GUIDE TO **FOOD SAFETY TRAINING**

LEVEL 3 - Food Safety Skills for Management

Food Service, Retail and Manufacturing Sectors

Food Safety
AUTHORITY OF IRELAND

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Food Service, Retail and Manufacturing Sectors

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ISBN 1-904465-08-0

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ABOUT THIS GUIDE

What can this guide do for me?

As a member of the management[1] team in your food[2] business you have a responsibility to ensure that you provide your customers with food that is safe to eat. This guide outlines the food safety skills to be demonstrated by managers and supervisors in food operations. To assist you in implementing these skills, additional information is provided in the appendices.

As your organisation is best positioned to determine your business needs this guide does not attempt to define the exact job specification/responsibilities of management within your organisation

What if I need help?

When you review the skills in this guide you may feel that you need assistance in implementing them in your business. Where this is the case you may choose to:
(a) attend one or more training courses to provide you with the necessary knowledge
(b) seek technical expertise (either in-house or an external consultant). Appendix 5 provides information on the selection of a suitable training provider.

If you are using technical expertise it is essential that you are involved in any decision making processes which will affect the implementation of these skills in your workplace. Understanding the principles of food safety management is necessary to promote and encourage a food safety culture within your organisation. Consideration should also be given to the extent to which decisions of management in other areas of your business (e.g. finance, human resources etc.) may affect food safety.

Can I delegate to my staff?

In some instances you will delegate the day to day demonstration of some of these skills to your employees. Where this is the case you have an obligation to:

- ensure that they have the necessary skills and authority to carry out these tasks
- support them by providing encouragement and the necessary resources.

You are responsible for continuously encouraging your staff to practise high standards of hygiene and should ensure that you are kept informed and up-to-date with changes in food safety requirements. Management commitment to food safety is essential as management has a crucial role in influencing the attitude and actions of employees working in the food environment.

[1] For the purpose of this guide the term management refers to staff who are responsible for the supervision and/or influencing the behaviour of any number of staff in the food operation. The number of staff supervised may vary from one upwards and the area of the food operation can range from one task/area to having ultimate responsibility for the entire food operation. This includes all generic terms such as proprietor, manager, supervisor, chargehand etc.

[2] Food includes (a) any substance used, available to be used or intended to be used, for food or drink by human persons, and (b) any substance which enters into or is used in the production, composition or preparation of these substances, and references to food include, as the context may require, reference to a particular food or class of food (Food Safety Authority of Ireland Act, 1998)

Why should I bother with food safety training?

Food safety training is essential to the commercial viability of a company/organisation as it:

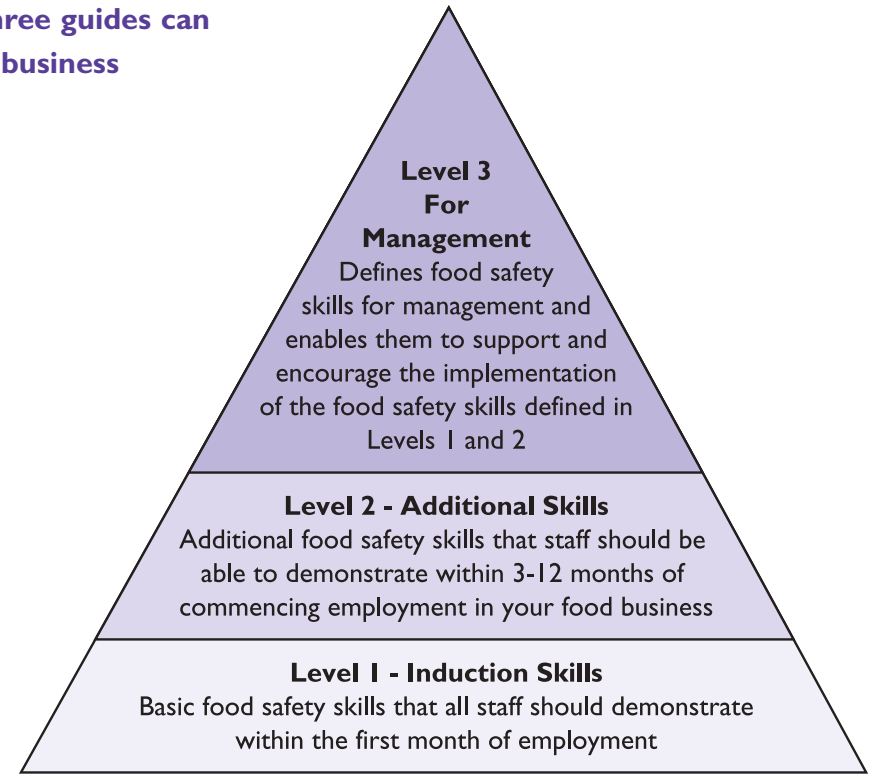
- assists companies in becoming more efficient, competitive and profitable
- raises performance standards
- reduces wastage
- assists in the production of safe food
- complies with food legislation requirements
- promotes a good company image
- increases staff morale and
- improves staff retention.

The implementation of knowledge acquired during food safety training requires the provision of the appropriate resources and motivational support by management.

Where this guide fits in

This is the third Guide to Food Safety Training published by the Food Safety Authority of Ireland (FSAI) in consultation with its Food Safety Training Council (FSTC)[3]. The food safety skills in the previously published guides (Level 1 - Induction Skills and Level 2 - Additional Skills) should be demonstrated by management prior to progressing onto Level 3.

How the three guides can assist your business



[3] Further information on the Food Safety Training Council is available in Appendix 1.

How is the guide organised?

The guide is divided into:

• Food Safety Skills

These are presented in a tabular format and are categorised under the following headings:

- Skills to be Demonstrated Prior to Management Training
- Microbiology
- Personal Hygiene
- Structural Hygiene
- Food Safety Operations
- Food Safety Management

Below is an example of a food safety skill from the Food Safety Operations Section

This is the actual skill

This section breaks the skills into specific activities.

This section outlines the resources or support required to help demonstrate the skill. This support may be financial or the provision of encouragement/motivation.

Food safety skill	How management demonstrates this skill	Resources/support required
(12) Manage and maintain an effective cleaning programme	• Outline the benefits of cleaning • Describe the cleaning programme in use in the food operation • Ensure: - cleaning schedules are available for each piece of equipment/ fitting and area and followed by staff - staff are trained so they can clean effectively and safely - the cleaning process does not contribute to product contamination - cleaned equipment/fittings and areas are checked after cleaning and cleaning records are signed off by a responsible person - that areas/equipment that are not cleaned to a satisfactory standard are re-cleaned.	• Provide a detailed cleaning programme relevant to the food safety operation. • Ensure the cleaning programme is available to employees in their first language. • Provide adequate resources for - the maintenance of the premises - supplies of cleaning materials/ personal protective equipment for staff - monitoring effectiveness of the cleaning programme by microbiological or equivalent test(s).

Food safety skill	How management demonstrates this skill	Resources/support required
	• *Where appropriate* provide separate staff and/or time separation for cleaning. • Monitor the effectiveness of the cleaning programme in removing dirt and preventing the growth of bacteria by inspection and/or by use of microbiological or equivalent test(s) e.g. bioluminescence. • Review the cleaning programme on a regular basis e.g. change of detergent type or supplier, unsatisfactory cleaning results etc.	• Provide a designated area for storing cleaning chemicals. • Encourage daily sign-off of cleaning records. • Maintain product specifications and health and safety data sheets for the cleaning agents used in the food operation. ***Tip for best practice*** Issue cleaning materials and equipment under a "controlled" system.

- Appendices
  The appendices contain additional information to assist you in implementing the skills in this guide.

- Glossary
  The Glossary defines keywords contained in the guide

- Bibliography
  This lists the various texts and materials referenced when producing the guide.

FOOD SAFETY SKILLS FOR MANAGEMENT – SUMMARY

Skills Required Prior to Management Training

(1) Demonstrate the food safety skills required at Level 2 - Additional Skills Level.

Microbiology

(2) Explain the importance of the growth requirements, benefits and dangers of microorganisms in the food operation.

(3) Explain the purpose of food preservation.

Personal Hygiene

(4) Demonstrate commitment to good food hygiene practice.

(5) Promote a high standard of personal hygiene throughout the food operation.

(6) Explain the implications of foodborne illness in the food operation.

(7) Ensure food workers suffering from foodborne illness do not work in contact with open food.

(8) Manage and maintain a procedure for the control of contractors and visitors.

Structural Hygiene

(9) Identify or report structural deficiencies in the food operation.

(10) Manage and maintain an effective pest control system.

(11) Manage and maintain a satisfactory waste disposal system.

Food Safety Operations

(12) Manage and maintain an effective cleaning programme.

(13) *Where applicable to their job*: ensure food safety during product purchasing.

(14) Ensure food safety during delivery receipt.

(15) Ensure food safety during storage.

(16) Ensure food safety during product preparation.

(17) Ensure food safety during cooking/processing/cooling/holding/service of food.

(18) Encourage good hygiene practice during the transportation of food.

(19) *Where applicable to their job*: ensure products are labelled correctly.

Food Safety Management

(20) Manage and maintain the traceability system within their area of the food operation.
(21) Recognise the significance of product threats/tampering for the consumer.
(22) Manage/review food safety complaints effectively.
(23) Implement company procedure for the withdrawal/recall of non-conforming food.
(24) Take all reasonable steps to ensure the customer is aware of the presence of food allergens.
(25) Review and follow up on results from laboratories.
(26) Demonstrate an awareness of the legislative requirements relating to their business.
(27) Implement and review the food safety management system (based on HACCP principles).
(28) *Where applicable to their job*: conduct internal audits.
(29) Provide assistance to internal and external auditors.
(30) Provide assistance to enforcement officers.
(31) Follow-up non-conformances with corrective action.
(32) Manage and maintain food safety documentation and records.

Staff Space Training and Management

(33) Ensure the food safety training needs of staff are met.
(34) Review the implementation of food safety skills by staff.
(35) Monitor and maintain required standards of behaviour and performance with regard to food safety.
(36) Establish and maintain effective working relationships with members of staff to ensure food safety.
(37) Encourage the evaluation of food safety related activities.

FOOD SAFETY SKILLS FOR MANAGEMENT - TABLE OF FOOD SAFETY SKILLS

Food safety skill	How management demonstrates this skill	Resources/support required
(1) Demonstrate the food safety skills required at Level 2 - Additional Skills Level	• Demonstrate the food safety skills required at Induction Level (Stage I and II). • Outline an awareness of the requirements necessary for bacterial growth. • Use time temperature controls to prevent and control bacterial growth. • Describe foodborne illness and the factors which contribute to incidences of it. • Implement the HACCP procedures in place. • Apply pest control in the workplace. • Outline their legal food safety responsibilities. *Where applicable to their job:* • Use hygienic procedures in receiving deliveries. • Ensure food safety during storage. • Ensure food safety during preparation. • Ensure food safety during the cooking and cooling of food. • Ensure food safety during transportation. • Apply correct and appropriate cleaning procedures in maintaining a clean food operation. • Take all reasonable care to prevent cross contamination of food products by food allergens. • Follow the procedure for dealing with recalled food products.	• Management should have received adequate instruction and training in Level 2 - Additional Skills and understand food safety risks and responsibility associated with their job. • Conduct/arrange regular assessment (both verbally and by observation) to reinforce best practice. • Provide positive/negative feedback on hygienic practice. • Provide for ongoing development of management in relation to new hazards and controls identified for the related industry.

FOOD SAFETY SKILLS FOR MANAGEMENT - TABLE OF FOOD SAFETY SKILLS (CONTINUED)

Food safety skill	How management demonstrates this skill	Resources/support required
	• Deal with a food safety complaint effectively. • Co-operate with food safety auditors. • Use hygienic procedures when displaying/holding or serving food. • Use hygienic procedures in storing ancillary items. • Apply the required heat treatment. • Label food correctly. • Take samples for laboratory analysis. • Test raw, in-process and/or processed food items to ensure food safety.	
Microbiology		
2) Explain the importance of the growth requirements, benefits and dangers of micro-organisms in the food operation	• Explain the importance of food, temperature, time, moisture, pH and oxygen in promoting and controlling the growth of bacteria. • Identify the source(s) and effects of microorganisms (e.g. bacteria, yeasts, moulds, viruses) associated within the food operation. • Distinguish between food poisoning (pathogenic) bacteria and food spoilage bacteria. • *Where applicable* explain the significance of spores and toxins to their food operation. • Implement procedures to control growth of microorganisms.	• Provide appropriate information and training as required. • Senior management practices should not contribute to microbiological contamination of the food operation. • Support management in the action they take to prevent microbiological contamination and growth. • Note: Appendix 9 provides some additional information on common food poisoning microorganisms.

