zealand Food Standards Code*. (Standard 3.1.1)

frozen

does not include partly thawed. (Standard 3.2.2)

handling of food

includes the making, manufacturing, producing, collecting, extracting, processing, storing, transporting, delivering, preparing, treating, preserving, packing, cooking, thawing, serving or displaying of food. (Standard 3.1.1)

hazard

a biological, chemical or physical agent in, or condition of, food that has the potential to cause an adverse health effect in humans. (Standard 3.1.1)

pests

include birds, rodents, insects and arachnids. (Standard 3.1.1)

potable water

water that is acceptable for human consumption. (Standard 3.2.3)

potentially hazardous food

food that has to be kept at certain temperatures to minimise the growth of any pathogenic microorganisms that may be present in the food or to prevent the formation of toxins in the food. (Standard 3.2.2)

primary food production

the growing, cultivation, picking, harvesting, collection or catching of food, and includes the following:

- (a) the transportation or delivery of food on, from or between the premises on which it was grown, cultivated, picked, harvested, collected or caught,
- (b) the packing, treating (for example, washing) or storing of food on the premises on which it was grown, cultivated, picked, harvested, collected or caught,
- (c) any other food production activity that is regulated by or under an Act prescribed by the regulations for the purposes of this definition.

However, primary food production does not include:

- (a) any process involving the substantial transformation of food (for example, manufacturing or canning), regardless of whether the process is carried out on the premises in which the food was grown, cultivated, picked, harvested, collected or caught; or
- (b) the sale or service of food directly to the public, or
- (c) any other food production activity prescribed by the regulations under the Act for the purposes of this definition. (Standard 3.1.1)

process, in relation to food

activity conducted to prepare food for sale including chopping, cooking, drying, fermenting, heating, pasteurising, thawing and washing, or a combination of these activities. (Standard 3.2.2)

proprietor of a food business

- (a) the person carrying on the food business, or
- (b) if that person cannot be identified — the person in charge of the food business. (Standard 3.1.1)

ready-to-eat food

food that is ordinarily consumed in the same state as that in which it is sold and does not include nuts in the shell and whole, raw fruits and vegetables that are intended for hulling, peeling or washing by the consumer. (Standard 3.2.2)

sanitise

to apply heat or chemicals, heat and chemicals, or other processes, to a surface so that the number of micro-organisms on the surface is reduced to a level that:

- (a) does not compromise the safety of food with which it may come into contact; and
- (b) does not permit the transmission of infectious disease. (Standard 3.2.3)

sell

- (a) barter, offer or attempt to sell, or
- (b) receive for sale, or
- (c) have in possession for sale, or
- (d) display for sale, or
- (e) cause or permit to be sold or offered for sale, or
- (f) send, forward or deliver for sale, or
- (g) dispose of by any method for valuable consideration, or
- (h) dispose of to an agent for sale on consignment, or
- (i) provide under a contract of service, or
- (j) supply food as a meal or part of a meal to an employee, in accordance with a term of an award governing the employment of the employee or a term of the employee's contract of service, for consumption by the employee at the employee's place of work, or
- (k) dispose of by way of raffle, lottery or other game of chance, or
- (l) offer as a prize or reward, or
- (m) give away for the purpose of advertisement or in furtherance of trade or business, or
- (n) supply food under a contract (whether or not the contract is made with the consumer of the food), together with accommodation, service or entertainment, in consideration of an inclusive charge for the food supplied and the accommodation, service or entertainment, or
- (o) supply food (whether or not for consideration) in the course of providing services to patients or inmates in public institutions, where 'public institution' means 'public institution' as defined in the Act, if it is so defined; or
- (p) sell for the purpose of resale. (Standard 3.1.1)

sewage

includes the discharge from toilets, urinals, basins, showers, sinks and dishwashers, whether discharged through sewers or by other means. (Standard 3.2.3)

single-use item

an instrument, apparatus, utensil or other thing intended by the manufacturer to only be used once in connection with food handling, and includes disposable gloves. (Standard 3.1.1)

symptom

diarrhoea, vomiting, sore throat with fever, fever or jaundice. (Standard 3.2.2)

temperature control

maintaining food at a temperature of:

- (a) 5°C, or below if this is necessary to minimise the growth of infectious or toxigenic microorganisms in the food so that the microbiological safety of the food will not be adversely affected for the time the food is at that temperature; or
- (b) 60°C or above; or
- (c) another temperature — if the food business demonstrates that maintenance of the food at this temperature for the period of time for which it will be so maintained will not adversely affect the microbiological safety of the food. (Standard 3.2.2)

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