H.A.C.C.P
What is it all about ?

FSL 001

What is H.A.C.C.P.?

HACCP stands for “Hazard Analysis Critical Control Points”. It is a food safety management system. It is not the only one but, since its development for the NASA space program in the 1960’s, it has become the global standard and is now used throughout the world to ensure the production of safe food.

HACCP essentially controls the *process* of food production. However, there are many *environmental* issues which affect food safety. These often apply across the board, regardless of what food is being produced or how it is processed. These issues are referred to as “prerequisites”. This means that, in order to ensure food safety, these matters must all be addressed alongside the processing hazards.

Examples of prerequisites include:

- Structure, layout, design and maintenance of food premises
- Cleanliness
- Pest Control
- Personal Hygiene
- Training

Why do HACCP?

HACCP, as originally devised, is best applied to the production of single food products. It needs modification when applied to catering operations, which involve the production of many different food items at the same time. Nevertheless, the *principles* of HACCP can still be applied to these situations and the food hygiene regulations now require that *all* food businesses other than those involved in primary production, utilise the principles of HACCP in their food safety management. The exact wording of the Regulation is shown below.

REGULATION (EC) No 852/2004 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 29 April 2004 on the hygiene of foodstuffs

Article 5 - Hazard analysis and critical control points

1. Food business operators shall put in place, implement and maintain a permanent procedure or procedures based on the HACCP principles.

2. When any modification is made in the product, process, or any step, food business operators shall review the procedure and make the necessary changes to it.

3. [This Article does not apply to primary production.]

4. Food business operators shall:
(a) provide the competent authority with evidence of their compliance with paragraph 1 in the manner that the competent authority requires, taking account of the nature and size of the food business;
(b) ensure that any documents describing the procedures developed in accordance with this Article are up-to-date at all times;
(c) retain any other documents and records for an appropriate period.

The 7 Principles of HACCP

Principle 1
Identify any hazards that must be prevented, eliminated or reduced to acceptable levels;

Principle 2
Identify the critical control points at the step or steps at which control is essential to prevent or eliminate a hazard or to reduce it to acceptable levels;

Principle 3
Establish critical limits at critical control points which separate acceptability from unacceptability for the prevention, elimination or reduction of identified hazards;

Principle 4
Establish and implement effective monitoring procedures at critical control points;

Principle 5
Establish corrective actions when monitoring indicates that a critical control point is not under control;

Principle 6
Establish procedures, which shall be carried out regularly, to verify that the measures taken are working effectively

Principle 7
Establish documents and records commensurate with the nature and size of the food business to demonstrate the effective application of the measures proposed or taken.

The Principles Explained

Principle 1 – A hazard is anything that can cause harm. The degree of harm it causes will depend on the circumstances and this is what you need to assess. For example – Salmonella is a hazard. One or two Salmonella probably won't make anyone ill, but if circumstances allow them to grow and multiply, then major illness may result.
You need to identify all potential hazards involved in your food production chain and then ask the question "What if…?"

Principal 2 – Some control points are more important than others. A critical control point is one where no further actions or operations later in the chain would remove or reduce the risk present at this stage. For example – pathogenic bacteria are present in raw meat and will grow at room temperature. Keeping raw meat in the chiller is a useful control point. However, it is not a "critical" control point if the meat is to be cooked, as the cooking process (if done correctly) will kill any bacteria present. The cooking operation itself is the "critical" control point as, if this is not done correctly, some bacteria may survive and cause illness. The idea of identifying "critical" control points is intended to focus your attention on the most important safety controls.

Principle 3 – You have to know what your target is before you can say whether you have reached it or not. It is no good specifying "adequate cooking" as a control point without specifying what temperature must be reached or how long the product must be cooked for. It is no good stating that high-risk foods must be kept in the chiller without specifying what temperature the chiller should run at.

Principal 4 – The monitoring procedures will depend on the nature of the control. If cooking is the control, then checking the temperature of the cooked food with a probe thermometer to ensure that the critical limits have been met will be appropriate. If the control is adequate handwashing by staff, then simple observation by a supervisor to make sure all staff do wash their hands in the correct manner may be sufficient.