FOOD SAFETY SKILLS FOR MANAGEMENT - TABLE OF FOOD SAFETY SKILLS (CONTINUED)

Food safety skill	How management demonstrates this skill	Resources/support required
(3) Explain the purpose of food preservation	• *Where applicable* identify the preservation methods used in the food operation or on foods used in the food operation. • Explain the effect of preservation on microorganisms. • *Where appropriate* to their food operation: - identify the food safety problems that may occur during food preservation e.g. problems associated with canning, pickling, modified atmosphere packing (MAP), cook-chill, sous-vide etc. - implement controls to reduce the occurrence of food safety problems during food preservation. • Ensure: - all staff are aware that food preservation does not eliminate all food safety risks - product storage instructions are followed by all members of staff.	• Provide appropriate information and training as required.

FOOD SAFETY SKILLS FOR MANAGEMENT - TABLE OF FOOD SAFETY SKILLS (CONTINUED)

Food safety skill	How management demonstrates this skill	Resources/support required
Personal Hygiene		
(4) Demonstrate commitment to good food hygiene practice	• Explain the importance of food hygiene. • Outline the implications of poor food hygiene. • Implement the company's hygiene policy. • Lead by example. • Ensure all staff: - understand the objective(s) of the company's hygiene policy - behave in a manner that supports the hygiene policy's objectives.	• Provide a documented hygiene policy that demonstrates the company's commitment to food hygiene. • Total commitment to the implementation of the hygiene policy by management. • Display the hygiene policy in prominent areas of the food premises. • Ensure the hygiene policy is available to employees in their first language.
(5) Promote a high standard of personal hygiene throughout the food operation	• Explain the importance of good personal hygiene. • Lead by example. • Ensure: - staff demonstrate a high standard of personal hygiene as per Level 1, Induction Skills - clean protective clothing is available for staff - suitable changing facilities are available for staff - adequate hand-washing facilities are in place - suitable hand-drying facilities and suitable liquid soap are available and replenished as required - staff wash their hands as required (see Level 1 - Induction Skills) - first aid cabinets are available and adequately stocked - appropriate signage is displayed, visible and can be understood by all staff.	• Provide an adequate amount of protective clothing for staff. • Provide adequate laundry arrangements. • Provide suitable changing facilities and lockers for staff. • Provide resources for adequate hand-washing facilities. • Demonstrate a high standard of personal hygiene as per Level 1, Induction Skills.

FOOD SAFETY SKILLS FOR MANAGEMENT - TABLE OF FOOD SAFETY SKILLS (CONTINUED)

Food safety skill	How management demonstrates this skill	Resources/support required
(6) Explain the implications of foodborne illness in the food operation	• Recognise the symptoms of foodborne illness. • Identify and control the potential sources of viral, bacterial and chemical food poisoning in their food operation. • Identify the food poisoning bacteria most likely to affect their food operation.	• Provision: - of appropriate information and training for management - for the ongoing development of management in relation to new hazards and controls identified for the related industry.
(7) Ensure food workers suffering from foodborne illness do not work in contact with open food	• Explain why it is necessary to prevent infected staff from handling food. • Document or arrange to have documented a procedure for control of staff suffering from ailments and illnesses which may affect the safety of food. • Adhere to *and where appropriate review* the documented procedure for the control of staff suffering from ailments and illnesses. • Ensure all staff are aware of the action to take when suffering from ailments and illnesses. • *Where required by law* ensure staff provide medical certificates.	• The procedure for control of staff suffering from ailments and illnesses should comply with legal requirements for your sector. • Staff should not be penalised or lose out financially if they have to take time off due to illness that may affect the safety of food. • Medical certificates are legally required prior to commencing work and annually for some sectors of the industry.

FOOD SAFETY SKILLS FOR MANAGEMENT - TABLE OF FOOD SAFETY SKILLS (CONTINUED)

Food safety skill	How management demonstrates this skill	Resources/support required
(8) Manage and maintain a procedure for the control of contractors and visitors	• Document or arrange to have documented a procedure covering hygiene practice for visitors and contractors when on the premises. • Implement company procedure on hygiene practice for visitors and contractors when on the premises. • Ensure: - all relevant personnel are aware of and follow the procedure - an adequate supply of clean protective clothing is available for visitors and contractors. • Take appropriate corrective action when the procedure is not followed.	• When accompanying visitors through the premises ensure that good hygiene practice is demonstrated by all.
Structural Hygiene		
(9) Identify or report structural deficiencies in the food operation	• Request and ensure: - workflow does not contribute to food contamination - appropriate changes are made to the process(es) that may give rise to cross contamination of product(s) - facilities required for staff and customers are provided - materials and design features for the premises and equipment are suitable for the food operation - adequate services are provided and that they are designed, installed, maintained and controlled so as to avoid the risk of food contamination e.g. water, ventilation, drainage, waste disposal, lighting, power etc. - the premises is maintained on a regular basis to facilitate effective cleaning, pest proofing etc.	• All legal requirements for the construction and design of a food premises should be met. • Identify and meet legal requirements for the layout, design, construction and size of a food premises (Ref: Relevant legislation). • Provide resources: - to ensure that the lay-out, design, construction and size of a food premises requirements are met - for a planned maintenance programme.

FOOD SAFETY SKILLS FOR MANAGEMENT - TABLE OF FOOD SAFETY SKILLS (CONTINUED)

Food safety skill	How management demonstrates this skill	Resources/support required
(10) Manage and maintain an effective pest control system	• List the types of pests that pose a threat to the particular food operation. • Explain the role of pests in the spread of disease. • Recognise the signs of a pest infestation. • Request and/or ensure: - the premises is adequately pest proofed - access to bait points is maintained at all times - pest control programme for the premises is adequate - the service requested is provided - a procedure is in place for dealing with a pest infestation and that all relevant personnel are aware of it - the pest control company provides a written report on completion of visit - appropriate corrective action is taken when the pest control programme is inadequate.	• Premises design, structure and condition of repair should facilitate the effective control of pests and prevent their access to the food operation. • Provide resources for - maintaining an effective pest control system - training in-company staff providing pest control service. • Maintain a copy of the service requested from the pest control service provider. • Maintain a copy of the material safety data sheets from the pest control service provider. • In the event that the pest control programme is unsatisfactory review and amend the service agreement or obtain an alternative pest control contractor. • Note: Appendix 6 provides additional information on pest control.

FOOD SAFETY SKILLS FOR MANAGEMENT - TABLE OF FOOD SAFETY SKILLS (CONTINUED)

Food safety skill	How management demonstrates this skill	Resources/support required
(11) Manage and maintain a satisfactory waste disposal system	• Allocate designated areas for external/internal waste containers. • Ensure: - a sufficient number of waste containers are available and that they are emptied regularly - external waste containers are covered and separate from food storage and preparation areas - internal waste containers are not stored in food storage areas - waste storage areas are kept clean - waste contractor provides satisfactory service as per agreed service request. • Where the waste disposal service is inadequate take appropriate corrective action. • *Where appropriate:* - train staff in waste disposal of animal by-products e.g. Specified Risk Material (SRM) as per relevant legislation - ensure staff dispose of animal by-products in accordance with legal requirements.	• Maintain a copy of the service requested from the waste disposal service provider. • In the event that the service provided is unsatisfactory review and amend the service agreement or obtain an alternative service provider.

FOOD SAFETY SKILLS FOR MANAGEMENT - TABLE OF FOOD SAFETY SKILLS (CONTINUED)

Food safety skill	How management demonstrates this skill	Resources/support required
Food Safety Operations		
(12) Manage and maintain an effective cleaning programme	• Outline the benefits of cleaning. • Describe the cleaning programme in use in the food operation. • Ensure: - cleaning schedules are available for each piece of equipment/fitting and area and followed by staff - staff are trained so they can clean effectively and safely - the cleaning process does not contribute to product contamination - cleaned equipment/fittings and areas are checked after cleaning and cleaning records are signed off by a responsible person - that areas/equipment that are not cleaned to a satisfactory standard are re-cleaned. • *Where appropriate* provide separate staff for cleaning. • Monitor the effectiveness of the cleaning programme in removing dirt and preventing the growth of bacteria by inspection and/or by use of microbiological or equivalent test(s) e.g. bioluminescence. • Review the cleaning programme on a regular basis e.g. change of detergent type or supplier, unsatisfactory cleaning results etc.	• Provide a detailed cleaning programme relevant to the food safety operation. • Ensure the cleaning programme is available to employees in their first language. • Provide adequate resources for - the maintenance of the premises - the supply of cleaning materials and personal protective equipment for staff - monitoring effectiveness of the cleaning programme by microbiological or equivalent test(s). • Provide a designated area for storing cleaning chemicals. • Check daily sign-off of cleaning records. • Maintain product specifications and health and safety data sheets for the cleaning agents used in the food operation. • Note: Appendix 6 provides additional information on cleaning.

FOOD SAFETY SKILLS FOR MANAGEMENT - TABLE OF FOOD SAFETY SKILLS (CONTINUED)

Food safety skill	How management demonstrates this skill	Resources/support required
(13) *Where applicable* to their job: ensure food safety during product purchasing	• Implement procedures which ensure that products are purchased from an approved supplier. • Agree product specification with suppliers which meet food safety criteria and ensure that supplies are within specification. • *Where appropriate* create checklists for staff. • Ensure: - records are kept where necessary for the purposes of monitoring supplier performance - non-conformances are documented and reported to the supplier - traceability of all ingredients and food products supplied. • Carry out follow up action with supplier where required. • Where applicable conduct/arrange supplier audits. • Maintain an up-to-date list of approved suppliers. • Ensure an adequate supply of cleaning materials and personal protective equipment are available for staff.	• Maintenance of a supplier approval system based on food safety criteria. • All approved suppliers should have procedures in place that facilitate traceability. • Obtain alternative supplier(s) when non-conformances are not rectified.

FOOD SAFETY SKILLS FOR MANAGEMENT - TABLE OF FOOD SAFETY SKILLS (CONTINUED)

Food safety skill	How management demonstrates this skill	Resources/support required
(14) Ensure food safety during delivery receipt	• Document/arrange to have documented and implement procedures that address the requirements of Level 1 - Induction Skills and Level 2 - Additional Skills during receipt of deliveries. • Ensure: - all staff understand and implement the agreed procedures for ensuring product safety - the necessary equipment is available and in good working order at the goods inwards area e.g. calibrated temperature probes - records are kept of delivery checks and monitored on a daily basis - that staff take appropriate action in event of a non-conformance as per agreed procedure - transfer of food to appropriate storage area on completion of delivery checks - the chill chain is maintained - sufficient cover for early/late deliveries outside working hours - non-conforming deliveries to be held on the premises are placed in the quarantine area and removed within an appropriate time interval. • Follow-up or request and ensure non-conformances are followed up with the supplier. • *Where appropriate* ensure documentation, certification/seals are checked.	• Provide: - support to management in dealings with staff and suppliers to ensure food safety - resources and necessary equipment so staff can implement the agreed procedures - a designated area for holding of non-conforming food.

