CHAPTER 3 - FOOD SAFETY PRACTICES

INTRODUCTION

0301. Food hygiene includes all practices, precautions and procedures involved in:
   a. Protecting food from the risk of biological, chemical or physical contamination.
   b. Preventing any organisms multiplying to an extent that would expose consumers to risk or result in premature decomposition of food.
   c. Destroying any harmful bacteria in food by thorough cooking or processing.

0302. Benefits from high standards of food hygiene include:
   a. Reduced risk of food poisoning, foreign body contamination and spoilage.
   b. Compliance with MOD and legal requirements.
   c. Economic advantages, including increased shelf life and reduction of waste.
   d. Consumer satisfaction and enhanced reputation.
   e. Increased morale of personnel.

HAZARD ANALYSIS CRITICAL CONTROL POINT

0303. Article 5 of Regulation (EC) No 852/2004 on the hygiene of foodstuffs refers to Hazard Analysis and Critical Control Points (HACCP). HACCP is based on seven principles, detailed at Annex A to this chapter and are summarised below:
   a. Identifying any hazards that must be prevented, eliminated or reduced to acceptable levels.
   b. Identifying the critical control points at the step or steps at which control is essential to prevent or to reduce it to acceptable levels.
   c. Establishing critical limits at critical control points which separate acceptability from unacceptability for the prevention, elimination or reduction of identified hazards.
   d. Establishing and implementing effective monitoring procedures at critical points.
   e. Establishing corrective actions when monitoring indicates that a critical control point is not under control.
   f. Establishing procedures, which shall be carried out regularly, to verify that the measures outlined in subparagraphs (a) and (e) are working effectively.
   g. Establishing documents and records commensurate with the nature and size of the food business to demonstrate the effective application of the measures outlined in subparagraphs (a) and (f).

0304. In order to meet the requirements of HA across the MOD, a practical guide for the MOD has been produced, based on the principle that there are four main methods of preparing food. The guide, Hazard Analysis - The Four Line Method, is at Annex B to this
Chapter, which is to be used as a template in all Service establishments. Universally recognised Critical Control Points (CCPs) have been identified; however additional Control Points or Critical Points may be applicable in each case. This will be entirely dependent on the type of catering function and the supporting infrastructure. When preparing individual HA profiles, units are advised to consider the following definitions in order to determine the type of risk that applies at each stage of food preparation:

a. Control point – specific stages in those operations where food hazards i.e. contamination may occur.

b. Critical point – control points which are considered critical points where the hazard must be controlled to ensure that it is eliminated or reduced to a safe level.

c. Critical control point – is a critical point in the process where a specific hazard must be controlled on the basis that no further process will adequately eradicate that hazard.

0305. Written records are also important in establishing a Due Diligence defence under Regulation 11 of the Food Safety and Hygiene (England) Regulations 2013 HA includes the principles of:

Critical Points and the Control of those Critical Points. In this document the term Hazard Analysis (HA) will be used, but this is taken to be synonymous with HACCP.

0306. Article 5 of Regulation (EC) No 852/2004 states “Food business operators shall put in place, implement and maintain a permanent procedure or procedures based on HACCP principles”. This Article is designed to make food business operator’s focus on the activities critical to food safety and to find ways of controlling them.

0307. The systematic analysis of each individual food item would result in a heavy burden for most MOD catering operations and would be impractical to implement. An approach, that considers the catering operation step by step, from supply through to consumption, is achievable, effective and forms the basis of food HA in the MOD. The HA approach to ensuring food safety and hygiene is intended to give a clearer focus on the controls that are important to Service caterers to ensure that safe food is provided.

0308. Where catering is provided by contract, the contractor is to use a HACCP system that meets legislative requirements or adopt the Four-Line Method. Specialist advice, through the Chain of Command may be obtained from ACDS (Log Ops).

SUPPLY OF FOOD AND WATER

0309. The Regulation (EC) No 852/2004 Chap IX states that no raw materials or any other material used in processing products, if they are known to be, or might reasonably be expected to be, so contaminated with parasites, pathogenic micro-organisms, or toxic, decomposed or foreign substances, to such an extent that, even hygienically applying normal sorting and/or preparatory or processing procedures the final product would still be unfit for human consumption.

0310. Delivery Monitoring. Routine checks must be made on deliveries of food for signs of damage, contamination and the presence of pests. The general condition of the food is to be checked, together with more specific checks such as date marks (Best Before and Use By) and temperature. Unfit food or food past its “Use By” date must not be accepted and is to be immediately returned. Temperature monitoring should be conducted at the time of delivery and should form part of the quantity & quality check. For chilled and frozen foods, checks are to be made that the food is delivered at the correct temperature (less than 8°C for chilled and colder than −12°C for frozen). The vehicle temperature printed record, if provided, must now be attached to
the Price Advice Note (PAN)\(^1\) or the temperature recorded on the PAN. The temperature of a random selection of stock items should be recorded directly onto the PAN. For bulk stock “between pack” temperatures are to be taken using a between-pack probe and recorded directly onto the PAN. A note stating “Quality & Date Coding Checked” is to be hand written onto the PAN. A commercially produced ink stamp could also be utilised for this task (example below).

![Quality & Date Coding
Checked][QualityDateCoding]

0311. Potable Water Supply. It is essential that galleys and kitchens be supplied with potable water for the purposes of food production purposes (including ice and steam) and the washing of food, food storage and preparation surfaces, food equipment and hands. Normally potable water will be supplied direct from a water undertaker but if supplied from private sources, such as local bore holes, this source must comply with current UK water legislation. (Note: that water softeners and water filters installed in catering areas should be maintained in good condition so that they do not contaminate potable water).

**FOOD STORAGE**

0312. The Regulation (EC) No 852/2004 requires food products and ingredients to be stored in food premises in appropriate conditions, designed and maintained to prevent harmful deterioration and to protect food from contamination.

0313. Dry Provisions Storage. These storerooms are to be kept clean and orderly to minimise the potential hazards from “foreign bodies” and to prevent the harbourage of pests. Where practicable these stores are to be proofed against pest ingress. Part used packs are to be resealed adequately to prevent contamination. High ambient temperatures (above 13\(^\circ\)C) and high humidity are to be avoided. Dry goods should be stored on suitable racking raised off the ground.

0314. Chilled Storage (<8\(^\circ\)C). Cold rooms and refrigerators are to be kept clean and tidy. It is the responsibility of the Catering Manager to raise the appropriate request if refrigerated space is considered inadequate. Best Practice guidance indicates that the ideal operating temperature of a refrigerator is 5\(^\circ\)C or cooler\(^2\).

0315. Frozen Storage (-18 to -21\(^\circ\)C). The operating temperature of a freezer is between –18\(^\circ\)C to –21\(^\circ\)C; this temperature range is to be strictly adhered to. To ensure the maximum operating efficiency of a freezer it is to be regularly defrosted as well as being kept clean and tidy at all times.

0316. Satisfactory storage is essential if a galley/kitchen/mess is to serve clean and safe food. This should include routine turnover of stock and checks of Use By and Best Before Dates (BBD). There are four main groups of foods that require differing storage conditions. The groups are as follows:

a. **Fresh Fruit and Vegetables.** Fresh produce that is not supplied as Ready To Eat (RTE) is to be handled, stored and displayed in such a way that it does not contaminate RTE foods. Special attention is required when storing soiled vegetables to ensure that they do not contaminate other produce that may not be supplied as RTE but are likely to be

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\(^1\) Where reference is made to a Priced Advice Note; this also means any other form of Invoice or Delivery Note

\(^2\) Industry Guide to Good Hygiene Practice: Catering Guide
consumed raw (for example fruits). Foods are to be stored in a cool area, with adequate ventilation, preferably refrigerated at a temperature appropriate to the product.

b. **Dry Foods.** (including canned foods, cereals and flour). These are to be stored in dry, well-ventilated rooms (ideally at 13°C). Food is to be put on racks, shelves or pallets off the floor.

c. **Frozen Foods.** These are to be stored in a freezer as soon as they are delivered. Frozen foods are to be used within 1 month or in accordance with manufacturer’s “best before” dates. ‘Kitchen prepared’ chilled foods that are subsequently frozen are also to be used within 1 month. For specific cook-chill / cook–freeze operations refer to Annex D of this chapter.

d. **Perishable Foods.** Perishable food temperatures in a refrigerator must not exceed the legal limit of 8°C (see paragraph 0324 for Temperature Control and Monitoring). Such food includes chilled dishes, meat, poultry, eggs, cooked meats and vegetable dishes, prepared salads, soft cheeses, sandwiches, fresh pasta, low acid desserts, smoked or cured meats, fish and dairy produce. Best Practice advice, is that chilled foods are to be used within 48hrs. Food that is spoiled or past its “Use By Date” must be removed from food rooms and appropriate action taken prior to disposal. Check integrity and condition of packaging to prevent cross contamination.

0317. **Food Displays/Serveries.** Food displays and serveries should be set at the correct temperature with adequate time allowed for the equipment to achieve target temperatures. It is good practice to have sneeze screens attached to hot and cold food displays to minimise the risk of contamination of food. The handles of utensils should not contact food; this can be achieved by using utensils with longer handles than the service containers.

**CROSS CONTAMINATION**

0318. Cross contamination is the process whereby pathogenic bacteria present in raw food, such as meat, poultry, and vegetables, come into contact with ready to eat food. This contamination can be either direct i.e. through contact with surfaces, equipment, splashes, drips, utensils, hands and cloths, or indirect via pests, food handlers, visitors or air supply (flowing from high to low risk areas).

0319. To prevent cross contamination, raw and ready to eat foods are to be kept apart. Good management planning of workflow through the kitchen can assist in this. The flow of waste is also to be considered, along with raw products and prepared food. Additionally, it is to be ensured that:

a. Where possible, there are separate designated preparation areas for raw and RTE foods. If, due to limitation of space, preparation surfaces are used for both high and low risk foods then these activities must be separated by time (ideally RTE foods prepared first), work surfaces must not be used for food contact (separate with board or container) and contamination to spaces above or below work surfaces prevented. Preparation surfaces must be thoroughly cleaned and disinfected between the two operations.

b. If raw and cooked food is to be stored in the same refrigerator, raw foods are always to be stored (and adequately covered) below cooked or salad foodstuffs.

c. Food handlers always wash their hands between handling raw and RTE foods and change their protective clothing if contaminated prior to handling RTE foods. (Use of colour coded aprons or disposable aprons may preclude this requirement).

d. Separate colour coded cutting boards (red for raw meat, blue for raw fish, green for fresh fruit, salad and vegetables, white for cooked foods) and colour-coded knives are used (details of NSNs for these items are contained in Joint Service Scales of Accommodation
Stores). Always thoroughly wash and disinfect cutting boards and knives in between and after use.

(1) Contamination to spaces above or below work surfaces is to be prevented and equipment, utensils, dishes and wrapping materials used for RTE foods are not to be stored in open storage (i.e. a storage area that cannot be closed) e.g. on an open shelf underneath a worktop where preparation of raw foods is undertaken.

e. Separate machines for raw and cooked food are used, or slicing and mincing machines are thoroughly cleaned and disinfected between raw and cooked food. If separate machines are not available, cooked food must be prepared before raw food.

(1) Unless slicing and or mincing machines can be fully dismantled, so as to permit all potentially contaminated surfaces to be cleansed and disinfected separate machines for raw and RTE food are to be used.

(2) Gravity feed slicers must be fully dismantled and thoroughly cleaned using hot water, and disinfected using detergent/sanitiser

f. All food is kept in covered, dated and labelled containers during storage and before service. (Example at Annex K)

g. **Storing and Cooking with Eggs.** Some eggs can contain salmonella bacteria inside or on their shells so care must be taken with their use. They are to be stored in a cool dry place or refrigerated, with exterior packaging removed and kept away from other foods. All egg dishes are to be served immediately or cooled quickly and chilled. Commercially pasteurised egg products should be used in preparation of any recipe that is served uncooked or partially cooked. This includes mayonnaise; béarnaise and hollandaise sauces, some salad dressings, ice cream, icings and tiramisu.

h. **Washing of Fruits and Vegetables.** Fruits and vegetables that are not supplied as RTE must be thoroughly washed / cleaned in potable water\(^3\). It is recommended that when fruits and vegetables are purchased locally overseas, they are to be immersed for 30 minutes in water containing either of the agents listed. The items should then be rinsed to remove taste of disinfecting agent:

(1) Calcium hypochlorite granules – apply manufacturer’s instructions.

(2) Milton: apply manufacturer’s instructions.

(3) Iodine; when approved for use by medical authority.

**DEFROSTING FOOD**

0320. It is essential that frozen meat and poultry are thoroughly thawed on raised perforated trays or racks, or if unavailable in a designated defrosting area, or ideally in a defrosting cabinet. Raw meat and poultry are not to be washed due to the increased risks of cross contamination. Frozen vegetables must be cooked directly from frozen.

**COOKING**

0321. It is essential that food is cooked thoroughly to destroy any bacteria on or within it. Food is to be cooked to a core temperature of 75°C and checked with a calibrated digital probe at the

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\(^3\) In small catering operations, one sink may be used for both equipment and food washing, provided that both activities can be done effectively and without prejudice to food safety, i.e. the sink is to be thoroughly cleaned and disinfected between each process.
foods thickest part. Thin foodstuffs such as bacon cannot be easily probed and will require a visual check to ensure that there are no uncooked areas and that juices run clear. To minimise the risk of cross contamination separate colour coded digital probe attachments are to be used for checking the temperature of food being cooked and cooled (RED for cooking temperature and WHITE for cooling, they are to be cleaned and disinfected as explained at 0323b).

CHILLING FOOD

0322. When chilling cooked food, it is essential that the food be cooled as quickly as possible passing through the recognised Critical Zone, (63°C down to 5°C) within 90 minutes and subsequently stored in a refrigerator at 8°C or less. In terms of Best Practice achieving a core temperature of below 5°C would reduce further the likelihood of pathogenic bacteriological multiplication and therefore should be achieved where possible. (These requirements refer to the temperature of the food, not the air temperature of the equipment). If the target temperatures are not achieved food is to be discarded. The chilling of food to a recognised safe temperature may be achieved using the following methods:

a. Break food down into clean shallow trays and cover.

b. Blast chill to below ‘Danger Zone’ or cool initially to a low ambient temperature.

c. Store in a refrigerator.

Where operational limitations prevent the food from cooling to 8°C in 90 minutes, caterers are to consider the practicality of continuing advanced food preparation (AFP) in that environment. Consideration should first be given to amending the menu to reduce cooling periods or to cease AFP using HACCP lines C or D. However, if this proves to be too inhibitive or impracticable cooked food should be initially cooled as quickly as possible to room temperature within a maximum of 90 minutes then placed under refrigeration and chilled to 8°C or cooler. In circumstances where ceasing AFP would have an unacceptable operational impact, full details are to be recorded and a risk assessment conducted detailing the action taken to mitigate the risk of food borne illness°.

REHEATING FOOD

0323. It is advised that the re-heating of cooked foods is avoided, but if this is not possible it must only be re-heated once and the following steps are to be taken:

a. Ensure that the food reaches a core temperature of 75°C for at least 2 minutes. (In Scotland it is a legal requirement for the centre of the food being re-heated to reach 82°C for at least 2 mins).

b. To minimise the risk of cross contamination a separate colour coded digital probe attachment is to be used for checking the temperature of food being cooked and cooled IAW 0321. In between uses probe attachments are to be physically cleaned with a bactericidal wipe to remove food residues and a separate wipe used to disinfect. At the end of each day probes are to be heat disinfected by a physical clean followed by immersion in hot water > 80°C for 2 mins.

° Some cuts of meat may have no significant contamination in the centre, and cooking to temperatures below 75°C (served rare) is acceptable provided the outer surfaces of the meat is fully cooked and sealed. The following produce, for example, should not be served rare; pork, poultry, rolled joints, burgers etc.

°° RN/RFA vessels that fail to achieve 8°C in the 90 minute cooling period are to raise an S1182 (additions/alterations) iaw BRd 1313 Chapter 8 and BRd 3001 requesting a blast chiller, providing the risk assessment, details of the foodstuff and operational environmental temperatures as supporting information. This is to be copied to NAVY LOG INFRA-OPS CS WO RN and NAVY-MED-EHPOL SO2.
c. The food is to be served and consumed as soon as possible.

d. After re-heating, any leftover cooked food is to be thrown away.

TEMPERATURE CONTROL AND MONITORING

0324. Schedule 4 of The Food Safety and Hygiene (England) Regulations 2013 imposes two holding temperatures of below 8°C or above 63°C. The purpose of the regulations is to inhibit or prevent harmful micro-organisms from multiplying by keeping food outside of the recognised best practice ‘danger zone’ 8°C to 63°C. These Regulations allow limited periods outside temperature control during preparation, display, service, storage or transport, but it is an offence to keep food out of temperature control for so long that it could become unsafe. The requirements do not apply to foods, which by their nature or their packaging (e.g. canned foods) is inherently safe from the growth of such organisms. In such cases the manufacturer’s guidelines are to be followed. (Schedule 4 of the aforementioned Regulations will not apply to ships and aircraft. However, the temperature control requirements in Annex II of Regulation (EC) No 852/2004 apply, such as foods not kept at temperatures, which might result in a risk to health).

New build galleys and kitchens are now being fitted with temperature monitoring systems. The most common version is from Monika which requires a computer and printer in the chef’s office. This system does, however, need recalibrating annually, the cost of this falling to the Unit. If not recalibrated, the data recorded would not be admissible in a case where due diligence was required as a defence. The first reference is Specification 42, CES No 37, Temperature Monitoring and secondly, JSP 315, Scales 39 & 52.

0325. Refrigerator and Freezer Temperature Recording. The operating temperature of all appliances should be monitored and recorded thrice daily using the template at Appendix 4 to Annex B of this Chapter. As a guide, the target operating temperature for a refrigerator is 5°C or cooler⁶ and for a freezer are -18°C to -21°C

Note: The template at Appendix 1 to Annex B of this chapter is to be utilised as a daily management verification and validation document.

0326. Catering Standing Orders are to specify the corrective action (including Out of Hours/Weekend actions required) to be taken in the event of refrigerators/freezers not achieving recommended operating temperatures or failing completely.

FOOD HOLDING TEMPERATURES (TWO AND FOUR HOUR RULE)

0327. Hot food must be kept at or above 63°C. Once the food falls below 63°C it must either be consumed within 2 hours or disposed of.

0328. Chilled food may be displayed (away from under temperature control) for a maximum period of 4 hours. Only one such period is allowed, no matter how short. If, for example a refrigerated dish has been on display for 1 hour in a non-refrigerated environment, refrigerating it does not mean it can be displayed for a further 3 hours later. Where food is being cooled prior to refrigeration, cooling is to be achieved as quickly as possible as described in paragraph 0322.

0329. When hot or cold food is displayed outside a temperature-controlled environment, it is to be consumed or discarded within the recommended timescales.

TARGET TEMPERATURES

0330. Food Safety legislation requires that certain temperatures be maintained throughout the food storage period and reached during the production process.

⁶ Industry Guide to Good Hygiene Practice: Catering Guide
TEMPERATURE MEASUREMENT AND TEMPERATURE PROBE CALIBRATION

0331. **Measurement.** If available two MOD approved colour coded digital thermometers with attached probes (Hanna Model HI 9241 - RED for cooking temperature and WHITE for cooling) are to be used for measuring food temperatures, including final cooking temperatures. If unavailable then the process explained at 0321 is to be followed.