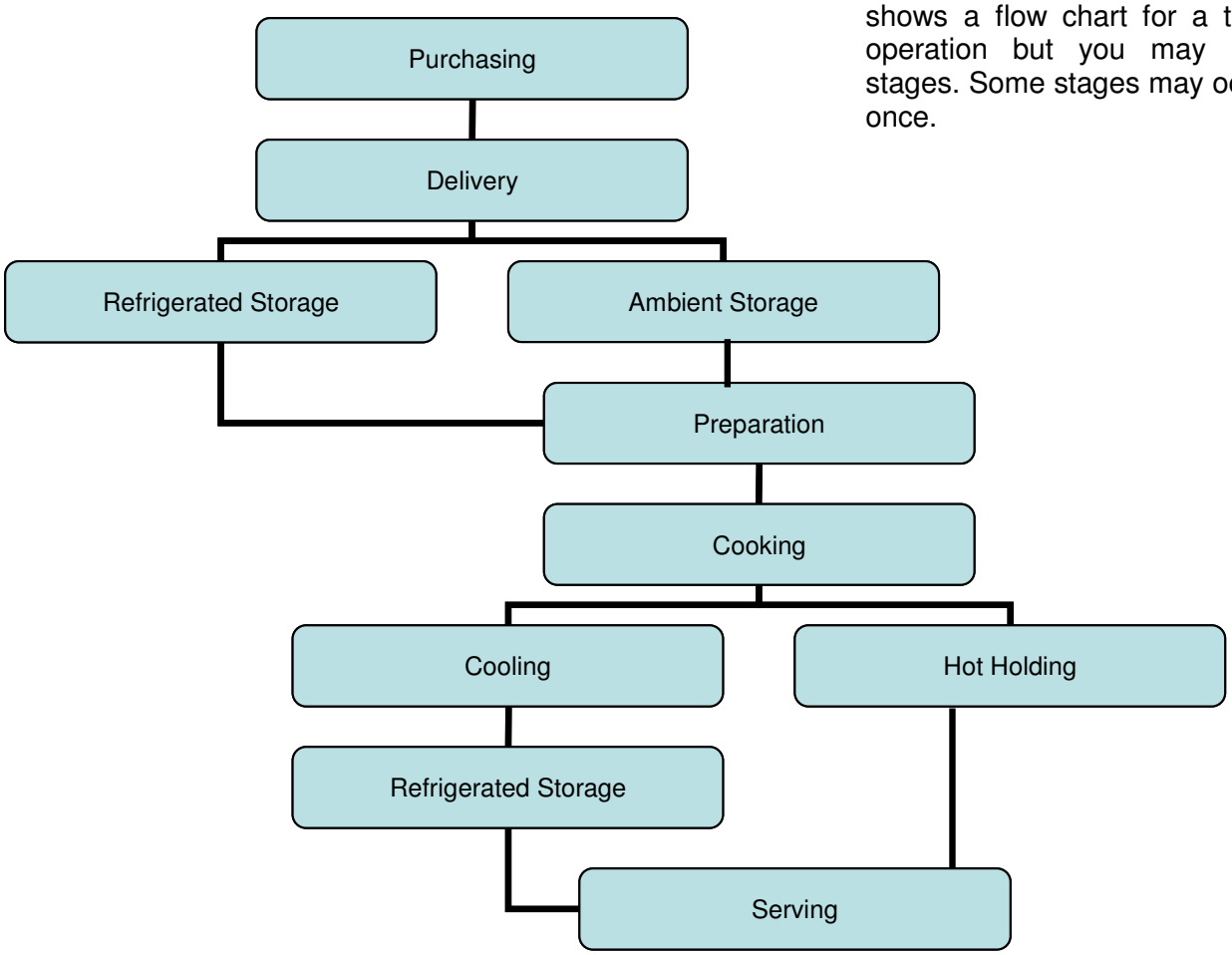
Principle 5 – There is no point at all in monitoring the critical control points if you are not going to take action when the monitoring indicates something is wrong. The "corrective action" is the action you must take when the critical limits are not met. For example – if monitoring shows that the chiller temperature is too high, the corrective active action might be to recheck the temperature an hour later and, if it is still too high, to throw the food away and call the refrigeration engineer.