FOOD SAFETY SKILLS FOR MANAGEMENT - TABLE OF FOOD SAFETY SKILLS (CONTINUED)

Food safety skill	How management demonstrates this skill	Resources/support required
(15) Ensure food safety during storage	• Document/arrange to have documented a procedure which ensures food safety during storage of ingredients and food products and ensure it is implemented. • Ensure: - products and food packaging are stored hygienically - a separate area is available and used for the storage of returned goods - stock rotation is encouraged during storage - calibrated temperature probes in working order are available to staff and that temperatures are monitored and results recorded - appropriate corrective action is taken if refrigeration breaks down - appropriate corrective action is taken if product temperature is not within recommended guidelines - adequate separation of raw and ready-to-eat foods - cleaning chemicals, equipment and protective clothing are stored separately from food.	• Provide: - a clean, pest-free area for product storage with adequate space for separation of raw and ready-to-eat products - resources for equipment where required - adequate refrigeration capacity - storage area for cleaning chemicals, equipment and protective clothing separate from food storage.
(16) Ensure food safety during product preparation	• Ensure food preparation practices minimise the risk of cross-contamination. • *Where appropriate* agree and implement a procedure for thawing frozen foods which ensures food safety. • Ensure: - sufficient number of sinks with potable water supply and adequate requisites for particular use - an adequate amount of equipment/ utensils to facilitate separation and thawing of foodstuffs.	• Identify and provide adequate washing facilities as per legislative requirements.

FOOD SAFETY SKILLS FOR MANAGEMENT - TABLE OF FOOD SAFETY SKILLS (CONTINUED)

Food safety skill	How management demonstrates this skill	Resources/support required
(17) Ensure food safety during cooking/processing /cooling/holding/ service of food	• Ensure: - written procedures that minimise the risk of food contamination during cooking/processing/cooling/ holding and service of food are provided and followed - equipment/utensils are adequate to ensure food safety - staff pre-heat/pre-chill holding/service/display units/plates as appropriate before use - sufficient small service utensils are provided at point of service and that holding/display units are in good working order. • Provide checklists and calibrated thermometers to allow recording of cooking/processing/ cooling/holding times and temperatures and ensure they are monitored daily. • *Where food is reheated* ensure: - it is only reheated once - the method used ensures that it is heated to a core temperature that meets the requirements of the relevant guidelines.	• Provide resources: - to ensure equipment/utensils for cooking/processing/ cooling/holding and service of food which are adequate to ensure food safety - for the maintenance of cooking/ processing/cooling/ holding and service equipment - to obtain the necessary equipment to ensure that cooked food is cooled as per the relevant guidelines.

FOOD SAFETY SKILLS FOR MANAGEMENT - TABLE OF FOOD SAFETY SKILLS (CONTINUED)

Food safety skill	How management demonstrates this skill	Resources/support required
(18) Encourage good hygiene practice during the transportation of food	• Ensure: - separate areas and containers are used for the transportation of raw/ready-to-eat foods and non-food items - transport containers are designed, constructed and maintained to protect foodstuffs from contamination - vehicles are checked for cleanliness before loading food and all spillages cleaned immediately - staff load chilled or frozen product at the correct temperature - delivery vehicle temperature charts are reviewed and appropriate corrective action taken when non-conformances occur. • Implement procedures that ensure free air circulation around chilled and frozen products during transportation.	• Provide resources: - for the maintenance of transportation vehicles - to obtain containers that protect foodstuffs from contamination - for delivery vehicle temperature recorders.
(19) Where applicable to their job: ensure products are labelled correctly	• Ensure: - products are labelled as per relevant legislation requirements - information contained on the label is accurate - labelling equipment is maintained in good working order - staff are aware of the importance of labelling products legally and accurately - staff label products as instructed - product information on bulk product is not lost during decanting/splitting of product - product information notices/labels are clearly legible and visible at the point of sale.	• Provide information on the legal requirements for the labelling of foodstuffs.

FOOD SAFETY SKILLS FOR MANAGEMENT - TABLE OF FOOD SAFETY SKILLS (CONTINUED)

Food safety skill	How management demonstrates this skill	Resources/support required
Food Safety Management		
Note: Some organisations may use specialist assistance/technical advice in order to achieve the following skills. Where this is the case management/supervisors who are working in the food operation must be involved in the decision making process and take ownership for the implementation of these skills so they are able to demonstrate these skills		
(20) Manage and maintain the traceability system within their area of the food operation	• Ensure the traceability system operates satisfactorily within their area of the food operation. • Brief all relevant personnel on the traceability system and their role in its operation. • Ensure the traceability system is tested and reviewed periodically.	• Further information on traceability is provided in Guidance Note No. 10 Product Recall and Traceability (Food Safety Authority of Ireland, 2002)
(21) Recognise the significance of product threats/tampering for the consumer	• Explain why product threats and tampering are an issue. • Establish a procedure for staff to follow if they find foodstuffs with a broken seal and ensure that it is implemented. • Ensure regulatory agencies are informed of product threats/ tampering that have potential to cause harm to the consumer.	
(22) Manage/review food safety complaints effectively	• Ensure: - a procedure is in place for dealing with a food safety complaint (as outlined in Level 2, Additional Skills) - all relevant personnel are aware of and follow the procedure for dealing with a food safety complaint. • Take appropriate corrective action on receipt of a customer complaint. • Monitor records of customer complaints and take appropriate preventative action where trends are apparent.	• Where appropriate nominate a specific person to deal with food safety complaints.

FOOD SAFETY SKILLS FOR MANAGEMENT - TABLE OF FOOD SAFETY SKILLS (CONTINUED)

Food safety skill	How management demonstrates this skill	Resources/support required
(23) Implement company procedure for the withdrawal/recall of non-conforming food as required	• Ensure a documented procedure for the withdrawal/recall and destruction of unsafe foodstuffs is available. • Brief all relevant personnel on the withdrawal/recall procedure and their role during a recall/withdrawal. • Ensure - all relevant staff are informed of and comply with all product alerts/recalls - the recall plan is tested and reviewed periodically. • If involved in a recall inform the relevant regulatory agency and/or the FSAI.	• Further information on product withdrawal and recall is provided in Guidance Note No. 10 Product Recall and Traceability (Food Safety Authority of Ireland, 2002)
(24) Take all reasonable steps to ensure the customer is aware of the presence of food allergens	• Identify potential food allergens used in the food operation. • Take all necessary measures in the food operation to prevent cross contamination of food products with "foreign allergens." • *Where applicable* ensure staff are aware of the presence of and effect of food allergens. • Where products containing allergens are labelled ensure the information is clearly available to the consumer.	• Provide staff with information on the potential food allergens in their food operation • Provide customers with information regarding the presence of potential allergens e.g. by using appropriate signage etc.

FOOD SAFETY SKILLS FOR MANAGEMENT - TABLE OF FOOD SAFETY SKILLS (CONTINUED)

Food safety skill	How management demonstrates this skill	Resources/support required
(25) Review and follow up on results from laboratories	• Ensure that: - a programme of tests is developed to meet the food safety needs of the operation - records of tests are maintained for a specified period of time. • *Where appropriate* review and interpret laboratory results. • Take appropriate corrective action where necessary. • *Where appropriate:* - submit follow up samples - ensure that the laboratory used for analysis meets the requirements of your local enforcement officer.	• It is best practice and a legal requirement in some sectors, to develop a programme of tests to verify the safety of raw materials and products, the efficiency of cleaning programmes etc.
(26) Demonstrate an awareness of the legislative requirements relating to their business	• Explain their food safety responsibilities as an employer and as an employee. • Ensure: - staff being supervised understand their legal responsibility. - compliance with food safety legislation governing their business.	• Maintain copies/provide access to most frequently referenced legislation relating to their operation.

FOOD SAFETY SKILLS FOR MANAGEMENT - TABLE OF FOOD SAFETY SKILLS (CONTINUED)

Food safety skill	How management demonstrates this skill	Resources/support required
Note: An effective pre-requisite programme that addresses the general rules and requirements relating to food hygiene must be in place prior to implementing a food safety management system (based on HACCP principles). Further information on pre-requisite programmes is available in Food Safety Management incorporating Hazard Analysis and Critical Control Point I.S. 343:2000 published by the National Standards Authority of Ireland.		
(27) Implement and review the food safety management system (based on HACCP principles)	• Ensure an effective pre-requisite programme that addresses the general rules and requirements relating to food hygiene is in place. • Describe the benefits of operating a food safety management system. • Ensure the food safety management system meets all food legislation requirements for their particular sector of the industry. • Identify/recognise the potential hazards associated with the food operation and assess the likelihood of their occurrence. • Determine the critical control points and critical limits in the food operation. • Validate the effectiveness of the critical control points. • Verify the effectiveness of the food safety management system. • Ensure: - staff are aware of the critical control points in their area - critical control points are monitored and records are maintained - appropriate corrective action is taken where a critical limit is exceeded	• Form a food safety management (HACCP) team which has the knowledge and expertise to identify the hazards associated with the food operation. • Provide resources for: - reviewing the food safety management system - training for internal auditors.

FOOD SAFETY SKILLS FOR MANAGEMENT - TABLE OF FOOD SAFETY SKILLS (CONTINUED)

Food safety skill	How management demonstrates this skill	Resources/support required
	- the food safety management system is audited on a regular basis. • Maintain records of the food safety management system audits. • Review audit reports and ensure that any recommended corrective and preventative action is taken. • Co-operate and assist the food safety management team. • Be aware of emerging food safety threats and take appropriate preventative action.	
(28) ***Where applicable to their job:*** **conduct internal audits**	• Describe the purpose of auditing. • Review relevant documentation and prepare audit checklists. • Interview staff during an audit in a manner which puts them at their ease. • Identify areas where corrective action is required based on evidence. • Discuss non-conformances with all relevant parties. • Record all audits and their findings. • Maintain internal audit records.	• Provide training for staff involved in auditing. • Ensure that time is provided for conducting and following up on internal audits.
(29) Provide assistance to internal and external auditors	• Ensure all staff are aware of their responsibilities during an audit. • Inform staff on the result(s) of an audit. • Take corrective and preventative action in response to issues raised during an audit.	• A member of management should be available to assist an auditor.

FOOD SAFETY SKILLS FOR MANAGEMENT - TABLE OF FOOD SAFETY SKILLS (CONTINUED)

Food safety skill	How management demonstrates this skill	Resources/support required
(30) Provide assistance to enforcement officers	• Ensure: - staff are aware of the role of an enforcement officer - all staff are aware of their responsibilities during an inspection by an enforcement officer. • Provide: - enforcement officers with samples of food when requested - assistance during an outbreak investigation. • Inform staff of the result(s) of an inspection/outbreak investigation. • Take corrective and preventative action in response to issues raised during an inspection/investigation.	• A member of management should be available to assist an enforcement officer during an inspection.
(31) Follow-up on non-conformances with corrective action	• Ensure: - appropriate corrective action is taken when a non-conformance is raised in your area of the food operation - all staff affected are aware of procedural changes as a result of corrective action.	• Provide resources required to address the recommended corrective action.

FOOD SAFETY SKILLS FOR MANAGEMENT - TABLE OF FOOD SAFETY SKILLS (CONTINUED)

Food safety skill	How management demonstrates this skill	Resources/support required
(32) Manage and maintain food safety documentation and records	• Ensure: - all documentation is stored securely in a designated area for a specified time period - records are accessible during audits/inspection - all relevant documentation is provided with equipment e.g. calibration certificate for temperature probe. • Review food safety records on a regular basis. • Emphasise the importance of maintaining accurate records with staff.	• Provide an appropriate storage area for maintaining hygiene and quality records. • Ensure records are retained for periods in accordance with legislative requirements.
Staff Training and Management		
(33) Ensure the food safety training needs of staff are met	• Ensure: - sufficient time and resources are allocated to staff training - staff receive appropriate, relevant training - training records are maintained for all members of staff in the food operation. • Carry out/facilitate a training needs analysis for staff under their supervision. • Document or arrange to have documented a training plan which meets the food safety training needs of staff. • Facilitate employee learning through demonstration of skills and provide food safety instructions to staff that are appropriate in terms of manner, level and pace.	• Provide resources for staff training. • Staff should receive induction training before they commence the work activity. • Staff who require retraining should be supervised until they have been retrained and demonstrated skills to an appropriate level. • Recruitment of supervisors who are committed to food safety and capable of facilitating learning in the work environment. • Suggested training checklists are provided

FOOD SAFETY SKILLS FOR MANAGEMENT - TABLE OF FOOD SAFETY SKILLS (CONTINUED)

Food safety skill	How management demonstrates this skill	Resources/support required
	• Minimise interruptions and distractions during instruction. • Check employees understanding and where required amend instructions. • Provide constructive feedback to employees. • Demonstrate the importance of food safety training in the food operation by leading by example.	in the Guide to Food Safety Training, Level 1 and Level 2 (Food Safety Authority of Ireland) • Note: Appendix 5 provides additional information on food safety training.
(34) Review the implementation of food safety skills by staff	• Ensure staff implement food safety training received. • Support and encourage employees who practise skills demonstrated. • Review employees competence on a regular basis. • Retrain staff where competence is lacking. • Complete and maintain records of supervision of food safety skills/competence.	• Suggested supervision of food safety skills checklists are provided in the Guide to Food Safety Training, Level 1 and Level 2 (Food Safety Authority of Ireland)
(35) Monitor and maintain required standards of behaviour and performance with regard to food safety	• Inform employees of the required standards of behaviour and performance with regard to food safety. • Raise concerns regarding standards of behaviour with regard to food safety with employee/group of employees where applicable. • Take appropriate corrective action when employees standard of behaviour with regard to food safety, falls short of requirements.	• Provide policy in relation to required standard of behaviour with regard to food safety.