<table>
<thead>
<tr>
<th>Description</th>
<th>NSN</th>
<th>Remarks</th>
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<tbody>
<tr>
<td>MOD Kit (complete with air &amp; penetration probes)</td>
<td>7320 99 8883759</td>
<td></td>
</tr>
<tr>
<td>Penetration Probe</td>
<td>7320 99 8466252</td>
<td></td>
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<tr>
<td>Flexible Air Probe</td>
<td>7320 99 8341272</td>
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<td>Thermometer Between Pack Probe</td>
<td>7320 99 4904326</td>
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<tr>
<td>Bacterial Probe Wipes</td>
<td>7320 99 9363666 6 x 200 pack</td>
<td></td>
</tr>
<tr>
<td>Pocket Stick Thermometer</td>
<td>7320 99 7543029</td>
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</tbody>
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0332. **Calibration.** A monthly performance check of digital thermometers is to be undertaken using the integral calibration button and an external calibration test cap (see para 0332a. below) recording the readings on the form at Annex C to this chapter (for older thermometers without integral calibration buttons see 0333). In the event that the digital thermometer does not display temperatures within the required tolerances (± 0.4°C) the instrument should be withdrawn from use, replaced and sent away to be recalibrated using single Service procedures. However, if no calibration reading is shown, the test cap may be faulty and a replacement cap should be tried. Such faults should also be reported to the Galley Manager/Unit Caterer/Master Chef. Defence Accommodation Stores Catalogue of Supplies and Services provides details of all calibration equipment.

a. **Calibration Test Cap.** Test caps are available to check the instrument’s electronics and provide a check. The standard calibration test cap available through the MOD is the +71°C test cap as detailed at 0333

b. As the Hanna thermometer (Model HI 9241) checks instrument calibration at 0°C, and there will be checks with the +71°C test cap, there is no requirement to utilise any other available test caps, such as 0°C or -17.5°C. Essentially any inaccuracy at the high end cap calibration will reflect a deviation at the lower.

c. **Alternative Method.** When monthly calibration checks cannot be carried out using the test cap described above, a monthly check of the instrument’s performance at hot and cold temperatures is to be undertaken. This is done by first placing the tip of the probe into crushed ice, where the reading should be between -1°C and +1°C within minutes. The probe should then be placed into steam or boiling water where the reading should be between 99°C and 101°C.

d. **Annual Calibration.**
(1) **Thermometer and Probes.** The thermometer handset and associated air or penetration probes are to be calibrated together annually as a system by the manufacturer only when regularly using the alternative method. Single Service procedures will apply for forwarding equipment to the manufacturer and records of the calibration are to be kept.

(2) **Test Caps.** The Hanna test caps do not require to be calibrated as they either function or they do not.

e. **Records.** The results of calibration checks should be recorded on the forms at Annex C Appendix 1 to this chapter.

f. **Additional Calibration.** Should caterers believe that there are exceptional circumstances where additional calibration is required for confidence then additional test caps are available and listed at 0333. However, the caterer’s HACCP assessment should reflect the need for this additional equipment and the demand should be discussed with single Service catering policy officers.

**0333. Calibration of Older Thermometer Handsets such as Hanna Model HI 9041.** There are currently some old digital thermometers in service. These do not have the calibration button unlike the new models. If the old model is used within a kitchen then all three test caps, as listed below, are to be used until new thermometers are obtained by units.

a. Calibration test cap +71˚C, NSN: 7320 99 6663355 (Manufacturer’s code: HI-765-71)

b. Calibration test cap for 0˚C, NSN: 7320 99 2627319 (Manufacturer’s code: HI-765-000)

c. Calibration test cap -17.5˚C, NSN: 7320 99 1705322 (Manufacturer’s code: HI-765-17.5)

**RECORDS**

**0334. Records.** Records are an important aspect of any due diligence defence and are essential in proving that the temperature requirements were being met in the event of any prosecution or food poisoning outbreak. Records (including Calibration records) are to be retained for 12 months. The mandatory records that are to be kept with unit files are listed below:

a. All refrigerator and freezer temperature monitoring documents.


c. Calibration records for temperature probes.

**PERSONAL HYGIENE**

**0335.** Good personal hygiene is a legislative requirement, for ensuring safe food. Induction training must ensure that new staff are aware of the required standard Food handlers are a potential source of bacterial and physical contamination of food, and so personal hygiene is a key element in ensuring that food is prepared safely. Staff training is to include all the basic elements of personal hygiene (including hand washing training) covered in this section and personnel are to understand the relevance of the precautions.

**0336.** Regulation (EC) No 852/2004 lays down criteria for the personal hygiene of food handlers and the actions to be taken if a food handler is infected. These regulations require every person
working in a food handling area to maintain a high degree of personal cleanliness. The regulations also state that no person, known or suspected to be suffering from, or to be a carrier of, a disease likely to be transmitted through food or while afflicted, for example with skin infections, sores or diarrhoea, is to be permitted to handle food or enter any food area in any capacity if there is any likelihood of direct or indirect contamination. Any person so affected and employed in a food business and who is likely to come into contact with food is to report immediately the illness or symptoms and if possible their causes to the person in charge of the galley/kitchen.

0337. **SPECIFIC REQUIREMENTS**

a. **Hand washing.** The hands of food handlers are the principal agents in the transference of bacteria to food. Hand washing facilities (a separate basin that is only to be used for hand washing) in galleys/kitchens are to have an adequate supply of hot and cold or appropriately mixed running water, liquid soap and hygienic means of drying hands. Taps should either be non-hand operable or disposable paper towels used to turn them off. Regular checks by senior staff are to be made to ensure these facilities are available and are being used effectively.

As a minimum, hand washing in accordance with the guidance at Annex D, is to take place:

(1) On entering a food room.

(2) Prior to handling RTE food.

(3) After touching raw food or its packaging (including unwashed fruit and vegetables).

(4) After handling waste food or refuse.

(5) After smoking or eating.

(6) After visiting the WC.

(7) After cleaning.

(8) After blowing your nose.

b. **Cuts.** Open cuts harbour bacteria and must be covered with clean blue waterproof dressing to aid detection. Stocks of these are to be available in food preparation areas and readily accessible to food handlers.

c. **Jewellery.** The wearing of wristwatches, ear rings and other exposed body piercing, bracelets and rings (except plain wedding bands), is not acceptable as they harbour bacteria and there is a risk of physical contamination of food.

d. **Smoking.** Smoking is not permitted in food areas, as it transfers bacteria from the mouth to hands. Cigarette ends and ash also pose physical contamination risks.

e. **Protective Clothing and Changing Facilities.** Food handlers, including chefs/cooks, mess hands, waiting/bar staff and store men must wear suitable clean protective clothing (including appropriate footwear and hats) to prevent contamination of food from normal clothing. Such clothing must not present a cross-contamination risk and must be changed if contaminated prior to handling RTE foods. (Use of colour coded aprons or disposable aprons may preclude this requirement) and at the end of a shift. It is not to be worn outside food areas and associated premises. If necessary, an outer garment is to be worn over protective clothing whilst away from food production environment. Adequate
changing facilities must be provided, with locker space for clean and soiled protective clothing. Changing facilities must be kept clean and tidy at all times.

f. **Visitors.** All visitors to a food preparation area are to be viewed as potential sources of contamination. They must therefore be provided with protective clothing and briefed upon good food hygiene practices before entering the food area. Before entering a food preparation area, visitors must confirm that they are not suffering from diarrhoea and/or vomiting, or heavy cold. Individuals who are suffering should not be allowed to proceed.

g. **Eating/drinking.** Food handlers are not to eat or drink in food rooms. It is acceptable for cooks to taste dishes during preparation in a manner that does not contaminate the food i.e. a clean spoon each time.

h. **Toilet Facilities.** Where possible, toilets for catering personnel are to be separate from those for non-catering personnel and visitors. Toilets are not to be located directly within a food preparation area. There is to be an intervening ventilated space between toilets and food rooms. Food is not to be stored in that space. Toilets must be ventilated such that associated odours are prevented from permeating into food rooms. They must also be kept clean and tidy, in good repair with adequate supplies of toilet paper, hand-washing facilities, soap and hand towels.

i. **Personal Hygiene.** Persons handling open food should not wear nail varnish; should have short nails and have clean hair tied back and appropriately covered. In terms of facial hair, a risk-based approach is to be adopted if there is a need for military food service personnel to wear beard hoods/snoods, aligned with single Service policy. When SP are working for an Industry Partner, then their policy would take precedence.

0338. **Infected Food Handlers.** See Chapter 4.

**DISPERSED FEEDING**

0339. Dispersed feeding is the production and transportation of food for consumption away from an established unit/galley/kitchen or mess for example to personnel on security duties who are unable to be fed in-mess, non-public section functions, such as barbecues or sports meals. This method of feeding is recognised as high risk, because the majority of foods used require controlled temperatures during transportation in order to comply with Food Safety Legislation. Dispersed feeding should only take place when there is no suitable alternative.

0340. **Documentation.** Before food leaves the kitchen, the Shift NCO (or equivalent if DEL or contract catering staff) is to ensure the completion (in duplicate) of FCAT 1013 - Dispersed Feeding Record at Appendix No: 6 – DISPERSED FEEDING RECORD

0341. A copy is to be retained with the food safety records and a copy handed to the person (recipient) taking the food out of the kitchen. The recipient is to be briefed on the following points:

   a. **Chilled Products.** Chilled foods are to be consumed within 4 hours of being removed from a temperature controlled environment i.e. refrigerator or chilled servery and when the product temperature rises above 8°C.

   b. **Hot Products.** Hot foods are to be consumed within 2 hours of being placed into an insulated container. Food is to be served at or above 63°C. If a hot container meal arrives at its final destination and the product temperature is below 63°C, it is to be consumed as soon as possible (but always within 2 hours from when the product was placed into the container). This time will have been recorded in column (b) of the FCAT 1013.
c. When temperature monitoring is unavailable at a dispersed feeding location, the food is to be consumed within 2 hrs (hot product) or 4 hours (cold product) of being placed in the insulated container or leaving a refrigerated environment. Once again the time of service is to be recorded in column (b) of FCAT 1013.

TRANSPORT OF FOOD

0342. Movement of temperature-controlled foods may include:

a. The collection of food from suppliers and transportation to the main ration stores and messes.

b. The transportation of prepared food from messes to satellite or dispersed feeding facilities.

0343. Transport can include items such as trolleys, bags, boxes, trays and crates. These articles must be kept clean and maintained in good order. Where transport is also used for materials other than food, it must be thoroughly cleaned between loads to avoid the risk of cross contamination.

0344. Non-catering personnel collecting foodstuffs from the mess are to be briefed on the importance of maintaining the integrity of the food chain, and how this is achieved.

0345. During transport, all food is to be covered and is to be transported in appropriate containers. Where conveyances and/or containers have been used for transporting anything other than foodstuffs or different foodstuffs, there must be effective cleaning and disinfected between loads to avoid the risk of contamination. High-risk food must be kept separate from anything that could cause contamination. When transporting prepared meals, dispatch and receipt temperature checks are to be recorded in accordance with paragraph 0340.

CATERING IN OPERATIONAL ENVIRONMENTS

0346. Certain military catering operations require particular Food Safety care relevant to the environment that they are conducted in. Wherever possible, the MOD and legislative food safety requirements are to be strictly adhered to. Information relating to specific types of catering is listed below:

<table>
<thead>
<tr>
<th>Operational Catering - HM Ships and Submarines</th>
<th>JSP 456 Pt.2 Vol 1, Ch 8</th>
</tr>
</thead>
<tbody>
<tr>
<td>Instructions for preparing food by Cook-Chill and Cook-Freeze</td>
<td>Annex E</td>
</tr>
<tr>
<td>Instructions for Food Safety under Operational Conditions</td>
<td>Annex F</td>
</tr>
</tbody>
</table>

CLEANING

0347. Regulation (EC) No 852/2004 requires adequate facilities to be provided for the cleaning and disinfecting of work utensils and equipment and, their storage. These facilities must be constructed of materials resistant to corrosion, must be easy to clean and have an adequate supply of hot and cold water.

0348. Utensils and equipment items that come into contact with RTE foods will need to be cleaned and disinfected before use (see 0351e). Facilities must be provided to clean and disinfect all tools and equipment, crockery, cutlery, glasses and serving dishes. There are to be sufficient
cleaning materials and equipment to match the size of the catering facility. Staff involved in cleaning must wash their hands afterwards and wear suitable and adequate protective clothing which must be changed if contaminated prior to handling RTE foods. (Use of colour coded aprons or disposable aprons may preclude this requirement) and at the end of a shift.

0349. Colour coded cleaning equipment, e.g. mops must be cleaned, dried and stored in a designated area once finished with. Drying of equipment must not cause recontamination, e.g. from soiled cloths. Equipment must be of durable construction and resistant to corrosion, especially items that will come into contact with powerful cleaning chemicals.

0350. **Sinks.** It is a legal requirement that, where appropriate, adequate provision must be made for any necessary washing of food. Every sink or other facility for the washing of food must have an adequate supply of hot and/or cold potable water as required, and be kept clean. Separate facilities must be provided for hand washing, food preparation and equipment washing if the volume of preparation in the kitchen demands it. In small catering operations, one sink may be used for both equipment and food washing, provided that both activities can be done effectively and without prejudice to food safety, i.e. the sink, including the taps and any other fittings, are thoroughly cleaned and disinfected between each process. When the sink is shared for raw and RTE foods, the food must not come into direct contact with the sink. A container can be used to avoid direct contact. It is good practice to have signs above sinks indicating what they can be used for. Hot water supply is not essential if a sink is to be used exclusively for food preparation.

0351. **Disinfection.** Disinfection is a process that reduces micro-organisms to a level that will not lead to harmful contamination or spoilage of food. Sterilisation is a process that destroys all living organisms. The word ‘sterilise’ is sometimes used in food hygiene literature and in some official publications where the word ‘disinfect’ would be correct. Cleaning products are often described as ‘detergent/sterilise’ when ‘detergent/disinfector’ would be a more accurate description. The following definitions clarify the relationship between disinfection and cleaning:

a. A disinfectant is a chemical agent used for disinfection after cleaning.

b. Sanitisation is a term used mainly in the food and catering industry. It is a process of both cleaning and disinfecting utensils and equipment.

c. A sanitiser is a chemical agent used for sanitisation.

d. Sterilisation is a process intended to destroy or remove all living organisms. It is not to be confused with disinfection.

e. **Cleaning, Heat Cleaning Disinfectants.** Disinfection is essential in food hygiene. It is achieved by:

(1) **Cleaning using a Detergent.** Is an essential pre cursor to remove food residues, dirt, grease and other undesirable debris. It is to be followed by a thorough rinse before moving to step (2) or (3).

(2) **Heat Disinfection.** Considered the most reliable method of disinfection. Immersion in water at 65°C for 10 minutes, or at higher temperatures for shorter times can be relied upon to destroy most micro-organisms harmful to health, with the exception of bacterial spores. Boiling water is an effective and cheap disinfectant although bacterial spores may survive boiling. The temperature of the washing or rinse cycle in a dishwashing machine can be adjusted to include heat disinfection in the cycle, in accordance with the manufacturer’s instruction. Food probes are to be physically cleaned using a disposal paper towel and then heat disinfected by placing the tip in hot water > 80°C for 2 minutes.

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7 Disinfectants used to disinfect shared sinks are required to comply with the BS EN 1276 or 13697 or equivalent standards
(3) **Chemical Disinfection using a Disinfectant meeting BS EN 1276 or 13697 at manufacturer’s dilution rate and contact time.** Some chemical disinfectants are active against a wide range of bacteria; others have a narrow range of antibacterial activity. In all circumstances chemical disinfectants must be used in accordance with the manufacturer’s instruction. It is military policy to use general-purpose detergent for general cleaning with surface sanitisers. Chemical disinfectants (stored in a designated cleaning chemical storage area away from the food environment) are only to be used by appropriately trained personnel following a COSHH assessment in accordance with JSP 375 Vol 2, Chapter 11.

**CLEANING AND DISINFECTION PROCEDURES**

0352. Cleaning of food premises is carried out to remove dirt and grease from all surfaces and equipment that could compromise food safety, as well as food debris, *to allow disinfection*. It is imperative that high standards of cleaning are maintained for the following reasons:

- b. To reduce the risk of food poisoning by removing food residues which could contain harmful bacteria.
- c. To deny pests harbourage and food.
- d. To reduce the risk of foreign objects physically contaminating food.
- e. To promote hygiene awareness amongst catering personnel.
- f. To provide a pleasant working environment, and at the same time eliminating risks of slips and trips, whilst promoting a favourable image to personnel.

0353. **Cleaning Schedule.** A planned cleaning schedule programme is important in ensuring that high standards of cleanliness in all food areas are achieved and maintained. This can be achieved by adhering to a written cleaning schedule. Food preparation surfaces, utensils and equipment, particularly those used for raw and RTE foods, must be regularly cleaned and disinfected whilst in use and before preparing RTE food. This is particularly important where cross contamination risks to RTE foods are controlled using time separation (see 0319a).

- a. Instructions for cleaning specific areas or pieces of equipment are to include the following information relative to the task:
  
  (1) Job description.
  
  (2) Cleaning materials and chemicals to be used (in accordance with manufacturer’s instruction, Dilution Rate and Contact Time).
  
  (3) Safety precautions.
  
  (4) Job method.
  
- b. The cleaning schedule is to state how often a specific area or piece of equipment is to be cleaned and who is responsible for checking that all cleaning tasks have been completed to a satisfactory standard.
  
- c. General information concerning the cleaning and disinfection of food equipment, surfaces and the material structures, including a list of cleaning equipment and agents used in food rooms/kitchen/galley/mess, are at Annex G to this chapter.
d. Catering managers are to implement a cleaning schedule that relates to all food areas within their department. A schedule detailing the frequency of routine cleaning tasks should be produced for each catering facility. It is to be contained within Catering Standing Orders and communicated to all personnel (e.g. by displaying the schedule on a notice board). A matrix showing the frequency, details of the task, type of cleaning required and a signature block is considered the most useful layout and should be readily available for operatives to follow and sign off. A signature block should also be included for a supervisory check.

e. Where practicable, minimise cross-contamination to RTE foods by providing a separate room or area designated just for RTE food preparation.  

0354. Deep Cleaning. All galleys/kitchens and associated areas are to be deep cleaned in accordance with single Service instructions. Catering managers are to ensure that deep cleaning contracts are adequate to meet the tasks required. The frequency of cleaning will be dependant upon throughput determined by the risk assessment carried out by the catering manager.

FOOD PREPARATION AREAS

0355. Surfaces. Regulation (EC) No 852/2004 require that those surfaces which come into contact with food must be maintained in a sound condition, be easy to clean and, where necessary, disinfected. This requires the use of smooth, washable and non-toxic materials. To comply with this legal requirement, it is important that surfaces that come into contact with high-risk foods must be capable of being disinfected regularly. Examples of such surfaces, assuming that they are properly fixed, applied or installed and maintained, include: stainless steel, ceramics, and food grade plastics. Wooden boards are inappropriate for the preparation of high-risk foods. Food preparation surfaces must either be continuous in their construction or have properly sealed joints.

0356. Design and Layout. The design and layout of food areas are to:

a. Permit adequate cleaning and/or disinfection.

b. Protect against dirt, contact with toxic materials, and formation of condensation and mould.

c. Encourage good food hygiene practices and prevent cross contamination by foodstuffs, equipment, materials, water, air supply or personnel and external sources of contamination such as pests.

d. Where practicable, suitable temperature conditions should be provided for the hygienic preparation of food.

Advice can be sought from DIO ODC Catering & Technical Support (CTS) staff.