Principle 6 – Formal HACCP protocols talk about "validation" and "verification". Validation is checking that your completed procedures are actually capable of ensuring safe food. This can be done by sampling and analysis or by making use of controls and standards that have already been well documented and proved to work.
Once your "system" has been validated you need to carry out ongoing verification to ensure that staff are actually implementing the controls properly on a regular basis.

Principle 7 – You have to be able to prove that your food operation is fully under control and will produce safe food. This is partly to satisfy the enforcing authority (see Article 5 – 4(a) above) but also to support any claims you may need to make in respect of a "due diligence" defence. Without adequate documentation you will find it very difficult to prove, in court, that you are producing a safe product.

How do I start ?

Start by making a flow chart of your food production operation. Don't forget to include every stage. The diagram below shows a flow chart for a typical catering operation but you may have different stages. Some stages may occur more than once.



Then identify all potential hazards at each stage and what action you are going to take to control them. Identify which of these are "critical control points" and make sure you have established critical limits, means of monitoring, and corrective actions for these points. The diagram on the next page shows how you can set out your completed plan.

The HACCP Plan

Stage	Hazard	Control	C.C.P.?	Monitoring	Critical Limit	Corrective Action	Documentation
1. Purchasing	Contaminated raw materials	Purchase only from vetted reputable suppliers					Maintain approved supplier list.
2. Delivery	(a) Foreign bodies	Visual check of all goods on delivery.	Yes	Visual check to expected standard.	No foreign bodies. Adequate quality. All goods with adequate remaining shelf-life.	Reject delivery.	Check-in or rejects book.
	(a) Warm transport allowing growth of bacteria	Check temperature of refrigerated goods on arrival and place straight into storage.	Yes for RTE food	Check automated vehicle temperature log or check arrival temperature yourself.	Chilled food <5°C Frozen food <-18°C Ice cream <-29°C	Reject delivery	Check-in or rejects book.
3. Refrigerated storage	Growth of micro-organisms.	Put perishable food into refrigeration immediately on delivery and keep there until needed for preparation		Check temperature of all refrigeration units first thing in the morning and again in the afternoon using a probe thermometer.	Chilled food <5°C Frozen food <-18°C	Check again 1 hour later. If temperature still high, adjust thermostat or call engineer.	Temperature log for all units.
	Cross contamination	Keep raw and RTE foods in separate units. Keep all foods well wrapped in storage.		Manager to check daily.	Raw food stored above or within 1 metre of RTE food.	Reject RTE food unless it can be further cooked.	
5. Preparation	Cross contamination	Ensure raw and RTE foods are handled and prepared in different areas with different equipment. Sanitise all equipment after use. Ensure good personal hygiene/hand washing		Visual checks by manager.		Retraining of staff	
6. Cooking	Survival of bacteria due to under cooking	Ensure all food is cooked thoroughly.	Yes	Temperature probe all large items and a representative sample of smaller items.	> 75°C in the thickest part of the item.	Continue cooking until this temperature is reached	Cooking temperature log.

This is a part example only. Each business must prepare its own plan related specifically to what they actually do. It should be used as a working document as you will be expected to provide evidence that you are actually doing what you say you should be doing. If you are producing several different foods, other than in a catering situation, you will need to prepare a separate HACCP plan for each item or closely related group of items, for example –sausages, meat pies, cooked meats.

All relevant staff should be trained on your HACCP Plan, monitoring procedures and recording. The manager may normally do all this but when he is on holiday or off sick, someone else will need to take over. You can't just suspend normal procedures until he is back.

Don't forget to review and if necessary amend your plan at regular intervals and whenever there is any significant change in procedures or products produced. It helps if the master copy is kept on a computer so that alterations can easily be made without having to rewrite the whole plan.

TRAINING

"Food business operators are to ensure:…… that those responsible for the development and maintenance of the procedure referred to in Article 5(1) of this Regulation or for the operation of relevant guides have received adequate training in the application of the HACCP principles;"

Further Information

Guidelines for Food Safety Control in European Restaurants
http://www3.uma.pt/jcmarques/docs/haccp/EUGuidefoodsafety.pdf

A Simple Guide to Understanding and Applying the Hazard Analysis Critical Control Point Concept
http://www.ilsi.org/Europe/Publications/C2004Simp_GuiEng.pdf