FOOD SAFETY SKILLS FOR MANAGEMENT - TABLE OF FOOD SAFETY SKILLS (CONTINUED)

Food safety skill	How management demonstrates this skill	Resources/support required
(36) Establish and maintain effective working relationships with members of staff to ensure food safety	• Discuss food safety related matters with staff. • Communicate essential food safety information to appropriate staff. • Ensure methods of communication and support are suited to the needs of staff.	• Create an atmosphere where management maintain effective working relationships with their staff. • Provide support and assistance to managers/supervisors when dealing with resistance to change.
(37) Encourage the evaluation of food safety related activities	• Ensure work methods and activities are consistent with current legal requirements, codes of practice and agreed working conditions. • Encourage employees to make suggestions as to how systems could be improved. • Provide opportunities for discussion. • Keep up-to-date with changes in legislation and guides to good practice.	

APPENDIX 1 – FOOD SAFETY TRAINING COUNCIL

The Food Safety Training Council (FSTC) was established in December 1999. The council is comprised of representatives from the food industry, enforcement officers from the official agencies responsible for food safety, such as health boards and local authorities, education establishments and training providers.

The purpose of the FSTC is to advise the FSAI on:

- contributing to food safety through training
- agreeing levels of skills required for best practice in food safety in Ireland
- agreeing guidelines for assessing the impact of food safety training in the work environment.

The objectives of the FSTC

To agree levels of food safety skills for employers, managers and employees which will:

- be commensurate with their responsibility and work activity
- be adopted by the Irish food industry, trainers and inspectors
- be used as a basis for assessing the food safety practices in the work environment
- satisfy the requirements of the National Qualifications Authority of Ireland (NQAI) and awarding bodies
- reflect the current and future requirements of Irish legislation
- define the skills required for all possible categories of personnel who can affect food safety in the food industry.

MEMBERS OF THE FOOD SAFETY TRAINING COUNCIL

Organisation	Representative
ADM Londis	Sharon Dormer
Bord Iascaigh Mhara	Catherine Butler
BWG Foods Ltd	Sara Mooney
Catercare Ltd	Brid Fox
Catering Management Association	Helena O'Brien/Ann Casey
Catering Officers Association	Yvonne Dowler
Cavan County Council	Michael Smith
CERT	Denis Tucker
Dublin Institute of Technology	Barbara Delaney/Roisin Burke
Dunnes Stores	Una Crilly
Eight to Twelve	Caroline Small
Environmental Health Officers Association	Colm Smyth
European Catering Association	Sheila Matthews
Excellence Ireland	Carol Halligan
FÁS	Pat Moynihan/John Simon
Further Education Training Awards Council	Roisin Sweeney
Food Safety Authority of Ireland	Cliona O'Reilly/Anne-Marie Kierans
Gala Retail Services	Paul Kiernan
Glanbia Ingredients	Brendan O'Gorman
G.P. Consultants	Grania Peden
Heinz European Frozen and Chilled Foods	Sheila Murphy
Hygiene Management Systems	Michelle Savage
Institute of Food Science and Technology of Ireland	Edel Jones
Institute of Technology, Tallaght	Annette Sweeney
Irish Hotels Federation	Donal O'Meara
Musgrave Retail Services	Paul Ryan
Musgrave Supervalu Centra	Ruth Field
National Childrens Nurseries Association	Teresa Heeney

MEMBERS OF THE FOOD SAFETY TRAINING COUNCIL (CONTINUED)

Organisation	Representative
National Hygiene Partnership	Steven Dudley
O'Briens Irish Sandwich Bars	Maurice Knightly/Siobhan Reid
Paul Boksberger Advisory Service	Paul Boksberger
Pettitts Supermarkets	Eamon Kelly
REHAB Care	Jeremy Ward/Elva O'Grady
Restaurants Association of Ireland	Henry O'Neill/Adrian Holden
SIPTU	Gerry McCormack
Sodexho	Robert Sproule
South Dublin County Council	John Murphy
South Western Area Health Board	Cathy Foye/Breda Flynn
Statoil	Rob McEvoy
Supermacs	Jacinta Dalton
Superquinn	Eileen Morgan
TESCO Ireland	Bill Patterson
The National Food Centre	Ita White/Pat Daly/Maeve Earley
Veterinary Ireland	Sean O'Laoide
Western Health Board	Brendan Lawlor

APPENDIX 2 - EXAMPLES OF FOOD BUSINESSES IN THE RETAIL, MANUFACTURING AND FOOD SERVICE SECTORS

The following is a list of the types of establishments included in the retail, manufacturing and food service sectors.

Manufacturing

All manufacturing or processing establishments.

Retail

Includes all types of food retail activity (sales to the final consumer), particularly supermarkets, vending machines, mail order activities and market stalls, whether indoors or in the open air (but excluding take-away food stalls).

Food Sector

Includes restaurants, canteens, public houses, take-away food outlets and catering facilities in firms, schools, holiday camps and public institutions.

Retail Sector	
Bread shop	Grocery
Butchers	Health food shop
Cake shop	Newsagent/sweet shop
Delicatessen	Off licence
Fishmonger I (raw only)	Soft ice cream
Fishmonger II (mixed products)	Supermarket
Forecourt	Vending machine I (high-risk foods)
Greengrocer	Vending machine II (non high-risk foods)

Food Stalls - Retail	
Chilled foods (high-risk foods)	Passenger ferry (kitchen facilities)
Cooked meats	Rail dining cars (kitchen facilities)
Fish	Raw meat
Fruit and vegetables	

Manufacturing Sector

- Alcoholic drinks
- Baby food
- Bakery
- Caterer
- Cereal products
- Chocolate and chocolate products
- Confectionery (including bakery)
- Cook chill
- Crisps and extruded starch snacks
- Delicatessen foods
- Fish processing
- Fish smoking
- Food additives
- Fruit and vegetable processing I (ready-to-eat)
- Fruit and vegetable processing II (for further cooking)
- Ice-cream
- Jam and jelly
- Meat products
- Milk products
- Oils and fats
- Other fish processing (includes freezing, but not cooking)
- Sandwiches and salads
- Shellfish purification
- Soft drinks
- Sweet/sugar confectionery
- Butcher
- Poulterer

Food Service Sector

- Airline catering
- Army barracks
- Bed and Breakfast
- Canteen
- Cruise liner
- Fast food outlet
- Ferry catering
- Forecourt catering
- Golf clubs
- Guest house
- Grocery
- Holiday camp
- Hospital
- Hostel (serving meals)
- Hotel
- Meals-on-wheels
- Nursing home
- Pre-school I (serving meals)
- Pre-school II (snacks only)
- Prison
- Private club
- Public house
- Rail catering
- Restaurant
- Sandwich bar
- School (serving meals)
- Take-away
- Sports club

Food Stalls - Food Service Sector

- Candy floss
- Caterer
- Chip van
- Ethnic food
- Fast food van
- Ice cream
- Popcorn

APPENDIX 3 - FOOD SAFETY LEGISLATION

How can I keep informed of food legislation updates?

The FSAI has published 'The Compendium of Food Law in Ireland, 2003' which aims to provide a reference point and guidance on the legislation of food in Ireland. The hard copy of the compendium will be updated on an annual basis. Information on legislation changes and updates will be available on a more frequent basis through the FSAI website (www.fsai.ie) and the FSAI newsletter, 'fsainews'.

Where can I get copies of the Legislation?

The Irish Regulations (Statutory Instruments)
Government Publications Office
Sun Alliance House
Molesworth Street
Dublin 2
Tel: 01 647 6000

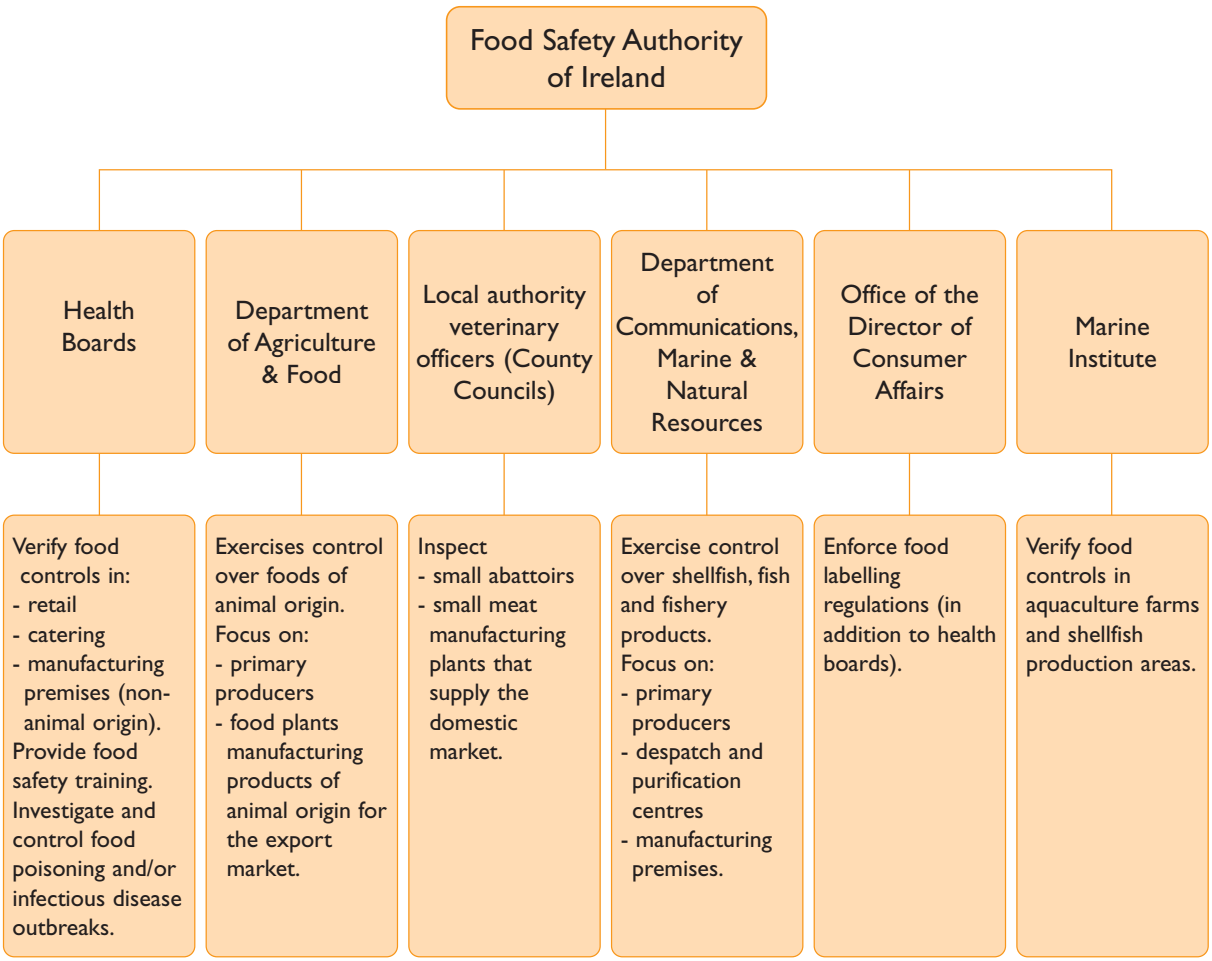
European Legislation
Alan Hanna
270 Lower Rathmines Road
Dublin 6
Tel: 01 496 7399

APPENDIX 4 - WHO ENFORCES FOOD SAFETY LEGISLATION ?