0357. Structural Requirements. In areas where food is prepared, consideration is to be given to floor and wall surfaces, ceilings and overhead fixtures, windows, doors and other openings. There are to be adequate washbasins, sanitary conveniences, ventilation, and drainage. Any maintenance requirements and requests to catering premises are to be recorded in either the Maintenance of Catering Premises – Record of Work Services Template at Annex H to this chapter or the unit works service record. Priority awarded to work service request is entirely dependent on the type of establishment and the impact of the equipment failure. The following priorities are to be applied:

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8 See JSP 456 Pt. 2 Vol 1 Chap 8 0810
### PRIORITY

<table>
<thead>
<tr>
<th>EMERGENCY - within a matter of hours</th>
<th>VERY URGENT - same day/ next day (incl. Weekends)</th>
<th>URGENT: &lt;3 WORKING DAYS</th>
<th>NON URGENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potable water Supply, Fridges, Freezers, Blast Chillers, Cold Counters, Hot Cupboards, Hot Counters, Temperature Control Equipment, Dishwash Machines, Panwash, Staff WCs and Hygiene Facilities, Work Surfaces, Infestation Prevention &amp; Drainage</td>
<td>Walls, Floors, Ceilings, Storage Rooms, General Kitchen Equipment</td>
<td>Items with no Hygiene Implications</td>
<td></td>
</tr>
</tbody>
</table>

0358. **MOD Policy.** Defence Infrastructure Organisation (DIO), Safety Environment & Engineering (SEE), Building Standards and Catering & Technical Assurance (CTA) are the Technical Authority for the design of kitchens and serveries for all ranks and dining rooms for Junior Ranks. DIO Policy Instruction 2015/05 should be read in conjunction with JSP 315 Scales 01, 39 (as amended), 40, 45 and 47. Details of dining rooms and bars for Officers and SNCOs may be found in JSP 315 Scales 29 and 34. For HM Ships and Submarines, the relevant Naval Engineering Standards (NES) publication provides guidance in the design, layout and equipping of Galleys, Storerooms (refrigerated and dry) and associated areas.9

### PEST CONTROL

0359. Pests are known to carry a number of pathogenic organisms that can be transmitted to humans through contaminated food. In addition, pests will damage food stocks causing financial loss. It is therefore important that food premises are kept pest free. The Prevention of Damage by Pests Act 1949 and the Regulation (EC) No 852/2004 impose legal duties on owners and occupiers of buildings to implement adequate procedures to ensure that pests are controlled.

0360. A wide variety of insect, rodent and bird pests will enter food premises for a number of reasons:

- **a. Food.** Even in small quantities, food will enable pests to survive and multiply. Regular and thorough cleaning of spillages is therefore imperative.

- **b. Warmth.** Pests of all types are attracted to buildings, which offer even limited warmth away from outdoor conditions. A few degrees increase in temperature will provide conditions in which breeding is enhanced and proliferation encouraged.

- **c. Shelter.** Almost every building provides a variety of harbourages for pests. Contrary to common belief, it is the newer buildings with suspended ceilings, panelled walls, service ducts and enclosed electrical trunking, which are more likely to create a problem, than older buildings without such features. Access must be provided to these spaces for the effective control of pests.

0361. Denial of food, warmth or shelter will prevent the survival of pests. This form of control can be termed ‘environmental control’ and is the first line of defence against possible infestation. Environmental control may be considered as denial of access (proofing), food and harbourage.

0362. **Flying Insect Control.** Emphasis is to be placed on the environmental and physical control detailed previously to reduce the risk of food contamination. Areas around food premises

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9 Industry Guide to Good Hygiene Practice: Catering Guide
are to be kept clean and tidy to reduce the number of possible breeding sites. External refuse containers are to be clean and in good repair, and have tight fitting lids. If skips are used they are to be completely enclosed. Waste food containers must be washed out before being stored outside. Windows and other openings which provide ventilation are to be fitted with close fitting and cleanable fly screens where required. Doors are to be kept closed or fitted with screens or clear plastic heavy-duty strips. Electronic fly killers, where required, are to be installed but must not be sited above food preparation areas or near natural sources of UV light, e.g. windows. The bulbs within electric fly killers must be changed in accordance with the manufacturer’s instructions.

0363. **Recording Sightings.** All personnel employed in a kitchen/galley have a duty to report to Kitchen Managers any evidence of pest infestation. Kitchen Managers are to record such sightings in the Pest Management Register at Annex I to this chapter. The following priorities are to be assigned by the Kitchen Manager when requesting Pest Control Assistance:

<table>
<thead>
<tr>
<th>PRIORITY: VERY URGENT SAME DAY [incl. Weekends]</th>
<th>URGENT: 3 WORKING DAYS</th>
<th>NON URGENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infestation where there is a risk that food may become contaminated.</td>
<td>Infestation in food areas where there is no immediate risk of contamination</td>
<td>Infestation where there are no hygiene implications.</td>
</tr>
</tbody>
</table>

Under operational conditions or on exercise, trained Service personnel carry out pest and vector or vermin control. In peacetime (except in some overseas Commands and HM Naval Bases where MOD Civilian pest control operators are employed) civilian contractors normally carry out pest control. There are two ways in which a pest control contractor may be used:

a. To deal with and eradicate a single infestation.

b. To act as a long-term contractor who will visit the premises regularly and carry out pest control treatments as necessary. This proactive approach is more suitable and is considered best practice for pest control requirements for catering premises. The lack of a proactive pest control contract could undermine a due diligence defence should enforcement action be taken by a food enforcement authority in the event of a pest infestation. Therefore, unless a comprehensive risk assessment suggests otherwise, catering premises are to be provided with a proactive pest control service.‘

c. Independent SME advice on pest control matters can be obtained from SEH POC.

0364. **MOD Pest Control Policy.** JSP 371, Joint Services Pest Control Manual, details the policy and arrangements for pest control in the Armed Forces.

**ANIMAL BY-PRODUCTS REGULATIONS - CATERING WASTE**

0365. The Animal By-Products Regulations 2005 (Statutory Instrument No. 2005/2347) came into force in England on 28 Sep 2005 underpinning EC legislation. The purpose of the regulations is to safeguard public and human health within the UK/EU and ensures the safe disposal of animal by-products, guidance can be found at Annex J. Parallel legislation exists in Scotland, Wales and Northern Ireland.

0366. The Regulations are principally intended to prevent the transmission of animal diseases. Thus animal by-products have been divided into three categories:

**Category 1:** This is high-risk material, which includes:

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10 Regulation (EC) No 1774/2002  1 May 2003
a. Carcasses of animals suspected of having a transmissible spongiform encephalopathy, e.g. BSE

b. Carcasses of zoo and pet animals.

c. Catering waste from international transport\(^1\).

d. Specified risk material (SRM) i.e. offal which carries a risk of BSE infection, including heads, spinal cord and (for cattle) parts of the intestine.

**Category 2:** This is also high-risk material which includes diseased animals and animals that die on farm but do not contain SRM at the point of disposal. The permitted disposal routes are the same for Category 1.

**Category 3:** This is ordinary catering waste, low risk material that is not fit for human consumption. After rendering, if appropriate, the treated by-products can be used in feedstuffs and fertiliser.

0367. Category 1c of the regulations requires that any catering waste from a vessel (ships and submarines) or aircraft returning to the UK, even if the vessel may have only called in at a third country port or airfield and not necessarily have taken on supplies, must ensure that **catering waste**\(^2\) is completely destroyed and disposed of by Licensed hazardous waste disposal contractors or Local Authority.

**UNIT RESPONSIBILITY FOR DISPOSAL**

0368. In compliance with the Hygiene of Foodstuffs - Regulation (EC) No 852/2004, catering waste and dry refuse must be managed internally within all catering facilities. The following “best practices” are to be employed in unit catering facilities. Where a unit kitchen has a macerators plumbed into the waste water system some of the listed recommendations become null and void.

a. Catering waste and dry refuse must not be allowed to accumulate in food rooms, except in so far as it is unavoidable for the proper functioning of the catering department.

b. Systems of work are to be in place to ensure that refuse containers in food rooms are not over filled and are emptied regularly.

c. Catering waste must be double bagged and placed in an appropriate refuse container. Any refuse containers used for storage of waste awaiting collection and removal are to have a lid, be pest proof, and to be constructed of durable material, which makes them easy to clean and disinfect.

b. All catering waste and dry refuse is to be removed from the kitchen/galleys at the end of the working day. Bins or sack holders used in areas preparing high-risk foods must be disinfected more frequently.

e. All refuse containers used within kitchen/galleys are to be included in the cleaning schedule.

**STORAGE AND REMOVAL OF CATERING WASTE AND REFUSE.**

\(^1\) This does not apply to RN or RFA vessels that have operated only in waters or ports of the EU and those of Norway and the Channel Islands. In these circumstances food waste returned to the UK can be treated as domestic waste.

\(^2\) Defined as “all waste food including used cooking oils, raw meat and raw fish originating in catering facilities and kitchens”
0369. Regulation (EC) No 852/2004 states that adequate provision must be made for the removal and storage of catering waste and other refuse items. To achieve this, the following guidelines are recommended:

a. Refuse stores must be designed and managed in such a way as to enable them to be kept clean, prevent access by pests, and protect against contamination of food, drinking water, equipment or premises.

b. Areas for indoor storage of refuse must be remote from food rooms and not sited near the main delivery entrance\(^\text{13}\).

c. In establishments it is good practice to have a separate area designated for the storage of outdoor waste with well-lit hard standing. A hose is to be provided for cleaning purposes.

d. The originator of the catering waste has a ‘duty of care’ to ensure waste is disposed of legally. This statutory responsibility remains with the originator despite the use of disposal contractors.

e. Food packaging disposal: Care should be taken to fully empty packaging before it is sent to landfill. Poorly emptied packaging that still contains animal by-products will not be permitted onto a landfill site\(^\text{14}\).

0370. **Environmental Protection (EP) and Marine Pollution Regulations (MARPOL).** Disposal of general waste must meet the requirements of EP (JSP 418), DEFRA instructions and MARPOL legislation. Items of general waste that should be addressed under this paragraph include the recycling of refrigerators and recycling of cooking oil (BRd 167 Ch 14 paras 1427 and 1429 refer).

0371 – 0399. Reserved.

\(^\text{13}\) There will be exceptional circumstances where this is not possible. The key point is that cross contamination from food waste must be prevented so any chosen alternative controls must be at least as effective.

\(^\text{14}\) In the MOD, this is only the case for International Waste returned from exercises or operations.
### CHAPTER 03 Annex A - THE SEVEN PRINCIPLES OF HAZARD ANALYSIS

<table>
<thead>
<tr>
<th>1. Identifying any hazards that must be prevented, eliminated or reduced to acceptable levels.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Food Hazard involves:</strong></td>
</tr>
<tr>
<td>• Identifying the hazards that may affect the process.</td>
</tr>
<tr>
<td>• Identifying the steps at which hazards are likely to occur.</td>
</tr>
<tr>
<td>• Deciding which hazards are significant i.e. their elimination or reduction to acceptable levels is essential to the production of safe food.</td>
</tr>
<tr>
<td>• Determine the measures necessary to control the hazards.</td>
</tr>
<tr>
<td>Examples of hazards are:</td>
</tr>
<tr>
<td>• Bacteria or other micro-organisms that cause food poisoning.</td>
</tr>
<tr>
<td>• Chemicals, for example by cleaning materials or pest baits.</td>
</tr>
<tr>
<td>• Foreign materials such as glass, metal, plastic and so on.</td>
</tr>
<tr>
<td>Of these, the most important hazard is likely to be harmful bacteria or other germs that may contaminate and multiply in food.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2. Identifying the critical control points (CCPs) at the step or steps at which control is essential to prevent or to reduce it to acceptable levels</th>
</tr>
</thead>
<tbody>
<tr>
<td>Critical control points in the process are those steps where control measures must be used to prevent, eliminate or reduce a hazard to an acceptable level.</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>3. Establishing critical limits at CCPs which separate acceptability from unacceptability for the prevention, elimination or reduction of identified hazards.</th>
</tr>
</thead>
<tbody>
<tr>
<td>CRITICAL POINTS are steps at which the hazards must be controlled to ensure that a hazard is eliminated or reduced to a safe level.</td>
</tr>
<tr>
<td>• Any step where food may become CONTAMINATED is to be controlled. Controls include clean and disinfected equipment, the personal hygiene of staff, and separation of raw and cooked food. All food is to be protected from contamination by foreign bodies, pests or chemicals.</td>
</tr>
<tr>
<td>• Steps where bacteria may be able to MULTIPLY in food must be controlled. The time and temperature at which food is held, stored or displayed are likely to be critical.</td>
</tr>
<tr>
<td>• Any cooking or reheating step is to be able to KILL harmful micro-organisms. It will be critical that heating is thorough. Cooking is normally the most important control step in most food preparation. Chemical disinfection of equipment is another control point designed to KILL micro-organisms.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>4. Establishing and implementation effective monitoring procedures at critical points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Controls must be set for the critical points, then checks introduced.</td>
</tr>
<tr>
<td>CONTROLS will either reduce the hazard to an acceptable level or get rid of it completely.</td>
</tr>
<tr>
<td>The controls are to be precise as possible. For example, it is better to state that certain products will be stored under refrigeration at a set temperature, rather than to simply say that it must be kept in the chiller. A control target is to be set for every critical control point that has been identified.</td>
</tr>
<tr>
<td>When controls have been set, it is then possible to MONITOR the critical points whenever that preparation step is used. The targets can be checked. The frequency of checks is to be set for each control. Checking temperatures does not always involve probing food with a thermometer. Delivery vans or storage chillers may be fitted with temperature monitors and these can be checked.</td>
</tr>
</tbody>
</table>
Other critical controls are more difficult to measure, e.g. cleaning & disinfection of equipment or the personal hygiene of staff. They will be often vital to the safety of food, and there are to be regular checks that standards are kept up.

5. **Establishing corrective actions when monitoring indicates that a CCP is not under control.**

Corrective action is the action to be taken when a critical limit is breached. Corrective action usually involves two distinct actions:
- Dealing with an effected product.
- Bringing the CCP and process back under control.

Procedures for corrective action should specify the action to be taken, the person responsible for taking the action and who should be notified.

6. **Establishing procedures, which shall be carried out regularly, to verify that the measures employed at Principle 1 and 5 are working effectively.**

Verification involves the use of methods, procedures and tests, in addition to those used in monitoring, to determine compliance with the HACCP plan. Part of the verification is validation i.e. obtaining evidence that elements of the HACCP plan are effective, especially the CCP and critical limits.

7. **Establishing documents and record-keeping.**

Documentation is useful to demonstrate that food safety is being managed and, provided records are completed accurately at the appropriate time, they will be used to support a due diligence defence.
CHAPTER 03 Annex B – HAZARD ANALYSIS

THE FOUR-LINE METHOD

1. This annex contains:
   e. Flow Diagram – LINE D – Food/dishes cooked, chilled, reheated and In-Flight Catering.
   f. Hazard Analysis Flow Chart – LINE A.
   g. Hazard Analysis Flow Chart – LINE B.
   h. Hazard Analysis Flow Chart – LINE C.
   i. Hazard Analysis Flow Chart – LINE D.
   j. Hazard Analysis Flow Chart – In Flight Catering Food Services
   k. Galley/Kitchen/Mess Management Records:
      (1) Daily Food Safety Management Record (Template and Example) – Appendix 1 and 1E (For use by managers for validation/verification).
      (2) Advance Food Preparation Record (Template and Example) – Appendix 2 and 2E.
      (3) Food Time/Temperature Record (Template and Example) – Appendix 3 and 3E.
      (4) Galley/Kitchen/Mess Fridge/Freezer/Blast Chiller Daily Monitoring Record (Template and Example) – Appendix 4 and 4E.
      (5) Galley/Kitchen/Mess Fridge/Freezer/Blast Chiller Monitoring Record (Template) – Appendix 5 and 5E
      (6) FCAT 1013 template. – Appendix 6

USE OF THE FOUR-LINE METHOD

2. This guide is to be used by all caterers when analysing the hazards within their establishments/Units. Each kitchen/galley is unique in its design and layout and hence the hazards present will not always fall into the strict guidance given in this Annex.

3. The following points are to be used when implementing the Four-Line Method:
a. Using the seven principles detailed in Annex A caterers are to assess the hazards that are present in their particular kitchen/galley. The guidance in this Annex is to be used as a template to aid the identification of generic hazards and controls.

b. When specific hazards are identified that are not present in this guidance they are to be annotated onto the templates as a Control Point, a Critical Point or a Critical Control Point.

c. The ‘Other Points For Consideration’ boxes refer to other practices and procedures that will already be in place in the kitchen/galley, which contribute to the overall hazard analysis system. The ‘SOs Section insert’ is to be removed and replaced with the appropriate reference for the procedure that is referred to. Microsoft Word based forms can be obtained from HQ catering and EH staff to assist with the process.

d. Once the hazards have been assessed the daily menu is to be recorded on single Service record forms. From the menu high risk items are to be identified and, by referring to the Four-Line method guidance, the relevant Hazard Analysis Line annotated onto the record next to the individual food dish. This will then act as a guide to personnel preparing the dishes as to the controls that need to be in place.

e. Whilst the Four-Line method concentrates on food safety within a kitchen/galley and provision areas, other factors and risks will need to be considered in ancillary areas such as delivery bays and pot/crock wash.

**REVIEW**

4. Once the above action has been taken, it is important to ensure that the process is reviewed regularly and particularly when:

   a. Methods of control or checking are found to be ineffective or impractical.
   b. The menu changes.
   c. Methods of preparation changes.
   d. New equipment is used.
   e. The layout or design of the kitchen/galley is changed.
   f. The Kitchen/Galley Manager changes.

**TRAINING**

5. Personnel will require training on the Four-Line method in order to understand the rationale, application and implementation of the procedures. The Defence Food Services School will conduct initial training for Service personnel.
OVERVIEW OF THE FOUR LINES

RECEIPT OF DELIVERY
Chilled: <8 °C Frozen: -12 °C or colder

STORAGE
- DRY FOOD STORE
- REFRIGERATORS <8 °C
- FREEZERS -18 °C or colder

DEFROST
Thawing Cabinet 10 °C - 15 °C, cold room or

PREPARATION
LINE A
SERVE COLD
<8 °C or consume within 4 hrs

COOKING
>75 °C
LINE B
LINE C
SERVE HOT
>63 °C or consume within 2 hrs
SERVE COLD
<8 °C or consume within 4 hrs

CHILL
Core temp <8°C within 90 mins*
Cook and Chill <8°C within 90 mins*
LINE D
REHEAT
75°C for 2 mins
82°C for 2 mins Scotland
SERVE HOT
>63°C or consume within 2 hrs

OTHER POINTS FOR CONSIDERATION

PERSONNEL HYGIENE AND TRAINING
Standing Orders Section insert

POT WASH
SOs Section insert

CROCKWASH
SOs Section insert

STRUCTURE AND EQUIPMENT
SOs Section insert

FOOD FROM NON MOD SUPPLY
SOs Section insert

CLEANING
SOs Section insert

PEST CONTROL
SOs Section insert

WASTE MARPOL & EP
SOs Section insert

(* Best practice <5°C)

Amendment 013
JSP 456 Pt.2 Vol 3(V1.0 Dec 14)
FLOW DIAGRAM - HAZARD ANALYSIS
FOOD DISHES THAT ARE SERVED COLD

RECEIPT OF DELIVERY
Chilled CCP:<8°C Frozen CCP: -12 °C or colder

STORAGE

DRY FOOD STORE

REFRIGERATION
CCP: <8°C

FREEZERS
CCP: -18°C or colder

DEFROST
Thawing Cabinet 10 °C - 15 °C, cold room or refrigerator

PREPARATION
CCP: Chemical, Physical, Biological

CHILLED STORAGE
CCP: <8°C

LEFT-OVER FOOD

COLD SERVICE
CCP: <8°C or consume within 4 hrs

OTHER POINTS FOR CONSIDERATION

PERSONNEL HYGIENE AND TRAINING
SO Section insert

POT WASH
SOs Section insert

CROCKWASH
SOs Section insert

STRUCTURE AND EQUIPMENT
SOs Section insert

FOOD FROM NON MOD SUPPLY
SOs Section insert

CLEANING
SOs Section insert

PEST CONTROL
SOs Section insert

WASTE
SOs Section insert

LEFT-OVER FOOD

WASTE

FOOD DISHES THAT ARE SERVED COLD

THRU

WASTE

PERSONNEL HYGIENE AND TRAINING

POT WASH

CROCKWASH

STRUCTURE AND EQUIPMENT

FOOD FROM NON MOD SUPPLY

CLEANING

PEST CONTROL

WASTE MARPOL & EP

LEFT-OVER FOOD

RECEIPT OF DELIVERY

STORAGE

DRY FOOD STORE

REFRIGERATION

FREEZERS

DEFROST

PREPARATION

CHILLED STORAGE

COLD SERVICE

OTHER POINTS FOR CONSIDERATION

PERSONNEL HYGIENE AND TRAINING

POT WASH

CROCKWASH

STRUCTURE AND EQUIPMENT

FOOD FROM NON MOD SUPPLY

CLEANING

PEST CONTROL

WASTE MARPOL & EP

WASTE
FLOW DIAGRAM HAZARD ANALYSIS
FOOD DISHES THAT ARE SERVED HOT

RECEIPT OF DELIVERY

Chilled: <8 °C  Frozen: -12 °C or colder

STORAGE

DRY FOOD STORE

REFRIGERATION

<8 °C

FREEZERS

-18 °C or colder

DEFROST

Thawing Cabinet 10 °C - 15 °C, cold room or refrigerator

PREPARATION

COOKING

CCP: Core temp >75 °C

HOT SERVICE

CCP: >63 °C or consume within 2 hrs

COOLING

Core temp <8 °C within 90 mins*
Cook chill <8 °C within 90 mins*
* Best practice <5 °C