The FSAI, health boards, Department of Agriculture and Food, Department of Communications, Marine and Natural Resources, local authorities and Office of the Director of Consumer Affairs all have a role in the enforcement of food safety legislation.

The principal function of the FSAI is to take all reasonable steps to ensure that food consumed, produced and marketed in the State meets the highest standards of food safety and hygiene. The FSAI has entered into a service contract with 47 official agencies who act as official agents of the FSAI in the enforcement of food safety legislation.

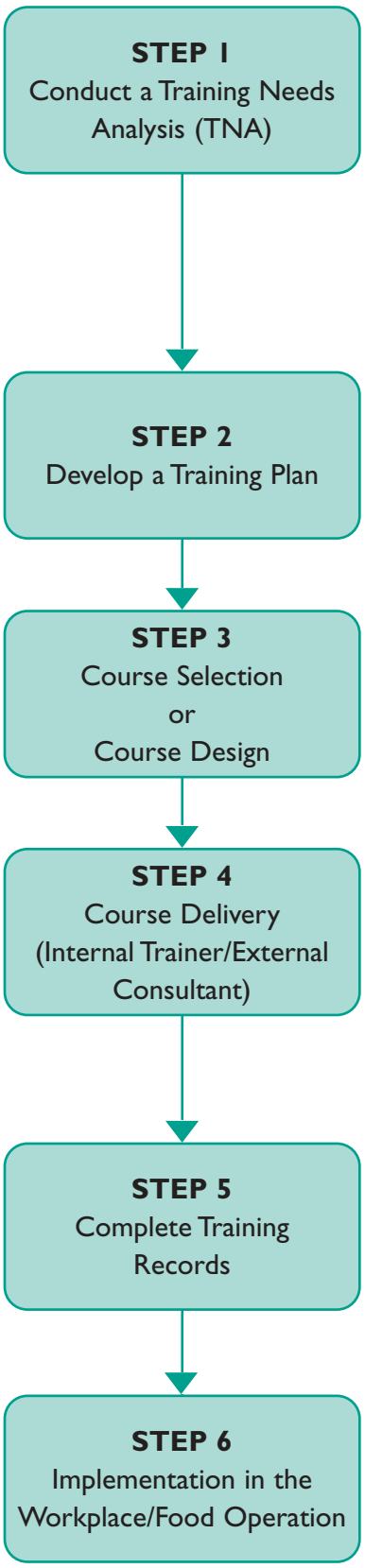
What are the areas of responsibility of these official agencies?



Note: *It is the responsibility of the food industry to:*

- *comply with the law*
- *produce safe food.*

APPENDIX 5 - HOW DO I DECIDE ON THE TRAINING MY STAFF AND I REQUIRE?



STEP 1 The Training Needs Analysis:

1. defines - the training needed
   - who should be trained
   - training programme scope and purpose
   - training programme content
2. aims to incorporate training into long-term company plans
3. identifies the resources required to provide the training
4. demonstrates commitment to training of employees.

STEP 2 The Training Plan outlines:

- who needs to be trained
- the training they require
- when the training will be done.

Examples of a training plan are given on page 39

STEP 3 Course Selection or Course Design

A course that addresses the identified training need(s) is selected or designed. This may be done by a member of the management team who has the necessary skills and knowledge or by an external training provider.

STEP 4 Course Delivery

The training course can be delivered by a member of the management team who has the necessary skills and knowledge or by an external training provider.

Guidance on what to look for when employing a training provider is on pages 41 and 42

STEP 5 Complete Training Records

Once the course has been completed a training record should be completed and signed by both the course attendees and the trainer.

A Sample Training Record is on page 40

STEP 6 Implementation in the Workplace

Once the course has been completed the knowledge gained must be implemented in the food operation. Management have a key role in encouraging the implementation.

Available Training Courses

There is no single specific food safety training course that managers/supervisors must/should attend. There are numerous courses available for Basic Food Hygiene and Advanced Level Food Safety, however, there are only a few courses for management level. As a service to industry the FSAI has compiled a trainer's database which lists some of the food safety training courses and training providers in Ireland.

Note: *This listing is not comprehensive or should not be interpreted as a recommendation or endorsement for any of the listed courses or training providers. The trainer's database is available on the FSAI website www.fsai.ie or through the Industry Advice Line on 1890 336677*

Sample Training Plan 1

Insert staff member's name

Name: _____

Record the date the staff member started working for you

Date Commenced Work _____

Training required	Date training to be completed by	Date training was completed
Induction Level Training Stage II	Within 1 month of commencing employment	12 May 2003

Record the training required here

Record the date the staff member started working for you

Sample Training Plan 2

Type of Training: Additional Skills Level / Training (as per Training Guide Level 2 – Additional Skills)

Employees name	Date commenced employment	Date training required by	Date training was completed

Insert staff member's name

Record the date by which the staff member should be trained

Record the date the training was completed

Note on Training Plans

There is no specific format for a training plan. When you draw up a plan for your organisation you may decide to include additional company training requirements.

Sample Training Record

Insert trainee's name

Insert area of responsibility

Name: _____ **Area of Work:** _____

Date Employment Commenced: _____

Date	Training completed	Employee's signature	Trainers/Supervisor's signature

Insert date of training

Insert training completed

Employee to sign here

Trainer to sign here

Training Records

Training records document the level of food safety training completed by staff members. There is no correct format for a training record; however it should be signed by those who have attended the training course/session in addition to the trainer and/or manager (supervisor).

Who should I get to deliver the selected training programme?

Companies have traditionally used an external training provider to provide food safety training in their organisation. Many food businesses are now looking to build competence within their organisation by equipping management with the necessary knowledge and skills to provide their staff with the required training. If management are to fulfil the role of trainer, they must have a background in food safety (successful completion of a Food Safety Management Course/Advanced Food Safety Course), knowledge of how people learn and adequate training skills. Outlined below are a few tips to assist you when deciding whether to use in-house personnel or an external training provider:

a) **Do they have an appropriate qualification?**
The person delivering the requested service should have an appropriate level of technical knowledge. Relevant experience in the food industry may be of benefit when addressing issues in your food operation.

b) **What type of follow up support will they provide?**
The success of training depends on how it is implemented in the workplace. Post training follow up is beneficial as it assists in the implementation of the knowledge and helps clarify any issues that have arisen since the training was provided. One benefit of having an in-house trainer is that they can support and encourage the transfer of knowledge to the workplace on a continuous basis.

c) **Do they encourage management participation?**
Proprietors/managers should be familiar with and have ownership of their food safety training programme, it is important that the trainer and management work together to ensure that all food safety aspects relating to their business are addressed in the course.

Additional considerations if selecting an external consultant

a) **Is the training provider interested in identifying your company's specific needs?**
Are they willing to spend time with you, listen to you and explain the best method of meeting your requirements?

b) **How will the training provider assess your training needs? Will they:**
- visit your company - are you happy they will visit for the right reasons e.g. assess your current practices etc?
- meet with key representatives - what do they want to achieve by doing this?

c) **Will they adapt their material and delivery method to meet your needs?**
The success of the training provided is dependent on how relevant the materials and delivery method are to your company.

d) **Are they willing to show you some of their training aids or previous work?**
This will give you an indication of the quality of work you can expect to receive. It also allows you to assess whether the training provided is generic, or tailored to suit your needs.

e) **What do some of their previous clients say about them?**
Talking to some of the trainers previous clients will inform you of the quality of the service you may receive. It must however be kept in mind that the success of the service is dependent on the consultant's and your company's input.

Note: *It is advisable that you contact a number of training providers and discuss your requirements with them. This discussion will enable you to make an informed decision on your choice of trainer. The ability of the trainer to meet your expectations is dependent on both parties having a clear understanding of the desired outcome.*

Assisting the delivery of training

The food industry employs an increased number of non-national employees who due to language barriers may be at a disadvantage in a conventional training situation. The FSAI has compiled a database of 'Food Safety Training Materials in Foreign Languages' which is available on the FSAI website at www.fsai.ie.

This database provides information on food safety training materials, including publications, videos, posters, translation services and useful website addresses. The database gives a brief description of the item, the language(s) it is available in and where it is available from (company name, contact details).

This document is merely intended to provide information and is not an endorsement or recommendation for any or all of the training materials listed. It does not purport to be comprehensive or to constitute legal or other professional advice.

Inspection of food safety training

Enforcement officers may assess food safety training when conducting a food safety inspection in your premises. They may observe hygiene practice and verify the food safety knowledge of staff. They may also enquire as to whether you maintain food safety records or ask about the food safety training that has been provided.

APPENDIX 6 - WHAT SHOULD I EXPECT FROM SERVICE PROVIDERS?

Cleaning Chemical Supplier

The cleaning chemical supplier should have:

- a knowledge of your food operation and the range of cleaning chemicals suited to the premises and equipment to be cleaned
- a knowledge of the appropriate health and safety legislation and requirements
- the expertise and ability to conduct an audit to determine cleaning needs
- the time to demonstrate the use of the product(s) to obtain maximum benefit
- the ability to provide relevant, easy to understand documentation (Health and Safety data sheets, Product Specifications, Cleaning Schedules, Cleaning Records etc.)
- the ability to replace non-conforming stock.

Pest Control Service Provider

Those involved in pest control should be fully trained and ensure that their actions do not contribute to contamination of food.

The Pest Control Service Provider should provide:

1) a complete survey of the premises to determine the level of service you require

2) the contract for the service outlining:
   - the frequency of the inspection (the number of scheduled visits per year)
   - contact details in case of an emergency

3) a plan of the bait point locations throughout the site

4) information on the pesticides/ rodenticides used for pest control treatment and the relevant Material Safety Data Sheets (MSDS).

5) a written report on each visit detailing any necessary recommendations regarding proofing, waste disposal or cleaning.

Note: *In order to obtain the best value from the service provider:*

- *accompany the service person throughout their visit and*
- *rectify recommended corrective actions immediately.*

Laboratory services

There are many independent laboratories who will conduct microbiological/chemical analysis. Some things to consider when selecting a laboratory are:

1) Does the laboratory have approval/accreditation?
   - is the laboratory accredited by a recognised accreditation body e.g. Department of Agriculture and Food, the National Accreditation Board (ILAB) and
   - what range of analysis is included in their accreditation scope?

2) Does the laboratory have experience with food samples/food industry?

3) Location in relation to your premises? Does the laboratory provide a collection service or have they a storage area for products to maintain the chill chain? (Perishable foods undergoing microbiological analysis should be received in the laboratory within 24 hours of sampling at the correct temperature).

4) Technical Support
   Will the laboratory provide you with support/assistance in interpreting the results obtained?

APPENDIX 7 - CODES OF PRACTICE/GUIDANCE NOTES/REPORTS AND STANDARDS

Numerous guides and standards have been published by various agencies to assist the food industry in implementing legislative requirements. This appendix lists the Codes of Practice and Guidance Notes published by the FSAI and the National Standards Authority of Ireland (NSAI).

• Food Safety Authority of Ireland

Title	Description
Codes of Practice	
Code of Practice No. 1 The Risk Categorisation of Food Businesses to Determine Priority for Inspection.	Classifies food businesses according to their risk category for determining priority for inspection. Applies to all food businesses covered under the European Communities (Hygiene of Foodstuffs) Regulations, 2000 (S.I. No. 165 of 2000)
Code of Practice No. 2 The Inspection of Food Operations run by Health Boards	To ensure that health board premises are inspected to the same standard as private operators. Applies to all premises run by/on behalf of health boards.
Code of Practice No. 3 The Risk Categorisation, Inspection and Sampling Frequencies of Meat Manufacturing Premises Producing Solely for the Domestic Market.	Outlines the risk categorisation, inspection and sampling frequencies for meat manufacturing premises producing solely for the domestic market. Applies to all food businesses that supply the domestic market and covered by the meat legislation as detailed in this Guidance Note.
Code of Practice No. 4 Food Safety in the Fresh Produce Supply Chain in Ireland	A practical guide to best practice in all sectors of the Irish fruit and vegetable industry, designed to minimise the risk of foodborne illness resulting from consumption of fruit and vegetables. It provides information on general hazard control, prepared vegetable safety, retail sale of fresh produce and microbiological safety of sprouted seed production.

Title	Description
Guidance Notes	
Guidance Note No. 1 The Inspection of a Food Business	Aims to establish a consistent approach within the environmental health service when conducting food safety inspections of food businesses for their compliance with statutory controls and/or relevant accepted Codes of Practice/Guidance Notes. Applies to environmental health officers carrying out food safety inspections.
Guidance Note No. 2 The EU Classification of Food	Provides information to standardise the recording of the particulars of a foodstuff submitted for testing by an authorised officer to the official laboratories. Applies to enforcement officers in the official agencies.
Guidance Note No. 3 The Interpretation of Results of Microbiological Analysis of Some Ready-to-Eat Foods Sampled at Point of Sale	Provides a guideline on microbiological levels for ready-to-eat foods. Does not have a legal standing as the microbiological criteria listed are not statutory standards.
Guidance Note No. 4 Approval and Operation of Independent Meat Production Units under E.C. Meat Legislation, Meat Products, Minced Meat and Meat Preparations	Aims to assist businesses involved in the processing of meat and or meat products with their application for registration/approval and subsequent supervision. The premises come within the scope of the following meat regulations: • European Communities (Fresh Meat) Regulations, 1997 (S.I. No. 434 of 1997) • European Communities (Minced Meat and Meat Preparations) Regulations, 1996 (S.I. No. 243 of 1996) • European Communities (Meat products and Other Products of Animal Origin) Regulations, 1995 and 1997.
Guidance Note No. 5 The Approval and Operation of Independent Meat Production Units under EC Fresh Meat Legislation	Aims to assist businesses involved in the processing of fresh meat with their application for registration/ approval and subsequent supervision. The premises come within the scope of the European Communities (Fresh Meat) Regulations, 1997 (S.I. No. 434 of 1997)

Title	Description
Guidance Notes (continued)	
Guidance Note No. 6 The Implementation of European Communities (Infant Formulae and Follow-on Formulae) Regulations, 1998 to 2000	Provides regulatory authorities, industrial manufacturers, marketing organisations, health professionals and other interested parties with guidance on the operation of the rules governing the composition and marketing of infant formulae and follow-on formulae as provided for in the European Communities (Infant Formulae and Follow-on Formulae) Regulations, 1998 to 2000).
Guidance Note No. 7 The Labelling of Fish and Aquaculture Products according to Council Regulation (EC) No. 104/2000 and Commission Regulation (EC) No. 2065/2001	Gives guidance on the consumer protection concerns of Council Regulation (EC) No. 104/2000 and Commission Regulation (EC) No. 2065/2001. It details the labelling and packaging requirements for fishery and aquaculture products and the traceability of such products.
Guidance Note No. 8 The Implementation of Food Safety Management Systems in Beef and Lamb Slaughter Plants based on HACCP Principles.	Provides clear and simple guidance for all individuals and organisations operating in the primary red meat processing sector, assisting them in addressing their fundamental challenge of producing consistently safe food.
Guidance Note No. 9 Flavourings Legislation in Ireland	Aimed at the food industry and enforcement officers. It seeks to clarify issues surrounding flavourings, the legislation regulating them and outlines future development in this area.
Guidance Note No. 10 Product Recall and Traceability	Aims to clarify and standardise procedures for the identification and removal of unsafe foodstuffs from the food chain.
Guidance Note No. 11 Compliance with Regulation 4.2 of the European Communities (Hygiene of Foodstuffs) Regulations 2000 (S.I. 165 of 2000)	Provides a consistent approach within the environmental health service towards the assessment of compliance with Regulation 4.2. It is intended that this document is used in conjunction with Guidance Note No. 1 Inspection of a Food Business 2001. **Note:** this Guidance Note is only available on the FSAI website.

Title	Description
Guidance Notes (continued)	
Guidance Note No. 12 The Inspection of Food Safety Training and Competence	Aims to establish a consistent approach to the: (i) inspection of the training and competence of operative staff dealing with food (ii) provision of advice to food businesses in relation to staff training.
Guidance Note No. 13 Use of Enforcement Powers Under the Food Safety Authority of Ireland Act, 1998	Describes the provisions in the Food Safety Authority of Ireland Act, 1998 that relate to enforcement and the procedures that must be followed when the provisions are used. The aim of this Guidance Note is to ensure that the enforcement powers are used consistently across all the official agencies in a manner that is fully compliant with the legal requirements of the Act. This document also aims to assist in informing the food industry of its responsibilities and rights when the agencies use the enforcement powers.
Reports	
The Labelling of Food in Ireland (2002)	This report provides a summary of the requirements for the labelling of foods in Ireland. Among the topics included in this document are: an introduction to Irish and European law, introduction to labelling, general labelling requirements, nutrition labelling, claims on food, novel foods and genetically modified foods, organic food, labelling requirements for specific commodities, miscellaneous labelling rules and enforcement of the labelling regulations.
Control of *Campylobacter* species in the Food Chain (2002)	Aims to: • highlight issues regarding the control and prevention of human exposure to infection with *Campylobacter* species throughout the food chain in Ireland. • summarise existing knowledge and recommend additional measures to reduce the risk of human infection.

Title	Description
Reports (continued)	
Legislation, intake and usage of food additives in Ireland (2001)	Aimed at the food industry and seeks to clarify issues surrounding food additives including their function, use, possible implications for the health and the legislation by which they are regulated.
The Prevention of *E.coli* O157:H7 infection - A Shared Responsibility (1999)	Gives an insight to the preventative measures that must be in place at each stage of the food chain and their relative priority.
Guides to food safety training	
Guide to Food Safety Training -Level 1 - Induction Skills	Outlines the standard of food safety training which must be demonstrated by food handlers and non-food handlers who can affect food safety at the induction stage of employment.
Guide to Food Safety Training - Level 2 - Additional Skills	Outlines the standard of food safety training which must be demonstrated by food handlers and non-food handlers within 3-12 months of commencing employment.
Guide to Food Safety Training - Level 3 - Management Level	Outlines the standards of food safety training to be demonstrated by all managers and supervisors who are: • involved in decision making that may impact on food safety and/or • responsible for influencing staff attitudes and behaviour in the food operation.

All FSAI publications are available through the FSAI Industry Advice Line on 1890 336677 or on the website www.fsai.ie

• National Standards Authority of Ireland Standards

The National Standards Authority of Ireland (NSAI) facilitates the development of voluntary standard documents which manufacturers or service providers may use to assist in meeting safety or consumer requirements. Listed below are the Irish Standards (I.S.) relating to food safety. Copies of these Standards and a complete list of their publications are available from the NSAI, 42-44 Northumberland Road, I.L.I. Standard Distributors, Ballsbridge, Dublin 4. Tel: 01-8576730/8576731

Number	Title of Standard	Description
I.S 343:2000	Food Safety Management incorporating Hazard Analysis and Critical Control Point (HACCP)	Defines a specification for a Food Safety Management System incorporating HACCP. Provides a nationally agreed template that can be used for designing and developing an auditable food safety management system.
* I.S 341:1998	Hygiene in Food Retailing and Wholesaling	A guide to good hygiene practice which meets the requirements of the EU Council Directive 93/43/EEC on the hygiene of foodstuffs. Applies to all permanent food retailing and wholesaling outlets including butcher shops, fish mongers and those outlets which have in store processing facilities.
* I.S 342:1997	Guide to Food Hygiene Practice for the Food Processing Industry	A guide to good hygiene practice, which meets the requirements of Council Directive 93/43/EEC on the hygiene of foodstuffs and applies to all food processing companies, with the exception of meat, fish and dairy sectors.
* I.S 340:1994	Hygiene in the Catering Sector	Identifies specific requirements that must be met by the caterer to ensure the food they serve is safe, sound and wholesome. It only addresses how to prevent microbiological contamination in the catering industry.
* I.S 3219:1990	Code of Practice for Hygiene in the Food and Drink Manufacturing Industry	Defines the hygiene requirements and controls that are required by food and drink manufacturing companies to comply with good manufacturing practices and assure product safety.
I.S. 344:2002	Hygiene for Domestic-Scale Food Production	Defines the hygiene requirements for food producers who work on a domestic scale in premises used primarily as a dwelling house, who prepare or produce food for sale or supply to the public.

*** Note:** these guidelines are currently undergoing review.

APPENDIX 8 - USEFUL PUBLICATIONS AND WEBSITES

The following publications may provide beneficial information on food safety issues. The listing below is not comprehensive and should not be interpreted as a recommendation.

Note: *The legislation and temperature requirements in the English/American publications may be different to the Irish legislation.*

Books

Title and Author	Description	Publisher *
Hygiene for Management - Focus on Food Safety *R.A Sprenger*	Provides information on all aspects of food safety including operational hygiene, personal hygiene, structural hygiene and food safety management.	Highfield Publications "Vue Pointe" Spinney Hill Sprotborough Doncaster South Yorkshire England
Food Safety for Supervisors - *Chartered Institute of Environmental Health*	Provides information and advice relevant to any food operation. Divided into three sections this text provides an introduction to food safety, potential food safety hazards and methods of preventing product contamination.	Chartered Institute of Environmental Health, Chadwick Court, 15 Hatfields, London SE1 8DJ England.
Managing Food Safety - *Dagmar Engel, Donald MacDonald and Claire Nash*	Designed for managers and potential managers with responsibility for some or all aspects of food safety in any sector of the food industry.	Chartered Institute of Environmental Health, Chadwick Court, 15 Hatfields, London SE1 8DJ England.
Intermediate Food Hygiene - *R.A. Sprenger*	Provides information on microbiology, food contamination and its prevention, food poisoning and foodborne diseases, personal hygiene, food storage and temperature control, food spoilage and preservation, design and construction of food premises and equipment, cleaning and disinfection, pest control and supervisory management.	Highfield Publications "Vue Pointe" Spinney Hill Sprotborough Doncaster South Yorkshire England

Title and Author	Description	Publisher *
Food Hygiene, Microbiology and HACCP - *S.J. Forsythe and P.R. Hayes*	Provides information on microbiology, food poisoning and other foodborne hazards, food spoilage, microbiological analysis methods, factory design and construction, factory layout, equipment design, HACCP and product quality, cleaning and disinfection, hygiene and training of personnel and food safety programmes are among the topics included.	Aspen Publications Inc., 200 Orchard Ridge Drive, Gathersburg, Maryland, U.S.A.
Hygiene Management in Food Factories - *Paul Thomas*	Provides information on microorganisms and microbial growth, detergents and disinfection, cleaning and the monitoring of hygiene standards.	Chadwick Group Limited, Chadwick Court, 15 Hatfields, London SE1 8DG, England.
Introduction to Hygiene in Food Processing - *Tim Hutton*	Provides an overview of hygiene in food processing. Topics discussed in this book include premises and services, equipment design, hygienic practices, cleaning, disinfection and Hazard Analysis and Critical Control Points (HACCP).	Campden and Chorleywood Food Research Association Group, Chipping Campden, Gloucestershire GL 55 6LD, England
Essentials of Food Sanitation - *Norman G. Marriott*	Provides information on the importance of food hygiene, basic microbiology, food contamination, personal hygiene and good work habits, cleaning, sanitation, waste disposal, pest control, quality assurance programmes, Hazard Analysis and Critical Control Points (HACCP) and how management affects sanitation. In addition there are several chapters that take a step-by-step look at sanitation in different food processing, food production and foodservice operations.	Chapman & Hall, 115 Fifth Avenue, New York, NY 10003, U.S.A. OR Chapman & Hall, 2-6 Boundary Row, London SE1 8HN, England