CHILLED STORAGE

LEFT-OVER FOOD

Leftover food may be re-served once only within 24 hrs if Cold Service CCP is achieved
Guidelines for use: Go to COOLING
Line C for Cold Service/ Line D for Hot Service

WASTE

OTHER POINTS FOR CONSIDERATION

PERSONNEL HYGIENE AND TRAINING

SOs Section insert

POT WASH

SOs Section insert

CROCKWASH

SOs Section insert

STRUCTURE AND EQUIPMENT

SOs Section insert

FOOD FROM NON MOD SUPPLY

SOs Section insert

CLEANING

SOs Section insert

PEST CONTROL

SOs Section insert

WASTE MARPOL & EP

SOs Section insert

Amendment 013
JSP 456 Pt.2 Vol 3(V1.0 Dec 14)
FLOW DIAGRAM HAZARD ANALYSIS
FOOD DISHES THAT ARE COOKED, CHILLED AND SERVED COLD

**Sponsor - DFSMC**

**Amendment 013**

**JSP 456 Pt.2 Vol 3(V1.0 Dec 14)**

**LINE C**

**FLOW DIAGRAM HAZARD ANALYSIS**

**FOOD DISHES THAT ARE COOKED, CHILLED AND SERVED COLD**

**RECEIPT OF DELIVERY**

Chilled: <8°C Frozen: -12°C or colder

**STORAGE**

**DRY FOOD STORE**

**REFRIGERATION**

<8°C

**FREEZERS**

-18°C or colder

**DEFROST**

Thawing Cabinet 10°C - 15°C, cold room or refrigerator

**PREPARATION**

**COOKING**

CCP: core temp >60°C 45 Min >65°C 10 Min >75°C 30 Sec

**COOLING**

CCP: <8°C within 90mins *

Cook Chill: <8°C within 90mins *

* Best practice <5°C

**CHILLED STORAGE**

CCP: <8°C

**LEFT-OVER FOOD**

CCP: Left over food may be re-served once only within 24hrs if Cold Service CCP is achieved

CCP: <8°C or consume within 4 hrs

**COLD SERVICE**

**WASTE**

**OTHER POINTS FOR CONSIDERATION**

**PERSONNEL HYGIENE AND TRAINING**

SOs Section insert

**POT WASH**

SOs Section insert

**CROCKWASH**

SOs Section insert

**STRUCTURE AND EQUIPMENT**

SOs Section insert

**FOOD FROM NON MOD SUPPLY**

SOs Section insert

**CLEANING**

SOs Section insert

**PEST CONTROL**

SOs Section insert

**WASTE MARPOL & EP**

SOs Section insert
LINE D
FLOW DIAGRAM HAZARD ANALYSIS
FOOD DISHES THAT ARE COOKED, CHILLED AND REHEATED
PLUS IN FLIGHT CATERING

RECEIPT OF DELIVERY

Chilled: <8°C Frozen: -12°C or colder

STORAGE

-8°C
-18°C or colder

DEFROST

Thawing Cabinet 10°C - 15°C, cold room or refrigerator

PREPARATION

COOKING

CCP: core temp

COOLING

Core Temperature CCP: <8°C within 90mins *
Cook Chill: <8°C within 90mins *
* Best practice <5°C

FROZEN STORAGE

CCP: -18°C

DEFROST

Thawing Cabinet 10°C - 15°C, cold room or refrigerator

REHEAT

CCP: core temp 75°C (Scotland 82°C)
Leftover food may be re-served once only

HOT SERVICE

CCP: >63°C or consume within 2 hrs

LEFT-OVER FOOD TO BE DISPOSED OF

OTHER POINTS FOR CONSIDERATION

PERSONNEL TRAINING AND HYGIENE

POT WASH

CROCKWASH

STRUCTURE

SOs Section insert

SOs Section insert

SOs Section insert

SOs Section insert

SOs Section insert

SOs Section insert

SOs Section insert

SOs Section insert

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SOs Section insert

SOs Section insert

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SOs Section insert
**FLOW CHART – LINE A**

**HAZARD ANALYSIS FOOD/DISHES THAT ARE SERVED COLD**

<table>
<thead>
<tr>
<th>STEP</th>
<th>HAZARDS (What can go wrong here?)</th>
<th>PREVENTIVE MEASURES (CONTROL) (What can I do about it?)</th>
<th>MONITORING (How can I check?)</th>
<th>CORRECTIVE ACTION (What if it’s not right?)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Receipt of Delivery</td>
<td>Physical: Packaging not damaged or leaking, pests, foreign objects.</td>
<td>Ensure no foreign material present in deliveries.</td>
<td>Visual/sensory checks by staff receiving goods.</td>
<td>Do not accept from supplier or Inform I/C Galley/Kitchen and initiate disposal action.</td>
</tr>
<tr>
<td></td>
<td>Chemical: Cleaning agents</td>
<td>Adhere to cleaning schedule and follow manufacturer's instructions.</td>
<td>Check cleanliness of delivery trolleys.</td>
<td>Do not accept from supplier or Inform supervisor and return to catering store staff.</td>
</tr>
<tr>
<td></td>
<td>Biological: Contamination from food poisoning bacteria or toxins.</td>
<td>Critical Control Point: Check delivery temperature: <strong>Chilled:</strong> &lt;8°C, <strong>Frozen:</strong> –12°C or colder. Ensure food within “Use By/Best Before” dates.</td>
<td>Check food temperatures using a calibrated temperature probe. Record temperature in Temperature Log. Check “Use By/Best Before” dates.</td>
<td><strong>Chilled:</strong> &gt;8°C or <strong>Frozen:</strong> less than –12°C. Return to catering store and inform I/C Galley/Kitchen. Do not accept from supplier or Return to catering store if outside “Use By” or “Best Before” dates.</td>
</tr>
<tr>
<td>STEP</td>
<td>HAZARDS What can go wrong here?</td>
<td>PREVENTIVE MEASURES (CONTROL) What can I do about it?</td>
<td>MONITORING How can I check?</td>
<td>CORRECTIVE ACTION What if it’s not right?</td>
</tr>
<tr>
<td>------</td>
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<td>------------------------------------------</td>
</tr>
</tbody>
</table>
| Biological | Contamination and growth of food poisoning bacteria or toxins. | **Chilled:** CCP < 8°C  
**Frozen:** CCP -18°C or colder  
Ensure food within “Best Before/Use By” dates. Separate raw/cooked foods if contamination suspected. | Check temperatures (thrice daily) using a calibrated temperature probe.  
Record in Temperature Log. Check “Use By/Best Before” dates.  
Visual/sensory checks. | Use food immediately or discard if temperatures are higher than:  
**Chilled:** 8°C  
**Frozen:** -18°C.  
Adjust or repair chiller or freezer unit. Discard food if past “Best Before/Use By” dates. |
| 3. Defrost | In accordance with 0320. Physical | Packaging not damaged or leaking, pests, foreign objects.  
Routine pest control survey by *(Insert details of Pest Control Service)*  
Keep covered when not in use.  
Cleaning schedule. | Monitor efficacy of pest control contract/operations. Supervision.  
| Chemical | Cleaning agents. | Equipment must be clean. Adhere to cleaning schedule and follow manufacturer’s instructions. | Visual/sensory checks.  
Daily checks on cleaning techniques – check recorded. | Liaise with cleaning supervisor. Dispose of contaminated food. |
| Biological | Cross contamination and growth of food poisoning bacteria or toxins. | Wash hands before handling food.  
Surfaces and equipment to be sanitised prior to defrosting.  
Keep raw food separate.  
Defrost Temp: <8°C  
Keep covered <8°C until required for use.  
<table>
<thead>
<tr>
<th>STEP</th>
<th>HAZARDS</th>
<th>PREVENTIVE MEASURES (CONTROL)</th>
<th>MONITORING</th>
<th>CORRECTIVE ACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>What can go wrong here?</td>
<td>What can I do about it?</td>
<td>How can I check?</td>
<td>What if it’s not right?</td>
</tr>
<tr>
<td>4. Chilled Storage</td>
<td>Physical</td>
<td>Packaging not damaged or leaking, pests, foreign objects.</td>
<td>Routine pest control survey by <em>(Insert details of Pest Control Service)</em>&lt;br&gt;Keep covered when not in use.&lt;br&gt;Cleaning schedule.</td>
<td>Monitor efficacy of pest control contract/operations.&lt;br&gt;Supervision.&lt;br&gt;Visual/sensory checks.</td>
</tr>
<tr>
<td></td>
<td>Chemical</td>
<td>Cleaning agents.</td>
<td>Equipment must be clean.&lt;br&gt;Adhere to cleaning schedule and follow manufacturer’s instructions.</td>
<td>Visual/sensory checks.&lt;br&gt;Daily checks on cleaning techniques – check recorded.</td>
</tr>
<tr>
<td></td>
<td>Biological</td>
<td>Cross contamination and growth of food poisoning bacteria or toxins.</td>
<td>Critical Control Point&lt;br&gt;Wash hands before handling food.&lt;br&gt;Surfaces and equipment to be sanitised prior to defrosting.&lt;br&gt;Keep raw food separate.&lt;br&gt;Keep covered. &lt;8°C until required for use. Ensure food within “Use By/ Best Before” dates.</td>
<td>Visual/sensory checks.&lt;br&gt;Supervision.&lt;br&gt;Regularly check “Use By/ Best Before” dates.&lt;br&gt;Record temperature in Temperature Log.</td>
</tr>
<tr>
<td>STEP</td>
<td>HAZARDS What can go wrong here?</td>
<td>PREVENTIVE MEASURES CONTROL What can I do about it?</td>
<td>MONITORING How can I check?</td>
<td>CORRECTIVE ACTION What if it’s not right?</td>
</tr>
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</tr>
<tr>
<td></td>
<td>Biological Cross contamination and growth of food poisoning bacteria or toxins.</td>
<td>Critical Control Point Wash hands before handling food and ensure protective clothing does not present a cross-contamination risk (particularly before handling RTE foods). Unless a separate room / designated area is used preparation surfaces and equipment are to be cleaned and disinfected prior to food prep and containers / boards must used to prevent food contacting worktop. Keep RTE food separate. Keep covered once prepared and under temperature control until required for use.</td>
<td>Visual/sensory checks. Supervision. Regularly check “Use By/ Best Before” dates. Record temperature in Temperature Log.</td>
<td>Discard contaminated food. Discard food if past “Best Before/Use By” dates. Separate raw and cooked foods to remove risk of cross contamination. Supervision/staff training.</td>
</tr>
<tr>
<td>Ensure food within “Use By/Best Before” dates.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>STEP</td>
<td>HAZARDS What can go wrong here?</td>
<td>PREVENTIVE MEASURES CONTROL What can I do about it?</td>
<td>MONITORING How can I check?</td>
<td>CORRECTIVE ACTION What if it’s not right?</td>
</tr>
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</tr>
</tbody>
</table>
| 6. Cold Service | Physical Packaging not damaged or leaking, pests, foreign objects. | **Critical Control Point**  
Routine pest control survey by *(Insert details of Pest Control Service)*  
Keep food covered when not in use.  
Cleaning schedule.  
Planned preventative maintenance iaw local arrangements. | Monitor efficacy of pest control contract/operations.  
Visual/sensory checks. Supervision. | Pest control treatment by *(Insert details of Pest Control Service)*  
Dispose of contaminated food.  
Clean immediately and review cleaning schedule.  
Report to supervisor. Staff training. |
| | | | | |
| | Chemical Cleaning agents. | **Critical Control Point**  
Equipment must be clean (and disinfected if in contact with RTE foods).  
Cold Service <8°C | Visual/sensory checks.  
Daily check on cleaning techniques record checks. | Clean immediately and review cleaning schedule.  
Dispose of contaminated food. Inform supervisor. |
| | Biological Cross contamination and growth of food poisoning bacteria or toxins. | **Critical Control Point**  
Equipment must be clean.  
Cold service: <8°C | Use calibrated food probe.  
Record temperature in *Temperature Log*. | Discard food if >8°C or consume within 4 hrs. |
<table>
<thead>
<tr>
<th>STEP</th>
<th>HAZARDS</th>
<th>PREVENTIVE MEASURES</th>
<th>MONITORING</th>
<th>CORRECTIVE ACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>CONTROL</td>
<td>How can I check?</td>
<td>What if it’s not right?</td>
</tr>
<tr>
<td></td>
<td>What can go wrong here?</td>
<td>What can I do about it?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Leftover Food</td>
<td>Physical</td>
<td>Critical Control Point</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Food</td>
<td>Food held at the Service Point at &lt;8°C may be retained for 1x further service period (providing the next service is within 24 hrs).</td>
<td>Visual/sensory checks. Supervision. Determine whether foods have been kept &lt;8°C using temperature monitor and record</td>
<td>Discard any food &gt;8°C.</td>
</tr>
<tr>
<td></td>
<td>Chemical</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Biological</td>
<td>Contamination from food poisoning bacteria or toxins.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Waste</td>
<td>Physical</td>
<td>Food waste to be removed from food rooms at end of each meal. <strong>All external waste containers must be covered to prevent pest ingress.</strong></td>
<td>Supervision and staff training.</td>
<td>Staff retraining. Remove damaged bins.</td>
</tr>
<tr>
<td></td>
<td>Chemical</td>
<td>Use cleaning chemical iaw manufacturers instrs. Include on cleaning schedule.</td>
<td>Supervision and staff training. Ensure all cleaning chemical residue is removed</td>
<td>Re-clean, Remove damaged bins. Staff training.</td>
</tr>
<tr>
<td></td>
<td>Biological</td>
<td>Waste area must be clean. Removal of food waste to be undertaken so as to prevent the risk of cross contamination.</td>
<td>Supervision and staff training.</td>
<td>Separate. Retrain staff. Liaise with contractor and arrange for more frequent removal.</td>
</tr>
</tbody>
</table>
# Flow Chart – Line B

## Hazard Analysis – F Food/Dishes that are served hot

<table>
<thead>
<tr>
<th>STEP</th>
<th>Hazards</th>
<th>Preventive Measures</th>
<th>Monitoring</th>
<th>Corrective Action</th>
</tr>
</thead>
</table>
| 1. Receipt of Delivery | **Physical**  
Packaging not damaged or leaking, pests, foreign objects. | Ensure no foreign material present in deliveries. | Visual/sensory checks by staff receiving goods. | Do not accept from supplier or inform I/C Galley/Kitchen and initiate disposal action. |
| | **Chemical**  
Cleaning agents. | Adhere to cleaning schedule and follow manufacturer’s instructions. | Check cleanliness of delivery trolleys. | Do not accept from supplier or inform supervisor and return to catering store staff. |
| | **Biological**  
Contamination from food poisoning bacteria or toxins. | Check delivery temperature:  
**Chilled**: <8 °C  
**Frozen**: -12 °C or colder  
Ensure food within “Use By/ Best Before” dates. | Check food temperatures using a calibrated temperature probe.  
Record temperature in Temperature Log.  
Check “Use By/ Best Before” dates. | **Chilled**: >8 °C or **Frozen**: less than -12 °C return to catering store and inform I/C Galley/ Kitchen.  
Do not accept from supplier or return to catering store if outside “Use By/ Best Before” dates. |
| 2. Storage | **Physical**  
Packaging not damaged or leaking, pests, foreign objects. | Routine pest control surveys by *(Insert details of Pest Control Service)*.  
Keep food covered.  
Cleaning schedule. | Monitor efficacy of pest control contract/operations  
Visual/sensory checks.  
Supervision. | Pest control treatment by *(Insert details of Pest Control Service)*.  
Dispose of contaminated food.  
Clean immediately and review cleaning schedules.  
Inform I/C Galley/Kitchen. |
| | **Chemical**  
Cleaning agents. | Keep refrigerators and storage areas hygienically clean.  
Adhere to cleaning schedule and follow manufacturer’s instructions. | Visual/sensory checks.  
Supervision. | Dispose of contaminated food.  
Inform supervisor.  
Clean immediately and review cleaning schedules. |
<table>
<thead>
<tr>
<th>STEP</th>
<th>HAZARDS What can go wrong here?</th>
<th>PREVENTIVE MEASURES CONTROL What can I do about it?</th>
<th>MONITORING How can I check?</th>
<th>CORRECTIVE ACTION What if it’s not right?</th>
</tr>
</thead>
</table>
| Biological  
Contamination and growth of food poisoning bacteria or toxins. | Refrigerators to operate: <8 °C  
Freezers to operate: -18°C or colder  
Separate raw and cooked foods.  
Rotate stock – observe “Best Before/Use By” dates. | Check temperatures thrice daily using a calibrated temperature probe.  
Record in Temperature Log.  
Check “Use By/ Best Before” dates.  
Visual/sensory checks.  
Bulk storage refer to single service requirements. | Use food immediately or discard if high temperatures: Refrigerator: >8°C or Freezer: less than -18 °C. Adjust or repair faulty refrigerator/freezer unit. Separate raw and cooked foods discard if contamination suspected. Discard food if past “Best Before/Use By” dates. |
| 3. Defrost  
In accordance with 0320.  
Physical  
Packaging not damaged or leaking, pests, foreign objects. | Routine pest control by (Insert details of Pest Control Service)  
Keep covered when not in use.  
Cleaning schedule. | Monitor efficacy of pest control contract/operations  
Supervision.  
| Chemical  
Cleaning agents. | Equipment must be clean.  
Adhere to cleaning schedule and follow manufacturer’s instructions. | Visual/sensory checks.  
Daily checks on cleaning techniques – check recorded. | Liaise with cleaning supervisor. Dispose of contaminated food. |
| Biological  
Cross contamination and growth of food poisoning bacteria or toxins. | Wash hands before handling food.  
Surfaces and equipment to be sanitised prior to defrosting.  
Keep raw food separate.  
Defrost Temp:<8°C.  
Keep covered <8°C until required for use.  
Check “Use By/ Best Before” dates. | Visual/sensory checks.  
Supervision.  
Regularly check “Use By/ Best Before” dates. | Discard contaminated food, and separate raw and cooked foods to remove risk of cross contamination. Discard food if past “Best Before/Use By” dates. Supervision/staff training. |
<table>
<thead>
<tr>
<th>STEP</th>
<th>HAZARDS What can go wrong here?</th>
<th>PREVENTIVE MEASURES CONTROL What can I do about it?</th>
<th>MONITORING How can I check?</th>
<th>CORRECTIVE ACTION What if it’s not right?</th>
</tr>
</thead>
</table>
| 4. Preparation | **Physical** Packaging not damaged or leaking, pests, foreign objects. | Routine pest control by *(Insert details of Pest Control Service)*  
Keep covered when not in use.  
Cleaning schedule. | Monitor efficacy of pest control contract/operations  
Supervision.  
Visual/sensory checks. | Pest control treatment by *(Insert details of Pest Control Service)*.  
Dispose of contaminated food.  
Clean immediately and review cleaning schedules.  
Inform supervisor.  
Staff training. |
| | **Chemical** Cleaning agents. | Equipment must be clean.  
Adhere to cleaning schedule and follow manufacturer’s instructions. | Visual/sensory checks.  
Daily checks on cleaning techniques - check recorded. | Liaise with cleaning supervisor.  
Dispose of contaminated food. |
| 5. Cooking | **Physical** Packaging not damaged or leaking, pests, foreign objects. | Routine pest control by *(Insert details of Pest Control Service)*  
Cleaning schedule.  
Equipment maintenance.  
Planned preventative maintenance iaw local arrangements. | Monitor efficacy of pest control contract/operations  
Supervision.  
Visual/sensory checks. | Pest control treatment by *(Insert details of Pest Control Service)*.  
Dispose of contaminated food.  
Report to I/C Galley/Kitchen.  
Report defect to PROP MAN/galley manager – submit defect report form.  
Recall suspect food. |
| | **Chemical** Cleaning agents. | Adhere to cleaning schedule and follow manufacturer’s instructions. | Visual/sensory checks.  
Supervision. | Dispose of contaminated food.  
Clean immediately and review cleaning schedules.  
Inform supervisor. |
| | **Biological** Survival of food poisoning bacteria or toxins. | **Critical Control Point** Core temperature of food >75°C. | Use calibrated temperature probe for every batch.  
Record temperatures in Temperature Log. | Continue cooking at least until temperature is reached.  
Inform I/C Galley/Kitchen.  
Revise cooking routines. |
<table>
<thead>
<tr>
<th>STEP</th>
<th>HAZARDS What can go wrong here?</th>
<th>PREVENTIVE MEASURES CONTROL What can I do about it?</th>
<th>MONITORING How can I check?</th>
<th>CORRECTIVE ACTION What if it’s not right?</th>
</tr>
</thead>
</table>
| 6. Hot Service | Physical Packaging not damaged or leaking, pests, foreign objects. | Routine pest control by *(Insert details of Pest Control Service)*  
Keep food covered when not in use.  
Cleaning schedule. | Monitor efficacy of pest control contract/operations  
Supervision.  
Visual/sensory checks. | Pest control treatment by *(Insert details of Pest Control Service)*.  
Dispose of contaminated food.  
Clean immediately and review cleaning schedules. |
| | Chemical Cleaning agents | Equipment must be clean.  
Adhere to cleaning schedule and follow manufacturer’s instructions. | Visual/sensory checks.  
Weekly check on cleaning techniques - record check. | Dispose of contaminated food. |
| | Biological Contamination and growth of food poisoning bacteria or toxins. | **Critical Control Point**  
Equipment must be clean.  
Hot service CCP: temperature >63°C.  
If <63°C consume within 2 hrs of service. | Use calibrated food probe in accordance with Kitchen Standing Orders  
Record temperature in Temperature Control Log. | If food <63°C use within 2 hrs from end of the cooking cycle.  
Inform I/C Galley/Kitchen.  
Staff retraining.  
Check equipment for defects. |
| 7. Leftover Food | Physical Packaging not damaged or leaking, pests, foreign objects.  
**Chemical Cleaning agents.**  
**Biological Contamination from food poisoning bacteria or toxins.** | **Critical Control Point**  
Food <63°C: to be disposed of.  
Food >63°C that is intended for further use must be cooled to a CCP of <8°C within 90 mins & stored at <8°C.  
Food item to be used <24hrs. | Visual/sensory checks.  
Supervision.  
Determine whether foods have been kept >63°C. | Discard any high risk foods <63°C or any food that has not been kept under adequate temperature control. |
<table>
<thead>
<tr>
<th>STEP</th>
<th>HAZARDS What can go wrong here?</th>
<th>PREVENTIVE MEASURES CONTROL What can I do about it?</th>
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<th>CORRECTIVE ACTION What if it’s not right?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Routine pest control by <em>(Insert details of Pest Control Service)</em> Cleaning schedule. Equipment maintenance. Planned preventative maintenance iaw local arrangements.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Adhere to cleaning schedule and follow manufacturer’s instructions.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Biological</strong> Survival of food poisoning bacteria or toxins.</td>
<td><strong>Critical Control Point</strong> Core temperature of food to reach 75°C for at least 2 mins 82°C in Scotland for at least 2 mins</td>
<td>Use calibrated temperature probe for every batch. Record temperature in Temperature Control Log.</td>
<td>Continue reheating until temperature is reached. Inform I/C Galley/Kitchen. Revise reheating routines.</td>
</tr>
<tr>
<td>9.</td>
<td>Waste</td>
<td><strong>Physical</strong> Packaging not damaged or leaking, pests, foreign objects.</td>
<td>Supervision and staff training.</td>
<td>Staff retraining. Remove damaged bins.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Food waste to be removed from food rooms at end of each meal. All external waste containers must be covered to prevent pest ingress.</td>
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<tr>
<td></td>
<td></td>
<td><strong>Chemical</strong> Cleaning agents.</td>
<td>Supervision and staff training. Ensure all cleaning chemical residue is removed</td>
<td>Re-clean, Remove damaged bins. Staff training.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Use cleaning chemical iaw manufacturers instrs. Include on cleaning schedule.</td>
<td></td>
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</tr>
<tr>
<td></td>
<td><strong>Biological</strong> Contamination from food poisoning bacteria or toxins.</td>
<td>Removal of food waste to be undertaken so as to prevent the risk of cross contamination. Waste area must be clean.</td>
<td>Supervision and staff training.</td>
<td>Separate. Retrain staff. Liaise with contractor and arrange for more frequent removal.</td>
</tr>
</tbody>
</table>

Amendment 013 3-40 JSP 456 Pt.2 Vol 3(V1.0 Dec 14)
FLOW CHART – LINE C

HAZARD ANALYSIS – FOOD/ DISHES THAT ARE COOKED, CHILLED AND SERVED COLD
### STEP 1. Receipt of Delivery

#### Physical
- **HAZARDS**: Packaging not damaged or leaking, pests, foreign objects.
- **PREVENTIVE MEASURES**
  - Ensure no foreign material present in deliveries.
- **CONTROL**
  - Adhere to cleaning schedule and follow manufacturer’s instructions.
- **HAZARDS**: Check delivery temperature:
  - **Chilled**: $<8^\circ C$
  - **Frozen**: $-12^\circ C$ or colder
  - Ensure food within “Use By/Best Before” dates.
- **PREVENTIVE MEASURES**
  - Check food temperatures using a calibrated temperature probe.
  - Record temperature in Temperature Log.
  - Check “Use By/Best Before” dates.
- **CONTROL**
  - Check cleanliness of delivery trolleys.
- **CORRECTIVE ACTION**
  - Do not accept from supplier or inform I/C Galley/Kitchen and initiate disposal action.
  - Do not accept from supplier or inform supervisor and return to catering store staff.
  - Chilled: $>8^\circ C$ or Frozen: less than $-12^\circ C$ return to catering store and inform I/C Galley/Kitchen.
  - Do not accept from supplier or return to catering store if outside “Use By/Best Before” dates.

#### Chemical
- **HAZARDS**: Cleaning agents.
- **PREVENTIVE MEASURES**
  - Adhere to cleaning schedule and follow manufacturer’s instructions.
- **CONTROL**
  - Check cleanliness of delivery trolleys.
- **CORRECTIVE ACTION**
  - Do not accept from supplier or inform I/C Galley/Kitchen and initiate disposal action.
  - Do not accept from supplier or inform supervisor and return to catering store staff.
  - Chilled: $>8^\circ C$ or Frozen: less than $-12^\circ C$ return to catering store and inform I/C Galley/Kitchen.
  - Do not accept from supplier or return to catering store if outside “Use By/Best Before” dates.
2. Storage

<table>
<thead>
<tr>
<th>STEP</th>
<th>HAZARDS</th>
<th>PREVENTIVE MEASURES CONTROL</th>
<th>MONITORING</th>
<th>CORRECTIVE ACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biological</td>
<td>Biological Contamination and growth of food poisoning bacteria or toxins.</td>
<td>Refrigerators to operate at or below &lt;8 °C. Freezer to operate -18 °C or colder. Separate raw and cooked foods. Rotate stock – observe “Use By/Best Before” dates. Bulk Storage; refer to Single Service Requirements.</td>
<td>Check temperatures thrice daily using a calibrated temperature probe. Record in Temperature Log. Check “Use By/Best Before” dates. Visual/sensory checks.</td>
<td>Use food immediately or discard. Refrigerator: &gt;8°C or Freezer: less than -18 °C inform I/C. Adjust or repair refrigerator or freezer unit. Separate raw and cooked foods discard if contamination suspected. Discard food if past “Use By/Best Before” dates.</td>
</tr>
</tbody>
</table>
### 3. Defrost

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td><strong>Packaging not damaged or leaking, pests, foreign objects.</strong></td>
<td><strong>Equipment must be clean. Adhere to cleaning schedule and follow manufacturer’s instructions.</strong></td>
<td><strong>Visual/sensory checks. Daily checks on cleaning techniques – check recorded.</strong></td>
<td><strong>Liaise with cleaning supervisor. Dispose of contaminated food.</strong></td>
</tr>
<tr>
<td><strong>Chemical</strong></td>
<td><strong>Wash hands before handling food. Surfaces and equipment to be sanitised prior to defrosting. Keep raw food separate. Defrost Temp:&lt;8°C. Keep covered &lt;8°C until required for use. Ensure food “Use By/ Best Before” dates.</strong></td>
<td><strong>Visual/sensory checks. Supervision. Regularly check “Use By/ Best Before” dates.</strong></td>
<td><strong>Discard contaminated food, and separate raw and cooked foods to remove risk of cross contamination. Discard food if past “Use By/ Best Before” dates. Supervision/staff training.</strong></td>
</tr>
<tr>
<td><strong>Cleaning agents.</strong></td>
<td><strong>Equipment must be clean. Adhere to cleaning schedule and follow manufacturer’s instructions.</strong></td>
<td><strong>Visual/sensory checks. Daily checks on cleaning techniques – check recorded.</strong></td>
<td><strong>Liaise with cleaning supervisor. Dispose of contaminated food.</strong></td>
</tr>
<tr>
<td><strong>Biological</strong></td>
<td><strong>Wash hands before handling food. Surfaces and equipment to be sanitised prior to defrosting. Keep raw food separate. Defrost Temp:&lt;8°C. Keep covered &lt;8°C until required for use. Ensure food “Use By/ Best Before” dates.</strong></td>
<td><strong>Visual/sensory checks. Supervision. Regularly check “Use By/ Best Before” dates.</strong></td>
<td><strong>Discard contaminated food, and separate raw and cooked foods to remove risk of cross contamination. Discard food if past “Use By/ Best Before” dates. Supervision/staff training.</strong></td>
</tr>
<tr>
<td><strong>Cross contamination and growth of food poisoning bacteria or toxins.</strong></td>
<td><strong>Equipment must be clean. Adhere to cleaning schedule and follow manufacturer’s instructions.</strong></td>
<td><strong>Visual/sensory checks. Daily checks on cleaning techniques – check recorded.</strong></td>
<td><strong>Liaise with cleaning supervisor. Dispose of contaminated food.</strong></td>
</tr>
</tbody>
</table>

#### 4. Preparation

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<tbody>
<tr>
<td><strong>Packaging not damaged or leaking, pests, foreign objects.</strong></td>
<td><strong>Equipment must be clean. Adhere to cleaning schedule and follow manufacturer’s instructions.</strong></td>
<td><strong>Visual/sensory checks. Daily checks on cleaning techniques – check recorded.</strong></td>
<td><strong>Liaise with cleaning supervisor. Dispose of contaminated food.</strong></td>
</tr>
<tr>
<td><strong>Cleaning agents.</strong></td>
<td><strong>Equipment must be clean. Adhere to cleaning schedule and follow manufacturer’s instructions.</strong></td>
<td><strong>Visual/sensory checks. Daily checks on cleaning techniques – check recorded.</strong></td>
<td><strong>Liaise with cleaning supervisor. Dispose of contaminated food.</strong></td>
</tr>
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</table>

### STEP

<table>
<thead>
<tr>
<th>HAZARDS What can go wrong here?</th>
<th>PREVENTIVE MEASURES CONTROL What can I do about it?</th>
<th>MONITORING How can I check?</th>
<th>CORRECTIVE ACTION What if it’s not right?</th>
</tr>
</thead>
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Amendment 013

3-44

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<table>
<thead>
<tr>
<th>Sponsor - DFSMC</th>
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### Chemical
- **Cleaning agents.**
  - Equipment must be clean. Adhere to cleaning schedule and follow manufacturer’s instructions.
  - Visual/sensory checks. Daily checks on cleaning techniques - check recorded.
  - Liaise with cleaning supervisor. Dispose of contaminated food.

### Biological
- **Cross contamination and growth of food poisoning bacteria or toxins.**
  - Wash hands before handling food. Preparation surfaces and equipment to be sanitised prior to and after raw food prep. Keep raw food separate from cooked. Wash hands after handling raw food. Keep covered once prepared. Ensure food within “Use By/ Best Before” dates.
  - Discard food if past “Use By/ Best Before” dates. Separate raw and cooked foods to remove risk of cross contamination. Supervision/staff training.

### 5. Cooking
- **Physical**
  - Packaging not damaged or leaking, pests, foreign objects.
  - Routine pest control survey by *(Insert details of Pest Control Service).*
  - Equipment Maintenance. Planned preventative maintenance iaw local arrangements.

- **Chemical**
  - Cleaning agents.
  - Adhere to cleaning schedule and follow manufacturer’s instructions.
  - Dispose of contaminated food. Clean immediately and review cleaning schedules. Inform supervisor.

- **Biological**
  - **Critical Control Point**
    - Core temperature of food > 75°C.
    - Use calibrated temperature probe for every batch. Record temperatures in *Temperature Log.*
    - Continue cooking until temperature is reached. Inform I/C Galley/Kitchen. Revise cooking routines.

<table>
<thead>
<tr>
<th>STEP</th>
<th>HAZARDS (What can go wrong here?)</th>
<th>PREVENTIVE MEASURES (What can I do about it?)</th>
<th>MONITORING (How can I check?)</th>
<th>CORRECTIVE ACTION (What if it’s not right?)</th>
</tr>
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| 6. Cooling | **Physical**  
Packaging not damaged or leaking, pests, foreign objects. | . Routine pest control survey by *(Insert details of Pest Control Service).*  
Keep food covered.  
Cleaning schedule. | Monitor efficacy of pest control contract/operations  
Supervision.  
Visual/sensory checks. | Pest control treatment by *(Insert details of pest control service).*  
Dispose of contaminated food.  
Clean immediately and review cleaning schedules. Inform supervisor. |
|---|---|---|---|---|
| **Chemical**  
Cleaning agents. | Ensure chilling area hygienically clean.  
Adhere to cleaning schedule and follow manufacturer’s instructions. | Visual/sensory checks.  
Daily check on cleaning techniques - record check. | Dispose of contaminated food. |
| **Biological**  
Cross contamination and growth of food poisoning bacteria or toxins; growth of surviving spores or pathogens. | **Critical Control Point**  
Cool food as quickly as possible through the critical zone from >63°C to <8°C in 90 mins*;  
Cook and chill <8°C within 90mins*  
*( * best practice <5°C).  
Use clean and disinfected shallow trays to aid cooling. | Record chilling time and temperature in Temperature Log. | If longer than 90 mins hrs discard food.  
Inform supervisor.  
Investigate possible process failure.  
Staff training. |
<table>
<thead>
<tr>
<th>STEP</th>
<th>HAZARDS</th>
<th>PREVENTIVE MEASURES</th>
<th>MONITORING</th>
<th>CORRECTIVE ACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Biological Cross contamination and growth of food poisoning bacteria or toxins.</td>
<td>Critical Control Point Equipment must be clean. Cold service: CCP &lt;8°C.</td>
<td>Use calibrated food probe. Record temperature in <em>Temperature Log</em>.</td>
<td>Discard food if &gt;8°C or consume within 4hrs</td>
</tr>
<tr>
<td>STEP</td>
<td>HAZARDS What can go wrong here?</td>
<td>PREVENTIVE MEASURES CONTROL What can I do about it?</td>
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<tr>
<td>9.</td>
<td>Leftover Food</td>
<td><strong>Physical</strong></td>
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<tr>
<td></td>
<td></td>
<td>Critical Control Point</td>
<td>Visual/sensory checks.</td>
<td>Discard any food &gt; 8°C.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Food held at the Service Point at &lt;8°C may retained for 1x further service period providing the next service is within 24 hrs.</td>
<td>Supervision. Determine whether foods have been stored &lt;8°C using temperature monitor.</td>
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<td></td>
<td></td>
<td><strong>Chemical</strong></td>
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<tr>
<td></td>
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<td><strong>Biological</strong></td>
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<td></td>
<td></td>
<td>Contamination from food poisoning bacteria or toxins.</td>
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<tr>
<td>10.</td>
<td>Waste</td>
<td><strong>Physical</strong></td>
<td>Supervision and staff training.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Packaging not damaged or leaking, pests, foreign objects.</td>
<td>Staff retraining. Remove damaged bins.</td>
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<tr>
<td></td>
<td></td>
<td>Food waste to be removed from food rooms at end of each meal. <strong>All external waste containers must be covered to prevent pest ingress.</strong></td>
<td>Supervision and staff training.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Chemical</strong></td>
<td>Supervision and staff training. Ensure all cleaning chemical residue is removed</td>
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</tr>
<tr>
<td></td>
<td></td>
<td>Cleaning agents.</td>
<td>Re-clean, Remove damaged bins. Staff training.</td>
<td></td>
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<td></td>
<td>Use cleaning chemical iaw manufacturers instrs. Include on cleaning schedule.</td>
<td>Supervision and staff training.</td>
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<tr>
<td></td>
<td></td>
<td><strong>Biological</strong></td>
<td>Separate. Retrain staff. Liaise with contractor and arrange for more frequent removal.</td>
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<tr>
<td></td>
<td></td>
<td>Contamination from food poisoning bacteria or toxins.</td>
<td>Supervision and staff training.</td>
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<tr>
<td></td>
<td></td>
<td>Waste area must be clean. Removal of food waste to be undertaken so as to prevent the risk of cross contamination.</td>
<td>Supervision and staff training.</td>
<td></td>
</tr>
</tbody>
</table>
### HAZARD ANALYSIS – FOOD/ DISHES THAT ARE COOKED, CHILLED/FREEZE AND REHEATED

<table>
<thead>
<tr>
<th>STEP</th>
<th>HAZARDS What can go wrong here?</th>
<th>PREVENTIVE MEASURES CONTROL What can I do about it?</th>
<th>MONITORING How can I check?</th>
<th>CORRECTIVE ACTION What if it’s not right?</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td><strong>Receipt of Delivery</strong>&lt;br&gt;<strong>Physical</strong>&lt;br&gt;Packaging not damaged or leaking, pests, foreign objects.</td>
<td>Ensure no foreign material present in deliveries.</td>
<td>Visual/sensory checks by staff receiving goods.</td>
<td>Do not accept from supplier or Inform I/C Galley/Kitchen and initiate disposal action.</td>
</tr>
<tr>
<td></td>
<td><strong>Chemical</strong>&lt;br&gt;Cleaning agents.</td>
<td>Adhere to cleaning schedule and follow manufacturer’s instructions.</td>
<td>Check cleanliness of delivery trolleys.</td>
<td>Do not accept from supplier or Inform supervisor and return to catering store staff.</td>
</tr>
<tr>
<td></td>
<td><strong>Biological</strong>&lt;br&gt;Contamination from food poisoning bacteria or toxins.</td>
<td>Check delivery temperature: <strong>Chilled:</strong> &lt;8°C <strong>Frozen:</strong> -12°C or colder&lt;br&gt;Ensure food within “Use By/ Best Before” dates.</td>
<td>Check food temperatures using a calibrated temperature probe.&lt;br&gt;Record temperature in <strong>Temperature Log</strong>.&lt;br&gt;Check “Use By/ Best Before” dates.</td>
<td><strong>Chilled:</strong> &gt;8°C or <strong>Frozen:</strong> less than -12°C return to catering store and inform I/C. Galley/Kitchen.&lt;br&gt;Do not accept from supplier Return to catering store if outside “Use By/ Best Before” dates.</td>
</tr>
<tr>
<td>2.</td>
<td><strong>Physical</strong>&lt;br&gt;Packaging not damaged or leaking, pests, foreign objects.</td>
<td>Routine pest control surveys by <em>(Insert details of Pest Control Service)</em>.&lt;br&gt;Keep food covered.&lt;br&gt;Cleaning schedule.</td>
<td>Monitor efficacy of pest control contract/operations&lt;br&gt;Visual/sensory checks.&lt;br&gt;Supervision.</td>
<td>Pest control treatment by <em>(Insert details of Pest Control Service)</em>.&lt;br&gt;Dispose of contaminated food.&lt;br&gt;Clean immediately and review cleaning schedules. Inform I/C Galley/Kitchen.</td>
</tr>
<tr>
<td></td>
<td><strong>Chemical</strong>&lt;br&gt;Cleaning agents.</td>
<td>Keep refrigerators and storage areas hygienically clean.&lt;br&gt;Adhere to cleaning schedule and follow manufacturer’s instructions.</td>
<td>Visual/sensory checks.&lt;br&gt;Supervision.</td>
<td>Dispose of contaminated food.&lt;br&gt;Inform supervisor.&lt;br&gt;Clean immediately and review cleaning schedules.</td>
</tr>
<tr>
<td>STEP</td>
<td>HAZARDS</td>
<td>PREVENTIVE MEASURES CONTROL</td>
<td>MONITORING How can I check?</td>
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</tbody>
</table>