Title and Author	Description	Publisher *
Food Hygiene for Food handlers - *Cathal Kearney*	Details the precautions food workers need to know to enable them to practise good food hygiene. Provides information on why food hygiene is important, food contamination, food poisoning, food purchase, delivery, storage and preparation, personal hygiene, design	Environmental Health Officers' Association 39A Main Street Bray Co. Wicklow Ireland
Food Law		
Food Safety and Product Liability - *Raymond O'Rourke*	Provides information on the development of food legislation in the UK and Ireland and deals with matters relating to food production, manufacture and distribution.	Customer Sales and Enquiries, Palladian Law Publishing, P.O. Box 2979, Poole, Dorset BH12 3YS, England
European Food Law - *Raymond O'Rourke*	Provides information on food law, and issues such as the response to BSE and dioxin contamination, producer responsibility and liability for defective products.	Customer Sales and Enquiries, Palladian Law Publishing, P.O. Box 2979, Poole, Dorset BH12 3YS, England
Food Safety: Essential Facts - Round Hall Professional Publishing	Among the topics addressed in this publication are Irish and European Law, Hygiene, HACCP, Enforcement, Food Safety Audits, Genetically Modified Foods, Food Labelling, Product Liability, Standards, Accreditation and Crisis Management.	Round Hall Professional Publishing 43 Fitzwilliam Place Dublin 2

Title and Author	Description	Publisher *
Food Safety Management and HACCP		
Good Manufacturing Practice, A Guide to Its Responsible Management – *Institute of Food Science and Technology (UK)*	Outlines the responsibilities of managers in relation to the efficient manufacture and control of food and drink products. Among the topics that it provides advice for management on are: • matters that affect product safety • product manufacture and handling under hygienic conditions • training of personnel • documentation • premises and equipment and • laboratory management	Institute of Food Science & Technology UK, 5 Cambridge Court, 210 Shepherd's Bush Rd., London W6 7NJ, England
HACCP User's Manual - *Donald A Corlett*	Provides an introduction to HACCP, background, procedures for HACCP plan development, and procedures for HACCP plan implementation and auditing.	Aspen Publications Inc., 200 Orchard Ridge Drive, Gathersburg, Maryland, U.S.A.
A Guide to HACCP - Hazard Analysis for Small Businesses - *Donald J. MacDonald and Dagmar Engel*	Provides information on: • the benefits of HACCP • a practical approach to HACCP • the practical application of hazard analysis and control in a range of small food businesses including retail shops, bakers and catering establishments.	Highfield Publications "Vue Pointe" Spinney Hill Sprotborough Doncaster South Yorkshire England
HACCP Works: Integrated Food Safety Management for Food Businesses - *Andrew Owen Griffiths*	Outlines the steps involved in planning, implementing and maintaining a food safety management system based on the principles of HACCP.	Highfield Publications "Vue Pointe" Spinney Hill Sprotborough Doncaster South Yorkshire England

Title and Author	Description	Publisher *
Auditing		
Food Hygiene Auditing - *N. Chesworth*	Explains the areas to be inspected during a food hygiene audit. Topics addressed in this book are: food hygiene law (UK), food law in the United States, HACCP and factory auditing, premises design and fabrication, raw materials, process equipment and machinery auditing, personnel hygiene standards, preventative pest control, cleaning and disinfecting systems and management controls.	Blackie Academic and Professional, Chapman & Hall, 2-6 Boundary Row, London SE1 8HN England
After the Inspector Calls - *Richard Short*	A guide on how to respond to an inspection by an environmental health officer/health and safety inspector.	Chadwick Group Limited, Chadwick Court, 15 Hatfields, London SE1 8DG, England
Publications/Newsletters		
fsainews	Features articles on recent food safety issues, provides updates on FSAI projects and an update on food safety legislation. Published bi-monthly.	Food Safety Authority of Ireland Abbey Court, Lower Abbey Street, Dublin 1
Hygiene News	Provides information on current food safety issues.	Excellence Ireland, Merrion Hall Strand Road Sandymount Dublin 4

* Where the publisher contact details are in the UK or USA, the publication may be purchased through a bookstore if the publishers details are given in addition to the publication's title and author. Some of the publisher may have an agent in Ireland, contact details for the Irish agent may be obtained from the publisher.

The website addresses given below may provide assistance when accessing information on food safety and training.

Organisation	Website address
National	
Associated Craft Butchers of Ireland	www.butchershop.org
Bord Bia	www.bordbia.ie
Bord Glas	www.bordglas.ie
Bord Iascaigh Mhara	www.bim.ie
Department of Agriculture and Food	www.agriculture.gov.ie
CERT	www.cert.ie
Department of Enterprise, Trade and Employment	www.entemp.ie
Department of Communications, Marine and Natural Resources	www.marine.gov.ie
EduCater Resources Ltd	www.educater.ie
Enterprise Ireland	www.enterprise-ireland.com
Environmental Protection Agency	www.epa.ie
Excellence Ireland	www.excellence-ireland.ie
Faculty of Food Science and Technology, University College Cork	www.ucc.ie/ucc/faculties/foodsci
FÁS Training & Employment Authority (Ireland)	www.fas.ie/services_to_businesses/food_sector.htm
Food Safety Authority of Ireland	www.fsai.ie
Safefood – The Food Safety Promotion Board	www.safefoodonline.com
Further Education Training Awards Council	www.fetac.ie
Marine Institute	www.marine.ie
National Adult Literacy Agency	www.nala.ie
National Disease Surveillance Centre	www.ndsc.ie
National Hygiene Partnership	www.nhp.ie
National Standards Authority of Ireland	www.nsai.ie
Restaurants Association of Ireland	www.rai.ie
Teagasc - Irish Agriculture and Food Development Authority	www.teagasc.ie

Organisation	Website address
United Kingdom	
Campden and Chorleywood Food Research Association	www.campden.co.uk
Chartered Institute of Environmental Health (UK)	www.cieh.org.uk
Food Standards Agency UK	www.foodstandards.gov.uk
Organisation	Website
Highfield Publications	www.highfield.co.uk
Institute of Food Science and Technology	www.ifst.org
Leatherhead Food International	www.leatherheadfood.com
Roger Greenways Guide to Active Reviewing	www.reviewing.co.uk
Ministry of Agriculture, Fisheries and Food	www.defra.gov.uk
Society of Food Hygiene and Technology UK	www.sofht.co.uk
Other European Sites	
European Food Safety Authority	www.efsa.eu.int
U.S. Sites	
Food and Drug Administration	www.fda.gov/default.htm
Government Food Safety Information	www.foodsafety.gov/~fsg/training.html
Institute of Food Technologists	www.ift.org
United States Department of Agriculture	www.usda.gov/
USDA Foodborne Illness Educations Information Centre	www.nalusda.gov/fnic/foodborne/fbindex/index.htm
Other Worldwide Sites	
Australian New Zealand Food Safety Authority	www.health.gov.au/anzfa/
International Standards Organisation	www.iso.ch
Joint FAO/WHO Food Standards Programme (Codex Alimentarius Commission)	www.codexalimentarius.net/
Our Food Database of Food & Related Sciences	www.ourfood.com/index.html
World Health Organisation	www.who.int/en/

APPENDIX 9 - BACKGROUND INFORMATION ON COMMON FOOD POISONING MICROORGANISMS

The information in the table below is intended to give an indication of the most common sources of bacteria, viruses and parasites. This listing is not exhaustive and the associated foods list does not mean that they are excluded from other food types. The associated foods and sources column is to provide information on potential food sources.

Bacteria

Microorganism	Associated foods and sources	Type of illness	Tips to reduce/minimise the risk
Bacillus cereus	Cereals, grains, rice and rice based products, corn, cornstarch and products containing cornstarch, soya beans and soya products, meat, fish, milk, pasta, vegetables, tofu, dust and soil	Vomiting, abdominal pains and sometimes diarrhoea	• Prevent cross contamination. • Thorough cooking and rapid cooling of food. • Control time- temperature during preparation and holding. • Store in temperature-controlled conditions. • Avoid reheating foods.
Brucella	Milk, dairy products, meat products, intestines of sheep, goats, caribou and dogs	Fever, headache, depression, muscle ache and general weakness	• Ensure correct time-temperature control especially during pasteurisation/sterilisation of milk and milk products. • Observe high standards of hygiene in the food operation.
Campylobacter jejuni	Raw meat and offal, poultry, raw milk, untreated water sources, wild birds, poultry, sheep, cattle, pigs, domestic pets and sewage	Watery and bloody diarrhoea, fever, headache, abdominal pain and nausea	• Ensure correct time-temperature control during pasteurisation/sterilisation of milk and milk products. • Prevent cross contamination. • Observe high standards of personal hygiene. • Use potable water.

Microorganism	Associated foods and sources	Type of illness	Tips to reduce/minimise the risk
Clostridium botulinum	Meat, fish, vegetables, inadequately low-acid foods, home-canned products, vacuum-packed meats and other vacuum packed foods, baked/jacket potatoes not cooked/heated correctly, honey, soil and water	Double vision, difficulty speaking and swallowing, headache, nausea, fatigue, constipation, vomiting, dizziness, muscle paralysis and damage to nervous system. Death is common and recovery of survivors may take several months.	• Ensure adequate cooking temperatures especially in canning and bottling. • Discard blown cans or those with defective seams or holes. • Prevent cross-contamination.
Clostridium perfringens	Cooked meat and poultry, gravy, sauce, spices, foods that have been cooled slowly, human and animal intestinal tract, soil, dust and spices	Abdominal pain, diarrhoea, fever and vomiting are rare. Can be fatal for the elderly and immuno-compromised	• Separate raw and ready-to-eat foods. • Maintain high standards of hygiene. • Cook foods thoroughly. • Cool cooked foods rapidly (within 1.5 hours of reaching 63°C).
Escherichia coli (E. coli)	Meat and poultry, gravy, sauces, spices, foods that have been cooled slowly, human and animal intestinal tract, soil, dust and spices	Diarrhoea, abdominal pain, fever and vomiting are rare. Can be fatal for the elderly and immuno-compromised	• Ensure correct time-temperature control especially during cooking, cooling and reheating of foods. • If reheating food do not reheat more than once. • Prevent cross contamination. • Maintain high standards of hygiene.

Microorganism	Associated foods and sources	Type of illness	Tips to reduce/minimise the risk
E.coli O157:H7	Beef (particularly minced beef) and meat products, unpasteurised milk, drinking water, intestinal tract of cattle and sheep and birds	Fever, vomiting, abdominal pain and diarrhoea. Potential complications include haemolytic uremic syndrome (HUS) which is characterised by kidney failure and loss of red blood cells. Death has occurred in some cases.	• Control time-temperature. • Cook food thoroughly. • Avoid cross contamination. • Observe strict personal hygiene.
Listeria monocytogenes	Raw milk and raw-milk products such as soft cheeses, ready-to-eat foods, cook-chill products, sausages, pate, and raw vegetables, salad vegetables and seafood	Fever, septicaemia, meningitis, nausea. Potential complications are: abortion, premature birth, still birth.	• Maintain good hygiene practice. • Control time and temperature during pasteurisation or sterilisation of milk and milk products. • Prevent cross contamination. • Observe high standards of personal hygiene. • Use potable water. • Observe use-by dates of refrigerated products.
Salmonella	Meat and meat products, poultry, eggs and egg products, milk, poultry, eggs and egg products, raw milk, dairy products, fish and seafood, human and animal intestinal tract, insects, birds, vermin and household pets	Diarrhoea, vomiting, abdominal pain. Can be life threatening for "vulnerable group"	• Observe high standards of personal hygiene. • Control time and temperature in cooking, cooling and reheating of foods. • Prevent cross contamination. • Ensure effective pest control management. • Ensure thorough cooking and thawing of foods. • Exclude pets from the food operation.