3. Defrost In accordance with 0320.
<table>
<thead>
<tr>
<th>STEP</th>
<th>HAZARDS What can go wrong here?</th>
<th>PREVENTIVE MEASURES CONTROL What can I do about it?</th>
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</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Chemical Cleaning agents</td>
<td>Critical Control Point Equipment must be clean. Adhere to cleaning schedule and follow manufacturer’s instructions.</td>
<td>Visual/sensory checks. Daily checks on cleaning techniques - check recorded.</td>
<td>Liaise with cleaning supervisor. Dispose of contaminated food.</td>
</tr>
<tr>
<td>STEP</td>
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<td></td>
<td><strong>Chemical</strong> Cleaning agents.</td>
<td>Adhere to cleaning schedule and follow manufacturer's instructions.</td>
<td>Visual/sensory checks. Supervision.</td>
<td>Dispose of contaminated food. Clean immediately and review cleaning schedules. Inform supervisor.</td>
</tr>
<tr>
<td></td>
<td><strong>Biological</strong> Survival of food poisoning bacteria or toxins.</td>
<td><strong>Critical Control Point</strong> Core temperature of food &gt;75°C.</td>
<td>Use calibrated temperature probe for every batch. Record temperatures in <em>Temperature Log</em>.</td>
<td>Continue cooking until temperature is reached. Inform I/C Galley/Kitchen. Revise cooking routines.</td>
</tr>
<tr>
<td>STEP</td>
<td>HAZARDS What can go wrong here?</td>
<td>PREVENTIVE MEASURES CONTROL What can I do about it?</td>
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</tr>
<tr>
<td><strong>Biological</strong> Cross contamination and growth of food poisoning bacteria or toxins.</td>
<td><strong>Critical Control Point</strong> Cool food as quickly as possible to CCP &lt;8°C, within 90 mins. (Cook and Chill &lt;8°C within 90mins). Store at &lt;8°C Use clean, shallow trays to aid cooling. Keep raw food separate.</td>
<td>Record chilling time and temperature in <em>Temperature Log</em>.</td>
<td>If food cannot be chilled within 90 mins then discard. Inform supervisor. Investigate possible equipment failure. Staff training.</td>
<td></td>
</tr>
<tr>
<td><strong>Biological</strong> Contamination and growth of food poisoning bacteria or toxins.</td>
<td><strong>Critical Control Point</strong> Separate raw and cooked food Chilled CCP: &lt;8°C Frozen CCP: -18°C or colder Rotate stock Observe “Use By/ Best Before” dates. Frozen Rechauffe dishes: stored covered &amp; labelled- use within 30 days.</td>
<td>Check temperatures thrice daily using a calibrated temperature probe. Record on <em>Temperature Log</em>. Check “Use By/ Best Before” dates. Visual/sensory checks.</td>
<td>Chilled: Discard if &gt;8°C or consume within 4hrs. Frozen: Use immediately if less than -18°C Adjust or repair chiller or freezer unit. Keep raw/cooked foods separate. Discard food if past “Use By/ Best Before” dates.</td>
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</tr>
<tr>
<td>STEP</td>
<td>HAZARDS</td>
<td>PREVENTIVE MEASURES CONTROL</td>
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<td></td>
<td><strong>HAZARDS</strong></td>
<td><strong>What can go wrong here?</strong></td>
<td><strong>What can I do about it?</strong></td>
<td><strong>How can I check?</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Keep covered when not in use. Cleaning schedule.</td>
<td></td>
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<td></td>
<td></td>
<td><strong>Chemical</strong> Cleaning agents.</td>
<td>Equipment must be clean. Adhere to cleaning schedule and follow manufacturer’s instructions.</td>
<td>Visual/sensory checks. Daily checks on cleaning techniques - check recorded.</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Biological</strong> Cross contamination and growth of food poisoning bacteria or toxins.</td>
<td>Wash hands before handling food. Surfaces and equipment to be sanitised prior to defrosting. Keep raw food separate. Keep covered &lt;8 °C until required for use. Ensure food within “Use By/ Best Before” dates.</td>
<td>Visual/sensory checks. Supervision. Regularly check “Use By/ Best Before” dates.</td>
</tr>
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<td></td>
<td></td>
<td>Cleaning schedule. Equipment maintenance. Planned preventative maintenance in accordance with local arrangements.</td>
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<tr>
<td>STEP</td>
<td>HAZARDS What can go wrong here?</td>
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</tr>
<tr>
<td>Biological Survival of food poisoning bacteria or toxins.</td>
<td><strong>Critical Control Point</strong> Core temperature of food &gt;75°C (82°C in Scotland) for a minimum of 2 mins.</td>
<td>Use calibrated temperature probe for every batch. Record temperature in Temperature Control Log.</td>
<td>Continue reheating until temperature is reached. Inform I/C Galley/Kitchen. Revise reheating routines.</td>
<td></td>
</tr>
<tr>
<td>Biological Contamination and growth of food poisoning bacteria or toxins.</td>
<td><strong>Critical Control Point</strong> Equipment must be clean. Hot service: temperature &gt;63°C.</td>
<td>Use calibrated food probe in accordance with SOs. Record temperature in Log.</td>
<td>If food &lt;63°C use within 2 hrs from the end of the cooking cycle. Inform I/C Galley. Staff retraining / Check equipment for defects.</td>
<td></td>
</tr>
<tr>
<td>STEP</td>
<td>HAZARDS</td>
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<td>------------------------------------------</td>
</tr>
<tr>
<td>11. Waste</td>
<td><strong>Physical</strong> Packaging not damaged or leaking, pests, foreign objects.</td>
<td>Remove waste from food rooms at end of each meal. <strong>All external waste containers must be covered to prevent pest ingress.</strong></td>
<td>Supervision and staff training.</td>
<td>Staff retraining. Remove damaged bins.</td>
</tr>
<tr>
<td></td>
<td><strong>Chemical</strong> Cleaning agents.</td>
<td>Use cleaning chemical in accordance with manufacturers instructions. Include on cleaning schedule.</td>
<td>Supervision and staff training. Ensure all cleaning chemical residue is removed</td>
<td>Re-clean, Remove damaged bins. Staff training.</td>
</tr>
<tr>
<td></td>
<td><strong>Biological</strong> Contamination from food poisoning bacteria or toxins.</td>
<td>Waste area must be clean. Removal of food waste to be undertaken so as to prevent the risk of cross contamination.</td>
<td>Supervision and staff training.</td>
<td>Separate. Retrain staff. Liaise with contractor and arrange for more frequent removal.</td>
</tr>
<tr>
<td>STEP</td>
<td>HAZARDS What can go wrong here?</td>
<td>PREVENTIVE MEASURES CONTROL What can I do about it?</td>
<td>MONITORING How can I check?</td>
<td>CORRECTIVE ACTION What if it’s not right?</td>
</tr>
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<td>---------------------------------</td>
<td>--------------------------------------------------</td>
<td>-----------------------------</td>
<td>------------------------------------------</td>
</tr>
<tr>
<td></td>
<td>Biological Contamination from food poisoning bacteria or toxins.</td>
<td>Critical Control Point Check delivery temperature: Chilled: &lt;8°C Freshly Prepared Hot: &gt;63°C Frozen: &gt;-18°C. Ensure food within “Use By/ Best Before” dates.</td>
<td>Check food temperatures using a calibrated temperature probe. Record temperature in Temp Log. Check “Use By/ Best Before” dates.</td>
<td>Chilled: &lt;8°C Freshly Prepared Hot: &gt; 63°C Frozen: &gt; -18°C (Acceptable tolerance down to -12°C for delivery) If food temp is recorded outside limits by more than 2°C, ask to see In-Flt Cat temp documentation accompanying rations. Cross check temps on paperwork and time taken. Use common sense to determine appropriate action. If food temps just outside limits upon delivery, but were within limits upon departure from In-Flt facility, consider accepting rations and annotating on paperwork actions taken and reasoning behind decision. Alternatively, do not accept from supplier and request fresh rations.</td>
</tr>
<tr>
<td>STEP</td>
<td>HAZARDS What can go wrong here?</td>
<td>PREVENTIVE MEASURES CONTROL What can I do about it?</td>
<td>MONITORING How can I check?</td>
<td>CORRECTIVE ACTION What if it’s not right?</td>
</tr>
<tr>
<td>--------</td>
<td>---------------------------------</td>
<td>----------------------------------------------------</td>
<td>-----------------------------</td>
<td>------------------------------------------</td>
</tr>
<tr>
<td></td>
<td><strong>Biological</strong> Biological Contamination and growth of food poisoning bacteria or toxins.</td>
<td><strong>Critical Control Point</strong> Critical Control Point Check temp of food in storage at regular intervals. Record temps in Temp Log. Visual/Sensory Checks.</td>
<td>Check temp at regular intervals using a calibrated temperature probe. Record in Temp Log. Check “Use By/ Best Before” dates. Visual/sensory checks.</td>
<td>Consume immediately or discard if chilled food has been outside temp limits for more than 4 hrs. Defrosting frozen food is to be treated as chilled. Submit request to repair chiller or freezer unit. Discard food if past “Use By/ Best Before” dates.</td>
</tr>
<tr>
<td>STEP</td>
<td>HAZARDS What can go wrong here?</td>
<td>PREVENTIVE MEASURES CONTROL What can I do about it?</td>
<td>MONITORING How can I check?</td>
<td>CORRECTIVE ACTION What if it’s not right?</td>
</tr>
<tr>
<td>------</td>
<td>---------------------------------</td>
<td>--------------------------------------------------</td>
<td>-----------------------------</td>
<td>------------------------------------------</td>
</tr>
</tbody>
</table>
| 3. Cold Service | Physical Packaging not damaged or leaking, pests, foreign objects. | Critical Control Point
| | Biological Cross contamination and growth of food poisoning bacteria or toxins. | Critical Control Point
Ensure temp of food within set limits. Wash hands before handling food. Surfaces and equipment to be sanitised prior to service. Ensure food within “Use By/ Best Before” dates. | Discard chilled food if temp higher than 2˚C tolerance. Consume within 4 hrs of leaving temp controlled environment. Check “Use By/ Best Before” dates. | Discard contaminated food, and separate raw and cooked foods to remove risk of cross contamination. Discard food if past “Use By/ Best Before” dates. Supervision/staff training. |
<table>
<thead>
<tr>
<th>STEP</th>
<th>HAZARDS</th>
<th>PREVENTIVE MEASURES CONTROL</th>
<th>MONITORING How can I check?</th>
<th>CORRECTIVE ACTION What if it’s not right?</th>
</tr>
</thead>
</table>
| 4. Hot Service. | **Physical**  
Packaging not damaged or leaking, pests, foreign objects.  
**Critical Control Point**  
Pest Control.  
Keep covered when not in use.  
Cleaning schedule.  
**Preventive Measures**  
‘One Shots’ insecticide delivered.  
Snr Cabin Crew Supervision.  
Visual/sensory checks.  
**Corrective Action**  
Report to Snr Cabin Crew Supervisor and request ‘One Shots’ dispensed prior to food service.  
Dispose of contaminated food.  
Clean immediately and review cleaning schedules.  
Staff training. | | |
|            | **Chemical**  
Cleaning agents  
**Critical Control Point**  
Equipment must be clean.  
Adhere to cleaning schedule and follow manufacturer’s instructions. | Visual/sensory checks.  
Snr Cabin Crew Supervisory checks on cleaning techniques - check recorded on Temp Log. | Dispose of contaminated food. | |
|            | **Biological**  
Cross contamination and growth of food poisoning bacteria or toxins.  
**Critical Control Point**  
Wash hands before handling food.  
Equipment and galley preparation area must be clean.  
Surfaces and equipment to be sanitised prior to and following food service.  
Probe a selection of meals taken from different parts of the oven and serve food immediately upon reaching required core temp of > 75°C.  
Ensure food within “Use By/ Best Before” dates. | Use calibrated thermometer food probe to check temp of food.  
Visual/sensory checks.  
Record temp in Temp Log. | Food to be served immediately to pax upon reaching core temp of >75°C.  
If not served immediately, food is to be destroyed.  
Check oven equipment for defects and report if necessary.  
Discard food if past “Use By/ Best Before” dates.  
Supervision/staff training. | |
<table>
<thead>
<tr>
<th>STEP</th>
<th>HAZARDS</th>
<th>PREVENTIVE MEASURES</th>
<th>MONITORING</th>
<th>CORRECTIVE ACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>What can go wrong here?</strong></td>
<td><strong>CONTROL</strong></td>
<td><strong>How can I check?</strong></td>
<td><strong>What if it’s not right?</strong></td>
</tr>
</tbody>
</table>
| **5. Leftover Food** | **Physical**  
Packaging not damaged or leaking, pests, foreign objects.  
**Chemical**  
Cleaning agents.  
**Biological**  
Contamination and growth of food poisoning bacteria or toxins. | **Critical Control Point**  
Food < 63˚C to be disposed of. No Reheat. | Snr Cabin Crew Supervision.  
Visual/sensory checks.  
Probe food. | Discard all leftover food. |
| **6. Waste** | **Physical**  
Packaging not damaged or leaking, pests, foreign objects.  
**Biological**  
Contamination from food poisoning bacteria or toxins. | **Food waste to be removed from aircraft galley at end of each meal service. Full rubbish bags to be tied/sealed securely and stored in specially designated area for removal upon landing. All galley waste to be double bagged and kept near exits (but not to be placed outside aircraft – to prevent pest infestation).  
All international waste to be double bagged and sealed securely for onward disposal iaw DEFRA regulations. Removal of food waste to be undertaken so as to prevent the risk of cross contamination.** | Supervisor to check correct waste procedures. | Staff training.  
Correct disposal of waste. |
### CHAPTER 03 Annex B Appendix 1 - DAILY FOOD SAFETY MANAGEMENT RECORD (TEMPLATE)

**Unit/Galley/Mess/Kitchen:** _______________________

**Date:** _______________________  **IC Shift:** ______________________

<table>
<thead>
<tr>
<th>TIME</th>
<th>FREEZER No 1</th>
<th>FREEZER No 2</th>
<th>FRIDGE No 1</th>
<th>FRIDGE No 2</th>
<th>NAME</th>
<th>SIGNATURE</th>
<th>REMARKS</th>
</tr>
</thead>
<tbody>
<tr>
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</tbody>
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<table>
<thead>
<tr>
<th>TIME</th>
<th>NAME &amp; SIGNATURE</th>
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</thead>
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</tbody>
</table>

**HAL BATCH COOK**

<table>
<thead>
<tr>
<th>TIME</th>
<th>TEMP</th>
<th>TIME</th>
<th>TEMP</th>
<th>TIME</th>
<th>TEMP</th>
<th>TIME</th>
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</tbody>
</table>

**END OF SERVICE**

(Only for items to be cooled and re-used)

<table>
<thead>
<tr>
<th>TIME</th>
<th>TEMP</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tbody>
</table>

**NAME & SIGNATURE**

This form is designed for a manager to verify and validate records taken by their catering personnel, which is normally a 10% spot check of the procedures carried out in their respective establishments.

* **Note:** Food listed in the END OF SERVICE section is to be transferred to the **Advanced Food Preparation Record** to maintain the food safety audit trail. All food items that are to be cooled and re-used must be recorded in this section, having being maintained during service at above 63°C.
# CHAPTER 03 Annex B Appendix 1 - DAILY FOOD SAFETY MANAGEMENT RECORD (EXAMPLE)

**Unit/Galley/Mess/Kitchen:**_______________________  **Date:**________________________  **IC Shift:**_____________________

<table>
<thead>
<tr>
<th>TIME</th>
<th>FREEZER No 1</th>
<th>FREEZER No 2</th>
<th>FRIDGE No 1</th>
<th>FRIDGE No 2</th>
<th>NAME</th>
<th>SIGNATURE</th>
<th>REMARKS</th>
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</thead>
<tbody>
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</tr>
</tbody>
</table>

**FOOD TEMPERATURE RECORDS**

<table>
<thead>
<tr>
<th>Meal: Breakfast</th>
<th>HAL</th>
<th>BATCH COOK</th>
<th>BATCH COOK</th>
<th>BATCH COOK</th>
<th>END OF SERVICE (Only for items to be cooled and re-used)</th>
<th>NAME &amp; SIGNATURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sausage</td>
<td>B</td>
<td>0600</td>
<td>90ºC</td>
<td>0700</td>
<td>87ºC</td>
<td>J Bloggs J Bloggs</td>
</tr>
<tr>
<td>Scrambled Egg</td>
<td>B</td>
<td>0700</td>
<td>80ºC</td>
<td></td>
<td></td>
<td>J Bloggs J Bloggs</td>
</tr>
</tbody>
</table>

**Meal:**

<table>
<thead>
<tr>
<th>TIME</th>
<th>TEMP</th>
<th>TIME</th>
<th>TEMP</th>
<th>TIME</th>
<th>TEMP</th>
<th>TIME</th>
<th>TEMP</th>
<th>NAME</th>
<th>SIGNATURE</th>
</tr>
</thead>
<tbody>
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</tr>
</tbody>
</table>

**Note** – High risk foods left over from service are to be recorded in the end of service section. Food must remain above 63ºC throughout service if it is to be retained. Food listed in the end of service section should be transferred to the Advanced Food Preparation Record to maintain an audit trail.
CHAPTER 03 Annex B APPENDIX 2 - ADVANCE FOOD PREPARATION RECORD (TEMPLATE)

Unit/Galley/Mess/Kitchen: ____________________________  Date: ____________________________  IC Shift: ____________

<table>
<thead>
<tr>
<th>Dish Name</th>
<th>End Cook</th>
<th>Blast/Chill</th>
<th>Into Fridge/Freezer</th>
<th>Labelled(^1)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>HAL</td>
<td>Time</td>
<td>Temp</td>
<td>Time</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

**Note:** The end of service time is a control point, not a critical control point; whether the foodstuff is cooling on the counter during a two hour service or cooling on the side in a galley, is irrelevant, as long as: the CCP of above 75 ºC *End cook* is recorded, the *Chill* time and temperature is above 63ºC recorded, and the *Into Fridge* temp below 8 ºC in 90 min is also recorded).

It will be is acceptable if the Chef wants to record the times and temperatures during the *improvised chill process* (between above 75ºC to above 63 ºC) to alleviate the problem of the foodstuff going past 63 ºC unnoticed.

\(^1\) To contain product name, preparation date and In House consumption date.
CHAPTER 03 Annex B Appendix 2 - ADVANCE FOOD PREPARATION RECORD (EXAMPLE)

<table>
<thead>
<tr>
<th>Unit/Galley/Mess/Kitchen: __________________________</th>
<th>Date: ____________________________</th>
<th>IC Shift: __________</th>
</tr>
</thead>
</table>

**SHIP WITH BLAST CHILLER**

<table>
<thead>
<tr>
<th>Dish Name</th>
<th>HAL</th>
<th>Time</th>
<th>Temp</th>
<th>Blast/Chill</th>
<th>Into Fridge/Freezer</th>
<th>Labelled</th>
<th>Name &amp; Signature</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mince for Lasagne</td>
<td>B</td>
<td>0930</td>
<td>92°C</td>
<td>0930</td>
<td>92°C</td>
<td>1100</td>
<td>7°C</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0930</td>
<td></td>
<td>1100</td>
<td></td>
</tr>
</tbody>
</table>

**SHIP WITHOUT BLAST CHILLER (IMPROVISED METHOD)**

<table>
<thead>
<tr>
<th>Dish Name</th>
<th>HAL</th>
<th>Time</th>
<th>Temp</th>
<th>Blast/Chill</th>
<th>Into Fridge/Freezer</th>
<th>Labelled</th>
<th>Name &amp; Signature</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mince for Lasagne</td>
<td>B</td>
<td>0930</td>
<td>92°C</td>
<td>1100</td>
<td>65°C</td>
<td>1230</td>
<td>7°C</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1100</td>
<td></td>
<td>1230</td>
<td></td>
</tr>
</tbody>
</table>

**SAVED FOODSTUFF**

**SHIP WITH BLAST CHILLER**

<table>
<thead>
<tr>
<th>Dish Name</th>
<th>HAL</th>
<th>Time</th>
<th>Temp</th>
<th>Blast/Chill</th>
<th>Into Fridge/Freezer</th>
<th>Labelled</th>
<th>Name &amp; Signature</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sausages</td>
<td>B</td>
<td>0700</td>
<td>87°C</td>
<td>0815</td>
<td>68°C</td>
<td>0945</td>
<td>6°C</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0815</td>
<td></td>
<td>0945</td>
<td></td>
</tr>
</tbody>
</table>

**SHIP WITHOUT BLAST CHILLER (IMPROVISED METHOD)**

<table>
<thead>
<tr>
<th>Dish Name</th>
<th>HAL</th>
<th>Time</th>
<th>Temp</th>
<th>Blast/Chill</th>
<th>Into Fridge/Freezer</th>
<th>Labelled</th>
<th>Name &amp; Signature</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sausages</td>
<td>B</td>
<td>0700</td>
<td>87°C</td>
<td>0815</td>
<td>68°C</td>
<td>0945</td>
<td>6°C</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0815</td>
<td></td>
<td>0945</td>
<td></td>
</tr>
</tbody>
</table>

Note: The end of service time is a control point, not a critical control point; whether the foodstuff is cooling on the counter during a two hour service or cooling on the side in a galley, is irrelevant, as long as: the CCP of above 75 ºC End cook is recorded, the Chill time and temperature is above 63ºC recorded, and the Into Fridge temp below 8 ºC in 90 min is also recorded).

It will be is acceptable if the Chef wants to record the times and temperatures during the improvised chill process (between above 75ºC to above 63 ºC) to alleviate the problem of the foodstuff going past 63 ºC unnoticed.

---

16 Chill time the same as the end cook time as the Ship is fitted with a blast chiller.

17 Mince left on dish of ice from 0930 until 1100 all the time being monitored to ensure it remains above 63 ºC.

18 Chill time the same as the end of service time as the Ship is fitted with a blast chiller.

19 Sausages came off the counter at 0745 however the decision was to monitor them until they got nearer the CCP of 63 ºC.
# CHAPTER 03 Annex B APPENDIX 3 - FOOD TIME/TEMPERATURE RECORD (TEMPLATE)

Unit/Galley/Mess/Kitchen: ___________________________  Date: ___________________________  IC Shift: ___________

MEAL: ___________________________

<table>
<thead>
<tr>
<th>Dish Name</th>
<th>HAL</th>
<th>Batch Cook No:</th>
<th>Batch Cook No:</th>
<th>Batch Cook No:</th>
<th>End of Service (Only for items to be cooled and re-used)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Time</td>
<td>Temp</td>
<td>Time</td>
<td>Temp</td>
</tr>
</tbody>
</table>
### CHAPTER 03 Annex B Appendix 3- FOOD TIME/TEMPERATURE RECORD (EXAMPLE)

<table>
<thead>
<tr>
<th>Dish Name</th>
<th>HAL</th>
<th>Time</th>
<th>Temp</th>
<th>Time</th>
<th>Temp</th>
<th>Time</th>
<th>Temp</th>
<th>Time</th>
<th>Temp</th>
<th>Name &amp; Signature</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beef Curry</td>
<td>B</td>
<td>1145</td>
<td>92°C</td>
<td>1215</td>
<td>90°C</td>
<td>1230</td>
<td>87°C</td>
<td>1245</td>
<td>72°C</td>
<td>D Bloggs</td>
</tr>
<tr>
<td>Chicken Portions</td>
<td>A</td>
<td>1145</td>
<td>3°C</td>
<td>1200</td>
<td>4°C</td>
<td>1245</td>
<td>5°C</td>
<td></td>
<td></td>
<td>D Bloggs</td>
</tr>
</tbody>
</table>

**REHEATING FOOD 0323.** It is advised that the re-heating cooked food is avoided, but if this is not possible it must only be re-heated once and the following steps are to be taken:

- **a.** Ensure that the food reaches a core temperature of 75°C for at least 2 minutes. (In Scotland it is a legal requirement for the centre of the food being re-heated to reach 82°C for at least 2 minutes).

- **b.** Use digital probe thermometers to check the temperature at the centre of the food. (Probes are to be disinfected using bactericidal wipes between each use).

- **c.** The food is to be served and eaten as soon as possible.

- **d.** After re-heating, any leftover cooked food is to be thrown away.

Blast Chill to <5 °C within 90 mins
### FRIDGE/FREEZER TEMPERATURE RECORD (TEMPLATE)

**For (week beginning) _________________**

<table>
<thead>
<tr>
<th>Day</th>
<th>Mon</th>
<th>Tue</th>
<th>Wed</th>
<th>Thu</th>
<th>Fri</th>
<th>Sat</th>
<th>Sun</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Date</strong></td>
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<td></td>
</tr>
<tr>
<td><strong>Time</strong></td>
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<td></td>
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<td><strong>Initials</strong></td>
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</tr>
<tr>
<td>COLD ROOM 1</td>
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<td></td>
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</tr>
<tr>
<td>COLD ROOM 2</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>COLD ROOM 3</td>
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</tr>
</tbody>
</table>

**Weekly Alarm Test**

**Weekly Calibration**

**Comment:**

JSP 456 Pt.2 Vol 3 0325 and Pt.2 Vol 1 1321, Refrigerators and freezers must be monitored thrice daily. Monitoring should be carried out using either a calibrated probe thermometer to probe a food simulant, e.g. a pot of salt, or by using a food simulant thermometer. The monitoring results should be recorded and the document kept available for perusal. Best practice recommends that the fridge should operate at a temperature between 1°C to 5°C and freezers between -18°C to -21°C. A weekly alarm test must be conducted and be recorded. The comments section is to be used to highlight the reaction to the alarm test.
# CHAPTER 03 Annex B Appendix 4 – FRIDGE/FREEZER TEMPERATURE RECORD (EXAMPLE)

For (week beginning) ____________________

<table>
<thead>
<tr>
<th>Day</th>
<th>Mon</th>
<th>Tue</th>
<th>Wed</th>
<th>Thu</th>
<th>Fri</th>
<th>Sat</th>
<th>Sun</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date</td>
<td>070</td>
<td>133</td>
<td>183</td>
<td>073</td>
<td>131</td>
<td>184</td>
<td>071</td>
</tr>
<tr>
<td>Time</td>
<td>0</td>
<td>5</td>
<td>0</td>
<td>2</td>
<td>5</td>
<td>0</td>
<td>5</td>
</tr>
<tr>
<td>Initials</td>
<td>DG</td>
<td>DG</td>
<td>DG</td>
<td>DG</td>
<td>DG</td>
<td>DG</td>
<td>DG</td>
</tr>
<tr>
<td>Fridge 1</td>
<td>8ºC</td>
<td>5.2ºC</td>
<td>3ºC</td>
<td>6ºC</td>
<td>2ºC</td>
<td>5ºC</td>
<td>10ºC</td>
</tr>
<tr>
<td>Fridge 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Freezer 1</td>
<td>-22ºC</td>
<td>-16ºC</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Freezer 2</td>
<td>U/S</td>
<td>U/S</td>
<td>U/S</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Freezer 3</td>
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</tr>
</tbody>
</table>

Comment:
1. Fridge recently opened for delivery of rations.
2. Fridge Cleaning.
3. On defrost Cycle.
4. Delivery of frozen foods.
5. Freezer 2 U/S awaiting new door seals.

JSP 456 Pt.2 Vol 3 0325 and Pt.2 Vol 1 1321, Refrigerators and freezers must be monitored thrice daily. Monitoring should be carried out using either a calibrated probe thermometer to probe a food simulant, e.g. a pot of salt, or by using a food simulant thermometer. The monitoring results should be recorded and the document kept available for perusal. Best practice recommends that the fridge should operate at a temperature between 1ºC to 5ºC and freezers between -18ºC to -21ºC. A weekly alarm test must be conducted and be recorded. The comments section is to be used to highlight the reaction to the alarm test.
### CHAPTER 03 Annex B APPENDIX 5 – UNIT/GALLEY/MESS/KITCHEN BLAST

#### CHILLER MONITORING RECORD (TEMPLATE)

**UNIT/GALLEY/MESS/KITCHEN:**_________________________

**DATE & BATCH NO:**______________________________

<table>
<thead>
<tr>
<th>Time In:</th>
<th>Temp:</th>
<th>Remarks (relating to intended use or quantity)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</table>

**DATE & BATCH NO:**________

<table>
<thead>
<tr>
<th>Time In:</th>
<th>Temp:</th>
<th>Remarks (relating to intended use or quantity)</th>
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<tbody>
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</table>

**DATE & BATCH NO:**________

<table>
<thead>
<tr>
<th>Time In:</th>
<th>Temp:</th>
<th>Remarks (relating to intended use or quantity)</th>
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<tbody>
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</tbody>
</table>

**DATE & BATCH NO:**________

<table>
<thead>
<tr>
<th>Time In:</th>
<th>Temp:</th>
<th>Remarks (relating to intended use or quantity)</th>
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<tbody>
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</table>

**DATE & BATCH NO:**________

<table>
<thead>
<tr>
<th>Time In:</th>
<th>Temp:</th>
<th>Remarks (relating to intended use or quantity)</th>
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</thead>
<tbody>
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</tbody>
</table>
## DISPERSED FEEDING RECORD

**FCAT 1013**

### Dish | Temp/Time | Temp/Time At Feeding Location | Remarks
---|---|---|---

Shift NCO Signature: ___________________ Recipient signature¹: ___________________
Name: ___________________ Name: ___________________

To be produced in duplicate: 1 x copy retained with Food Safety Records and 1 x copy to accompany recipient of food.

**Completion notes for column:**

1. **Enter dish e.g. stew or packed meal.**
2. **Enter time and temperature when either hot food is placed into insulated container or cold food leaves a refrigerated environment.**
3. **If products are not temperature probed at the feeding location, consumption is to be within 4 hrs (cold food) or 2 hrs (hot food) of the time in column.**
4. **Cold food is to be consumed within 4 hrs of temperature rising above 8°C. Hot food is to be consumed within 2 hrs of the temperature dropping below 63°C.**
5. All Allergens are to be recorded and issued to recipients at time of collection.

¹. Recipient signs to confirm receipt of products and requirements for consumption in accordance with completion notes for columns (b) and (c).

---

## DISPERSED FEEDING RECORD

**FCAT 1013**

### Dish | Temp/Time | Temp/Time At Feeding Location | Remarks
---|---|---|---

Shift NCO Signature: ___________________ Recipient signature¹: ___________________
Name: ___________________ Name: ___________________

To be produced in duplicate: 1 x copy retained with Food Safety Records and 1 x copy to accompany recipient of food.

**Completion notes for column:**

1. **Enter dish e.g. stew or packed meal.**
2. **Enter time and temperature when either hot food is placed into insulated container or cold food leaves a refrigerated environment.**
3. **If products are not temperature probed at the feeding location, consumption is to be within 4 hrs (cold food) or 2 hrs (hot food) of the time in column.**
4. **Cold food is to be consumed within 4 hrs of temperature rising above 8°C. Hot food is to be consumed within 2 hrs of the temperature dropping below 63°C.**
5. All Allergens are to be recorded and issued to recipients at time of collection.

¹. Recipient signs to confirm receipt of products and requirements for consumption in accordance with completion notes for columns (b) and (c).
CHAPTER 03 Annex C - TEMPERATURE PROBE CALIBRATION RECORD (TEMPLATE)

Probe No:…………………………..(Serial Number)

<table>
<thead>
<tr>
<th>MONTH</th>
<th>-17.5°C</th>
<th>0°C</th>
<th>+71°C</th>
<th>NAME &amp; SIGNATURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jan</td>
<td></td>
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<tr>
<td>Feb</td>
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<td>Mar</td>
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<tr>
<td>Apr</td>
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<td>May</td>
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<td>Dec</td>
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</tbody>
</table>

Comment

**Calibration:** A monthly calibration check of each thermometer is to be made at each of the holding temperatures using each of the three test caps. If this cannot be achieved then the procedures at para 0332b and 0332c should be adopted.
## CHAPTER 03 Annex C APPENDIX 1 – ALTERNATIVE METHOD TEMPERATURE PROBE CALIBRATION RECORD (TEMPLATE)

Probes No: …………………… (Serial Number)

<table>
<thead>
<tr>
<th>MONTH</th>
<th>TESTED HOT</th>
<th>TESTED COLD</th>
<th>NAME &amp; SIGNATURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jan</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Feb</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mar</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Apr</td>
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<tr>
<td>May</td>
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<tr>
<td>Jun</td>
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<td>Oct</td>
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<td>Nov</td>
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<tr>
<td>Dec</td>
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</tr>
</tbody>
</table>
CHAPTER 03 Annex D – HANDWASHING PROCEDURE

It is essential that staff follow good personal hygiene practices to help prevent cross-contamination of harmful bacteria to RTE foods. Effective hand washing and suitable clean protective clothing can help prevent harmful bacteria spreading to food, work surfaces, equipment etc. through hand contact or clothing.

### Washing hands effectively

<table>
<thead>
<tr>
<th>Step 1:</th>
<th>Step 2:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wet your hands thoroughly under warm running water and squirt liquid soap onto your palm.</td>
<td>Rub your hands together palm to palm to make a lather.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Step 3:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rub the palm of one hand along the back of the other and along the fingers. Repeat with the other hand.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Step 4:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Put your palms together with fingers interlocked and rub in between each of the fingers thoroughly.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Step 5:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rub around your thumbs on each hand and then rub the fingertips of each hand against your palms.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Step 6:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rinse off the soap with clean water and dry your hands thoroughly on a disposable towel. Turn off the tap with the towel and then throw the towel away.</td>
</tr>
</tbody>
</table>
CHAPTER 03 Annex E – COOK-CHILL AND COOK-FREEZE

INTRODUCTION

A number of Service establishments, specifically in-flight catering production units utilise a dedicated cook-chill or cook-freeze procedure. Cook-chill and cook-freeze systems are methods of preparing food in advance of need, thus allowing the separation of food preparation and service, and the rationalisation of the catering process.

OVERVIEW

The two methods of producing in-flight meals by a cook-chill/cook-freeze system are summarised below and illustrated in the diagram:

a. **Cook-chill.** Cook-chill is a system where food is prepared and cooked in economic quantities, retained in a state of ‘suspended freshness’ by rapid chilling and storage at less than 3°C, and served within 5 days from finishing galleys/kitchens with minimal staffing. Kitchens supporting the provision of satellite feeding (ships in refit) may also utilise such a system.

b. **Cook-freeze.** This is a system where high quality food is prepared and cooked in economic quantities, retained in a state of ‘suspended freshness’ by rapid chilling, freezing and storage, and served up to 8 weeks later from finishing galleys/kitchens with minimal staffing.

HAZARD ANALYSIS

The principles of hazard analysis described in para 0303 should be applied to cook-chill and cook-freeze. Potential hazards that are to be considered include:

a. Mistakes in the batch preparation of food could lead to a far greater outbreak of food poisoning than smaller scale cooking based on normal meal times.

b. Difficulties in ensuring adequate heat penetration and rapid cooling after cooking.

COOK-CHILL/COOK-FREEZE CONTROL MEASURES

Where hazards are identified, control measures must be introduced through catering standing orders. The main emphasis must be placed on the correct storage between cooking and service to prevent the multiplication of organisms which may have survived the heat process, or which have reached the food after cooking.

UNDERLYING PRINCIPLES OF COOK-CHILL

The development of effective refrigeration equipment, particularly blast chillers, allowed the introduction of a safe system, which depends upon a number of characteristics of bacteria to prevent food poisoning. The method of food preservation in many cook-chill foods is low temperature. Pathogenic bacteria will not increase at temperatures below 3°C and the activity of many spoilage organisms is also severely curtailed at this temperature. The growth of all bacteria has a lag phase, a period when no increase occurs when in a new environment, as would occur following cross-contamination. This period normally lasts for several hours. Cook-chill therefore depends upon cooking foods to at least pasteurisation temperature to ensure that most pathogens are killed, and then rapidly reducing the temperature of the food to 3°C or below within the lag phase period. This is followed by strict temperature control during the storage period to maintain the safety and integrity of the product.

THE PRINCIPLES OF CHILLING

Chilling, as used in cook-chill catering, is not to be confused with refrigerated storage as practised by most caterers. Cook-chill relies on specifically dedicated equipment capable of removing heat from food in a rapid and controlled way. The rate of chilling relies upon a number of independent and dependent factors as listed below:

a. The nature of the chilling medium (air, nitrogen, carbon dioxide, water).

b. The temperature of the chilling medium.

c. The circulation of the chilling medium.

d. The shape of the food container.

e. The depth of food in the container.

f. The head-space in the container.

g. Whether or not the container is correctly covered.

Factors dependent on the food being chilled include the following.

a. Food heat conductivity and heat capacity.

b. Food density.
c. Initial temperature.

d. Food bulk and volume.

e. Food moisture content.

The factors listed have significant effects upon chilling rates. For example, containers without covers chill about 15% more quickly than correctly covered ones, although gas chilled systems such as air and nitrogen do tend to dry out uncovered foods. Similarly, a head-space reduction from 20mm to 10mm will also give a 15% saving in chilling time, but remember to cut down the head-space by using a shallower container rather than by increasing the depth of the food.

**THE COOK-CHILL METHOD**

The basis for cook-chill catering systems is laid down in guidelines issued by the Department of Health in 1989: Chilled and Frozen: Guidelines on Cook-Chill and Cook-Freeze Catering Systems (ISBN 0 11 321161 9). Any caterers using cook-chill as the basis of their system are to ensure that the system complies fully with this guidance, particularly if operating in the healthcare sector where compliance is viewed as being mandatory. Strict personal and equipment hygiene must be maintained; ideally separate equipment and staff will be used in the pre and post-cooking areas, especially in large-scale operations.

Cook-chill systems can be broken down into the following stages:

a. Cook the food to ensure pasteurisation. This means ensuring that the food reaches a core temperature of 75°C for 2 mins.

b. Portion or tray the food into containers for chilling within 30 minutes of the end of cooking. The depth of food in trays is not to exceed 50mm and joints of meat are not to exceed 2.5kgs in weight.

c. Place the food into a blast chiller and chill to 3°C or below within 90 minutes. Meat and poultry joints are to reach 3°C within 150 minutes. Meat products are not to exceed 2.5kgs in weight, and large poultry carcasses are to be broken down into sections prior to chilling.

d. Place in refrigerated storage between 0°C and 3°C.

e. Transport/distribute at between 0°C and 3°C.

f. Reheat to a core temperature of 75°C (82°C in Scotland) for 2 mins and commence serving within 15 minutes of the end of the reheating process.