Microorganism	Associated foods and sources	Type of illness	Tips to reduce/minimise the risk
Shigella	Milk, eggs and egg products, water, flour, vegetables, fruits, salad vegetables, shellfish, salads and dairy products	Diarrhoea (sometimes bloody), fever, abdominal pain, sever dehydration and sometimes vomiting. Note: the sufferer can excrete *Shigella* for several months after symptoms have stopped	• Control disposal of waste water and sewage. • Observe high standard of personal hygiene. • Observe high standard of operational hygiene. • Ensure effective pest control management. • Exclude infected persons from handling food.
Staphylococcus aureus	Ham, poultry, egg products, dairy products, salads, unpasteurised milk, cream, cheese, nose, skin, throat, hands, hair, boils, sores, septic cuts, burns, wounds and animals	Vomiting, diarrhoea, nausea and abdominal pain.	• Maintain high standards of personal hygiene. • Exclude those with colds and skin infections from working with food. • Control time-temperature especially when cooking, cooling and reheating food.
Vibrio parahaemolyticus	Fish and shellfish including clams, oysters, lobsters, prawns and food from sewage-contaminated marine waters	Vomiting, diarrhoea, abdominal pain and dehydration. Can be life threatening to vulnerable groups	• Buy seafood from approved sources. • Check legal requirements and quality standards for supplies. • Control time-temperature.
Yersinia enterocolitica	Milk and milk products, egg products, raw meat (especially raw pork), vegetables, poultry, vacuum packed products, the environment including soil and water and animals	Diarrhoea, fever, headache and abdominal pain. Potential complications include reactive arthritis and pseudo- appendicitis	• Control time-temperature especially with chilled products, observe high standards of personal hygiene. • Use potable water.

Viruses

Microorganism	Associated food sources	Type of illness	How to reduce/minimise the risk
Hepatitis A	Water, ready-to-eat foods, raw shellfish, raw vegetables, foods prepared by hand, human intestinal tract and faeces	Fever, nausea, vomiting, abdominal pain, liver disease and jaundice	• Ensure high standard of personal hygiene especially with regard to hand washing. • Control time temperature especially when cooking. • Prevent cross contamination.
Norwalk and *Norwalk-like virus*	Raw shellfish, raw vegetables, salads, fruit, water, intestinal tract and sewage contaminated water	Fever, nausea, projectile vomiting, diarrhoea and abdominal pain.	• Observe time-temperature rules especially for cooking. • Avoid cross contamination. • Observe high standards of personal hygiene. • Buy seafood from approved source. • Take care when storing live shellfish.
Rotavirus	Untreated water, raw vegetables, salad vegetables, raw seafood, human intestines and sewage contaminated water	Fever, nausea, vomiting and watery diarrhoea which may lead to watery diarrhoea	• Observe high standards of personal hygiene. • Control time and temperature.

Parasites

Organism	Host(s)	Associated food sources	How to reduce/minimise the risk
Protozoa *Cryptosporidium parvum* *Gardia lamblia*	Humans, mammals, reptiles, birds, rats and beavers	Water, vegetables and fruit that have been washed with contaminated water	• Observe high standards of personal hygiene. • Use potable water. • Dispose of sewage safely. • Cook food thoroughly. • Freeze food below -20°C.
Tapeworms *Taenia saginata* *Taenia solium* *Diphylobothrium latum* *Echinococcus granulosus*	Humans, dogs, cattle, pigs, crustaceans and fish	Beef, pork and fish	• Control time and temperature when cooking and freezing. • Avoid cross contamination and contact with animals. • Control water and air pollution.
Flukes *Fasciola hepatica*	Humans, cattle and water snails	Watercress	• Ensure suppliers of watercress and other water plants obtain produce from reputable sources.
Roundworms *Trichina spirallis*	Humans, pigs and rats	Pork and horsemeat	• Ensure all meat is cooked thoroughly.

Information in the above tables has been sourced from:

Sprenger, R. (2002), Hygiene for Management

Engel, D., et al (2001), Managing Food Safety and

Chartered Institute of Environmental Health,(2000), Food Safety for Supervisors.

Biotoxins

Marine Biotoxins	Toxins	Symptoms – mild cases	How to reduce/minimise the risk
Diarrhetic Shellfish Poisoning (DSP)	Okadaic acid Dinophysistoxins 1,2,3 Pectenotoxins Yessotoxins	Diarrhoea, nausea, vomiting, abdominal pain. In extreme cases chronic exposure may promote tumour formation in the digestive system.	• Once the biotoxin is in the harvesting water there is no way to eliminate it. • Shellfish should only be harvested from "open" area.
Paralytic Shellfish Poisoning (PSP)	Saxitoxins	Tingling sensation or numbness in lips, neck and extremities, headaches, dizziness, diarrhoea, nausea and vomiting. In extreme cases muscular paralysis, respiratory difficulty, choking sensation, death through respiratory paralysis may occur within 2-24 hours.	
Amnesic Shellfish Poisoning (ASP)	Domoic acid	Diarrhoea, nausea, vomiting and abdominal pain. In extreme cases short term memory loss, dizziness, confusion, hallucinations, seizures, death.	
Azaspiracid Poisoning (AZP)	Azaspiracid Azaspiracid-2 Azaspiracid-3	Chills, headaches, diarrhoea, stomach cramps, nausea and vomiting.	

GLOSSARY

Approved Supplier: A reputable supplier of materials or services used in the preparation of a food e.g. a well known established business which you have done business with before.

Audit: An audit is a systematic and independent process of collecting information to determine the effectiveness of a system. An audit can involve inspecting paperwork and actual working procedures.

Bacteria: Single-celled living organisms which cannot be seen with the naked eye e.g. salmonella bacteria.

Calibration: A procedure for ensuring that a known measured output of an instrument such as temperature or weight corresponds to a known national standard value for that property e.g. a temperature probe for a freezer is calibrated to a national standard to have an accuracy of ±2°C. A reading of -20°C would indicate that the temperature in the freezer is between -18°C and -22°C.

Cleaning: The removal of soil, food residues, dirt, grease and other undesirable debris e.g. scrubbing down a food chopping surface.

Cleaning Schedule: A written schedule used to describe all items which must be cleaned and free of soil, food residues, dirt, grease and other undesirable debris. The schedule has details of what (items to be cleaned), who (staff responsible), how (method of cleaning) and when (frequency of cleaning) items must be cleaned. e.g. a meat slicer must be cleaned every day, by the shop assistant by removing all parts and cleaning with detergent.

Control: A process of ensuring that the correct procedures are being followed **(i.e. to control)** and all necessary actions are taken to ensure a food process meets requirements **(i.e. in control)** e.g. the temperature of a beef product is checked to ensure it has reached 70°C for 2 minutes before cooking is stopped and the beef product served.

Corrective Action: The action taken when the monitoring of a critical control point indicates a potential loss of control, or when a critical limit is not met.

Critical Control Point: A step in which control can be applied and is essential to prevent or eliminate a food safety hazard or reduce it to an acceptable level.

Cross-Contamination: The transfer of harmful or potentially harmful micro-organisms (usually bacteria) from contaminated surfaces or foods to other foods either by hand, physical contact, air or contact with food preparation surfaces of food utensils.

Danger Zone: The temperature range within which the greatest multiplication of bacteria is possible (between 5°C and 63°C).

Enforcement Officer: Authorised officer appointed to enforce relevant legislation e.g. environmental health officers (EHOs), sea fisheries officers, veterinary inspectors, dairy produce inspectors.

Food: Includes:

(a) any substance used, available to be used or intended to be used, for food or drink by human persons, and

(b) any substance that enters into it or is used in the production composition or preparation of these substances,

and references to food include, as the context may require, reference to a particular food or class of food. (Food Safety Authority of Ireland Act, 1998)

Foodborne Illness: Illness resulting from infection or intoxication after eating or drinking a food e.g. eating chicken contaminated with Salmonella and getting ill.

Food Operation: All activities in the food business that may have an impact on food safety.

Food Safety Skills: What supervisors/managers must be able to demonstrate in the area of food safety commensurate with their work activity.

HACCP: Hazard Analysis and Critical Control Point (HACCP). A system that identifies evaluates and controls hazards (i.e. dangers) which are significant to a food's safety e.g. a HACCP plan identifies the hazards in the preparation of a cooked chicken sandwich as the growth of Salmonella and sets a CCP as the cooking temperature and time. Careful monitoring of the temperature and time will help to control and prevent Salmonella growth.

Hazards: The potential to cause harm. Hazards (i.e. dangers) may be biological e.g. Salmonella in raw chicken, chemical e.g. detergent in contact with a food product or physical e.g. piece of metal in food product.

Inspection: An internal or external examination of a food, food process or system such as HACCP, in order to establish compliance with specific business, regulatory or legislative requirements e.g. an inspection of a restaurant by an EHO to ensure that hygiene regulations are being complied with.

Modified Atmosphere Packaging (MAP): The replacement of air in a package by one or more gases followed by sealing to prevent the re-entry of air. This process is used to increase product shelf-life or prevent the undesirable discolouration of the product.

Mould: A group of mulitcellular fungi used in the production of foods (e.g. cheese) and also responsible for eth spoilage of some foods (e.g. bread mould).

Non-Conforming Product: Product that does not meet the required standard or specification.

Parasite: A life form that grows and feeds in or on a host life form without contributing to the well-being of the host but not necessarily causing disease e.g. *Trichinella spiralis* is a parasitic worm which causes human illness, commonly associated with eating undercooked pork.

Pathogen: A micro-organism that is capable of causing illness or disease e.g. Salmonella, *E. coli* O157:H7

Potable Water: Water which is fit to drink or use in food preparation and complies with the requirements of legislation (i.e. Statutory Instrument No. 81 of 1988)

Preventative Action: Action taken to prevent a loss of control of a Critical Control Point or prevent the complete breakdown of a piece of equipment e.g. monitoring the temperature of a refrigeration unit may used to indicate if the fridge is functioning incorrectly.

Protozoan: Single-celled organisms that live in moist conditions such as rivers and soil, some of which are pathogenic

Records: Evidence written or otherwise of a working food safety management system (HACCP) and its prerequisites e.g. cooking temperatures, delivery or cleaning records.

Specification: A written document **(i.e. usually between supplier and customer)** which defines the parameters which separates acceptable from unacceptable for a specific ingredient or food product e.g. pre-packed sliced cooked chicken will have a meat content of 90% and be free from all pathogens.

Specified Risk Material (SRM): Material implicated as the location sites of the BSE infective agent in animals. Specific Specified Risk Material tissues are defined in Commission Regulation 270/2002.

Spores: Resistant structures that are developed by some bacteria and have the ability to survive adverse conditions such as heat, chemicals or lack of food. Although bacteria may die under these adverse conditions the spores survive and produce bacteria cells when favourable conditions return.

Temperature Probe: Part of temperature measuring equipment that can be inserted between packs or into a product to obtain temperature readings.

Traceability: The ability of a food business to follow a product batch and its raw materials from the preparation process through to the consumer and backwards to the raw materials suppliers e.g. bar coding products, batch numbers.

Toxin: A chemical (i.e. poison) that will cause illness and may be found in food due to biological, chemical or physical contamination e.g. botulism is a form of food poisoning as a result of the ingestion of botulinum toxin.

Virus: A simple microscopic life form which requires a living host for reproduction and can cause human illness e.g. hepatitis virus in shellfish.

Yeast: A group of single celled fungi used in the production of some foods e.g. beer, wine, bread) and also responsible for the spoilage of foods (e.g. fruit juice, beer, wine).

BIBLIOGRAPHY

1. Council Directive 64/433/EC of 26 June 1964, on health problems affecting intra-community trade in fresh meat. Available from Alan Hannas, 270 Lower Rathmines Road, Dublin 8. Tel: 01 496 7399.

2. Council Directive 71/118/EEC on health problems affecting trade in fresh poultry meat as amended by Council Directive 91/116/EEC on health problems affecting trade in fresh poultry meat. Available from Alan Hannas, 270 Lower Rathmines Road, Dublin 8. Tel: 01 496 7399.

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The FSAI is interested in hearing your views on this training guide. We would appreciate if you would take a few minutes to complete the following:

1. How easy did you find the guide to use?
   (Please tick the appropriate box)

Very easy	Easy to use	Fair	Difficult to use	Very difficult

2. Did you implement any of the information in the guide?
   (Please tick the appropriate box)

Yes		No	

3. Would you like any other information to be included?

Yes		No	

If so, please tick one or more or describe

Training delivery tips		**Sample training records**	
Training aids		**Sample food safety records**	
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4. Additional comments:

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Contact details (optional)

Name: _____ Business Name: _____

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Please return this completed form to: Training Compliance, Food Safety Authority of Ireland, Abbey Court, Lower Abbey Street, Dublin 1. Fax: 01 817 1300

NOTES

NOTES

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