The recommended maximum life for cook-chill catering foods is five days, including the days of production and consumption. If, during storage, the temperature of the food rises to above 5°C, but below 10°C, the food must be consumed within 12 hours. If the temperature of the food rises above 10°C, it is to be discarded. If any food is not consumed after reheating, it must be discarded. Due to the strict temperature requirements on food storage, refrigeration used must be specifically for cook-chill food storage with an operating range between 0°C and 2°C, and preferably fitted with automatic temperature monitoring, recording and an alarm.

**COOK-FREEZE METHOD**

Once the core temperature (upon initial cooking) reaches 75°C, products being prepared and stored using cook-freeze must be frozen to –5°C within 90 minutes. Products are then to be stored and distributed (for up to 8 weeks) at –18°C or below until reheated. Prior to re-heating, products
must be correctly thawed. This must be monitored to ensure that the product temperature does not rise excessively or above 3°C. Consumption must then be within 24 hours.

**MONITORING THE SYSTEM**

Any food production operation should have been subject to a food safety assessment based on HACCP principles and, although not a strict legal requirement, such systems must be documented when it covers such a high-risk operation. The following monitoring and recording is to be completed, whether a full-scale production system is being operated or a caterer is using cook-chill/ freeze as a supplement to a conventional system:

a. The name of the food and the production date.
b. The time at the end of the cooking process and the core temperature of the food.
c. The time the food entered the chiller/freezer.
d. The time the food left the chiller and the core temperature of the food.
e. The temperature of the storage refrigerator/freezer.
f. The core temperature of the food at the end of reheating.
g. Effective monitoring by supervisors must be provided to monitor the temperature control points. All temperature recording devices, refrigerators, chillers, freezers, automatic cooking equipment, are to be checked, calibrated and maintained regularly.

During storage, the container is to be labelled with the name of the food and either the production or Use-By date to ensure correct stock rotation. The records above will establish that the food was pasteurised (b), was portioned within 30 minutes (c–b), was chilled within 90 minutes (d–c), was chilled to the correct temperature (d), was stored at the correct temperature (e) and was re-pasteurised on reheating (f). The same records are to be kept when operating a cook-freeze system.

**SUMMARY**

The following checklist is to be referred to if cook-chill or freeze food production process is used:

a. Cook-chill methodology:

   (1) Cook to ensure pasteurisation.

   (2) Portion food for chilling within 30 minutes of the end of cooking.

   (3) Place in refrigerated storage between 0°C and 3°C.

   (4) Transport / distribute at between 0°C and 3°C.

   (5) Reheat to a core temperature of 75°C (82°C in Scotland) for 2 mins.

   (6) Commence serving within 15 minutes of the end of the reheating process.

b. Follow the Department of Health's guidelines on cook-chill and cook-freeze catering systems.
c. It is imperative that personnel conducting the regeneration of food must be trained and recognised food handlers. They must be given adequate induction training and a documented record of their training and responsibilities is to be maintained.
CHAPTER 03 Annex F – FOOD SAFETY UNDER OPERATIONAL CONDITIONS

The aim of Annex E is to assist kitchen managers to assess food safety problems that could be faced when establishing a catering facility under operational conditions. As such, it can be used by junior Food Service/Catering personnel who may only have a limited knowledge of HACCP-based systems. It is, however, envisaged that more senior Food Service/Catering personnel will be available to advise on detail, as appropriate.

This system takes the form of a series of ‘yes/no’ flow charts to aid decision-making under such conditions. These are designed to be complementary to the policy and advice given within this Chapter.

Kitchen managers are to work through the flow charts, identifying potential food safety hazards. Where these are identified, options are given for their removal/reduction or alternative actions are suggested.

If it is considered that an unacceptable risk still remains, that particular procedure is not be carried out. This may ultimately mean reverting to the use of Operational Ration Packs (ORP) and informing the chain of command that the risks are too high.

If further advice is required, it is to be sought from catering or Service Environmental Health Team (EHT).
CHART INDEX

PURCHASE Chart 1

RECEIPT Chart 2

STORAGE Chart 3

PREPARATION Chart 4

COOKING Chart 5

SERVICE Chart 6

RECOVERY Chart 7

PERSONNEL Chart 8

CLEANING Chart 9

PEST CONTROL Chart 10

BUILDINGS & STRUCTURE Chart 11

MENU PLANNING Chart 12
**CHART 1 – PURCHASE**

**A** Are sources of food supply authorised?
- **YES**
  - Place order
  - Go to Chart 2
- **NO**
  - Ensure sources are checked for quality and hygiene
  - Use alternative suppliers
  - Use ORP

**B** Is local purchase required?
- **YES**
  - Advise Local Resources Section Sup Offr of requirements
  - Ensure sources are checked for quality and hygiene
- **NO**
  - Order through authorised suppliers or normal Food Supply Chain

**C** Is the water supply acceptable for Cooking and drinking?
- **YES**
  - Ensure that it is tested regularly by competent authority
- **NO**
  - Use bottled water
  - Seek further advice on alternative supplies from Med Branch
  - Boil water and use sterilising tablets as a last resort

**D** Are sundry catering supplies (eg disposables/cleaning eqpt) available from reputable sources?
- **YES**
  - Place orders – Go to Chart 2
- **NO**
  - Seek alternative supplies
  - Change catering procedures/practices to reduce risk
CHART 2 – RECEIPT

A  Is delivery temperature within acceptable parameters?
    
    YES  Go to B
    
    NO

B  Is quality acceptable? local purchase required
    
    YES  Go to C
    
    NO

C  Are the goods contaminated Physical, chemical or biological
    
    YES  Reject goods
    
    NO  Accept goods – Go to Chart 3
**CHART 3 – STORAGE**

A What type of storage is required?

- Ambient
- Chilled
- Frozen
- Not required - consumption immediate

B Are ambient storage facilities available?

- YES Go to E
- NO Seek further storage or improvise

C Are chilled storage facilities available?

- YES Go to E
- NO Seek further storage or improvise

D Are adequate frozen storage facilities available?

- YES Go to E
- NO Seek further storage or improvise

Move to chilled storage and consume within 24 hrs
**E** Can the correct storage temperature be maintained?

- **YES** Go to **F**
- **NO** Seek urgent repairs
  - Utilise food within 4 hours
  - Amend storage times
  - Initiate Write off procedure for condemned/unfit goods

**F** Can high risk and ready to eat products be kept separate?

- **YES** Go to **E**
- **NO** Seek further storage or Keep separate by using containers and covers
  - Move goods to suitable storage
  - Prevent pests contaminating food

**G** Can food be defrosted safely?

- **YES** Go to Chart 4
- **NO** Seek further storage or improvise
  - Move to chill storage and defrost in bottom of refrigerator

**G** Can pests contaminate food?

- **YES** Go to **E**
- **NO** Store goods until ‘use by’ date or consumption
  - Go to Chart 4
**CHART 4 – PREPARATION**

A. Are adequate preparation areas available?
   - **YES**: Go to B
   - **NO**: Move location. Improvise with additional preparation areas.

B. Are preparation areas able to hygienically cleaned between different activities?
   - **YES**: Go to C
   - **NO**: Keep high risk activities separate. Only prepare low risk items.

C. Are all food handlers adequately trained?
   - **YES**: Go to D
   - **NO**: Avoid untrained staff handling food. Increase supervision. Provide ad hoc training until formal training is possible.

D. Are suitable food washing facilities available?
   - **YES**: Also use disinfectants. Go to E
   - **NO**: Obtain further washing facilities. Use only goods that are ready to eat.
E Can pests contaminate food?

YES

NO

F Can thawing be carried out safely?

YES

GO to G

NO

G Are there suitable storage facilities available for prepared food?

YES

Store goods until cooking or consumption
GO to Chart 5

NO

Consume immediately.
Only prepare amounts of food that can be stored safely
Modify menu plan accordingly

Move goods to suitable preparation areas
Prevent pests contaminating food
Disinfect equipment prior to use

Go to F

Provide suitable thawing facilities
Reduce amount of frozen items requiring thawing
A. Are adequate cooking facilities available?
   - **YES**: Go to B
   - **NO**: Move locations
     - Improvise with additional cooking facilities
     - Change menu to suit availability of equipment

B. Can safe cooking temperatures be achieved?
   - **YES**: Confirm with thermometer/probe
     - Go to C
   - **NO**: Only use items which can be safely undercooked
     - Ensure items are fully cooked eg hard eggs, only clear cooking juices

C. Are all food handlers suitably trained?
   - **YES**: Go to D
   - **NO**: Do not let staff handle food until trained

D. Are suitable washing facilities available?
   - **YES**: Go to E
   - **NO**: Obtain further washing facilities
     - Use only foods that are ready to eat
E  Are items being cooked early?

YES

NO

F  Are there suitable storage facilities for cooked foods?

YES

NO

Ensure safe hot holding facilities are available
Alter menu to suit equipment availability

Go to F

Store goods until consumption
Go to Chart 5

Provide suitable storage facilities
Consume immediately
Only prepare amounts of food that can be stored safely
CHART 6 – SERVICE

A. Are suitable serving facilities available?
   - YES: Go to B
   - NO: Improvise with additional serving facilities
         Change menu to suit availability of equipment

B. Can safe holding temperatures be achieved?
   - YES: Go to C
   - NO: Only use items which can be served at ambient temperatures
         Only cook as many portions as can be safely served

C. Are all food servers suitably trained?
   - YES: Go to D
   - NO: Do not allow untrained staff to handle food
         Allow self-service

D. Are suitable washing facilities available to food serving staff?
   - YES: Go to E
   - NO: Obtain/improve further washing facilities
E. Can eating items be hygienically cleaned after use?
   - YES: Go to F
   - NO:
     - Provide disposable items
     - Ensure consumers have suitable washing-up facilities

F. Is all food consumed from the servery within 2 hrs?
   - YES:
     - See also Charts 8-11
     - Dispose of remaining food in excess of 2 hours
     - Recover food for chilling/freezing
     - Go to Chart 7
     - Only prepare amounts of food that are required for immediate consumption
   - NO:
**CHART 7 – RECOVERY**

**A** Are suitable storage facilities available?
- **YES** Go to B
- **NO** Improvise with additional storage facilities
  Change menu to ensure majority of foods are consumed

**B** Can foods be chilled/frozen to a safe temperature within 90 mins?
- **YES** Go to C
- **NO** Dispose of surplus food items

**C** Is food covered and labelled correctly?
- **YES** Go to D
- **NO** Ensure suitable equipment is provided
  Dispose of surplus food items

**D** Can safe re-heating temperatures be achieved?
- **YES** Go to Chart 6
- **NO** Do NOT try to reheat; dispose of surplus food items
  Safe food is to be served cold. Go to E

**E** Is chilled food consumed within 48 hrs?
- **YES** See also Charts 8-11
- **NO** Dispose of unused food items
**CHART 8 – PERSONNEL**

A. Do all food handlers have medical clearance?
   - **YES**
     - Go to B
   - **NO**
     - Ensure they obtain appropriate clearance
     - Ensure non-cleared staff do not handle food

B. Are staff suitably trained?
   - **YES**
     - Go to C
   - **NO**
     - Ensure staff receive suitable training
     - Ensure untrained staff do not handle food
     - Increase supervision

C. Do staff understand they must report illnesses and cover cuts?
   - **YES**
     - Go to D
   - **NO**
     - Remind staff of policy
     - Ensure policy is part of conditions of service

D. Are all staff aware of the increased risks posed by field catering operations?
   - **YES**
     - Go to E
   - **NO**
     - Regularly reinforce the message
     - Increase supervision
**E** Is suitable protective clothing provided?

- **YES**
  - Go to **F**
  - Ensure suitable equipment is provided
  - Reduce the handling of high risk products
  - Ensure clothes are clean and changed once soiled

- **NO**

**F** Can the protective clothing be suitably washed?

- **YES**
  - Go to **G**

- **NO**
  - Seek suitable washing facilities
  - Seek disposable items

**G** Are suitable washing, toilet and changing facilities provided?

- **YES**
  - See also Charts 8-11

- **NO**
  - Provide suitable facilities
  - Do not handle high risk items
CHART 9 – CLEANING

A  Are suitably trained cleaning staff available?
   YES  Go to B
   NO   Recruit cleaning staff
         Utilise existing manpower

B  Do staff understand appropriate COSHH Health and Safety procedures?
   YES  Go to C
   NO   Explain the immediate, high risk hazards to staff
         Ensure staff are trained to a level suitable for the task
         Ensure COSHH data and cleaning instructions are available

C  Is suitable protective equipment provided?
   YES  Go to D
   NO   Ensure suitable protective equipment is provided
         Reduce the handling of high risk products

D  Are cleaning materials stored safely in a secure area?
   YES  Go to E
   NO   Ensure suitable storage is provided away from food environment
E  Do staff understand appropriate COSHH Health and Safety procedures?

YES  Go to C

NO

Explain the immediate, high risk hazards to staff
Ensure staff are trained to a level suitable for the task
Ensure COSHH data and cleaning instructions are available

F  Is a comprehensive cleaning schedule provided?

YES  Go to F

NO

Draw up a suitable cleaning schedule

G  Are the cleaning tasks carried out correctly?

YES  Go to G

NO

Ensure the tasks are carried out correctly

H  When situation allows, are the cleaning tasks documented correctly?

YES  Go to C

NO

Maintain documentation for the specified period
Ensure cleaning tasks are documented correctly
CHART 10 – PEST CONTROL

A  Is a pest control system in place?
   YES  Go to B
   NO

   Is the pest control equipment operating correctly?
   YES  Go to C
   NO

   Prevent the ingress of pests by other means
   Prevent pests contaminating food or surfaces

B  NO

C  Are all goods checked regularly for pest infestation?
   YES  Dispose of contaminated items
   NO  Carry out regular checks

D  Are the high risk areas such as swill areas kept clean?
   YES  Go to E
   NO

   Ensure cleaning is carried out correctly
Are there seasonal problems that can be pre-empted?

- **YES**: Ensure control systems are established early
  - Alter catering systems to suit seasonal changes
  - Go to F

- **NO**: Go to F

Are the pest control procedures documented?

- **YES**: Maintain documentation for the specified period

- **NO**: Ensure the appropriate documentation is kept
CHART 11 – BUILDINGS AND STRUCTURE

A. Are catering and storage buildings adequate for the task?

- **YES**
  - Go to B

- **NO**
  - Move location
  - Submit works service to improve facilities
  - Reduce high risk activities to meet available facilities
  - Improvise with additional facilities

B. Is there an effective preventive and maintenance policy?

- **YES**
  - Go to C

- **NO**
  - Ensure the facilities are maintained correctly
  - Establish a preventive maintenance policy

C. Are there seasonal problems that can be pre-empted?

- **YES**
  - Ensure control systems are established early
  - Go to D

- **NO**
  - Alter catering systems to suit seasonal changes
  - Go to D

D. Can the facilities be hygienically cleaned?

- **YES**
  - See Chart 9

- **NO**
  - Amend procedures to reduce hygiene risks
  - Only use low risk foods
CHART 12 – MENU PLANNING

A  Are there any specific food items that are likely to pose a high risk?

   YES  Go to B

   NO  See Chart 1

B  Can the menu plan be modified to reduce risk?

   YES  Remove high risk foods
        Go to C

   NO  Ensure as many of the risks are reduced as is practicable
        Inform consumers of the risks (e.g., eat sandwiches within 4 hrs)
        Go to Chart 1

C  Can the nutritional requirements and menu variety be achieved?

   YES  Go to Chart 1

   NO  Consider using ORP
        The menu must only be provide for as short a time as possible
# CHAPTER 03 Annex G – CLEANING GUIDE

<table>
<thead>
<tr>
<th>EQUIPMENT/ AREA</th>
<th>CLEANING AGENT</th>
<th>CLEANING ROUTINE</th>
<th>FREQUENCY</th>
<th>PRECAUTIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ceiling/Overheads</td>
<td>Detergent</td>
<td>Wash with hot water and detergent.</td>
<td>Periodically*</td>
<td></td>
</tr>
<tr>
<td>Cooking Range</td>
<td>Detergent</td>
<td>Wash with hot water and detergent.</td>
<td>Daily</td>
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<tr>
<td></td>
<td>Proprietary</td>
<td>Clean as you go during the day. Wash surfaces with hot water and detergent.</td>
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<td></td>
<td>Cleaner</td>
<td>Use proprietary cleaner if necessary.</td>
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<tr>
<td>Floor/Deck</td>
<td>Detergent</td>
<td>Wash with hot water and detergent.</td>
<td>Periodically*</td>
<td></td>
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<td></td>
<td></td>
<td>All spillages are to be dealt with immediately.</td>
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<td></td>
<td>At the end of each day sweep and wash with hot water and detergent.</td>
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<td>After each meal</td>
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<tr>
<td>Microwave Oven</td>
<td>Detergent</td>
<td>Clean with hot water and detergent.</td>
<td>After use</td>
<td>Ensure safe system of work</td>
</tr>
<tr>
<td>Oven</td>
<td>Oven cleaner</td>
<td>Clean all internal surfaces with proprietary cleaner.</td>
<td>Weekly</td>
<td>Ensure safe system of work</td>
</tr>
<tr>
<td>Pots and Pans</td>
<td>Detergent</td>
<td>Clean in dishwasher or sink using hot water and detergent.</td>
<td>After use</td>
<td></td>
</tr>
<tr>
<td>Vegetable Preparation Machine</td>
<td>Detergent</td>
<td>Clean with hot water and detergent.</td>
<td>After use</td>
<td></td>
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<td>EQUIPMENT/ AREA</td>
<td>CLEANING AGENT</td>
<td>CLEANING ROUTINE</td>
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<tr>
<td>Refrigerator/Freezer</td>
<td>Detergent</td>
<td>Spillages are to be dealt with immediately. Scrub the shelves and wash the food</td>
<td>Weekly</td>
<td>When sanitisers are used ensure that the necessary contact period is achieved.</td>
</tr>
<tr>
<td></td>
<td>Sanitiser</td>
<td>compartments with hot water and detergent. Rinse with clean hot water and apply</td>
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<td></td>
<td></td>
<td>sanitiser. Defrost according to manufacturers instructions.</td>
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<tr>
<td>Servery</td>
<td>Detergent</td>
<td>Clean as you go during the day. Before preparing ready to eat food and at the</td>
<td>Daily</td>
<td>When sanitisers are used ensure that the necessary contact period is achieved.</td>
</tr>
<tr>
<td></td>
<td>Sanitiser</td>
<td>end of each day, wash all surfaces with hot water and detergent, rinse with clean</td>
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<td></td>
<td></td>
<td>hot water and apply sanitiser.</td>
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<tr>
<td>Sinks</td>
<td>Detergent</td>
<td>Clean as you go during the day. At the end of each day scour, wash with hot</td>
<td>Daily</td>
<td>When sanitisers are used ensure that the necessary contact period is achieved.</td>
</tr>
<tr>
<td></td>
<td>Sanitiser</td>
<td>water and detergent and rinse. Where sinks are used for food, equipment and hand</td>
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<td></td>
<td></td>
<td>washing, they must be cleaned and disinfected between uses.</td>
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<tr>
<td>Storage/Display Units</td>
<td>Detergent</td>
<td>Spillages are to be dealt with immediately. Wash with hot water and detergent.</td>
<td>Weekly</td>
<td>When sanitisers are used ensure that the necessary contact period is achieved.</td>
</tr>
<tr>
<td></td>
<td>Sanitiser</td>
<td>If used for both cooked and uncooked food, wash with hot water and detergent,</td>
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<td></td>
<td></td>
<td>rinse and apply sanitiser.</td>
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<tr>
<td>Walls/Bulkhead - behind</td>
<td>Detergent</td>
<td>Clean as you go during the day. Before preparing ready to eat food and at the</td>
<td>Daily</td>
<td>When sanitisers are used ensure that the necessary contact period is achieved.</td>
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<tr>
<td>work surfaces</td>
<td>Sanitiser</td>
<td>end of each day, wash all surfaces with hot water and detergent, rinse with clean</td>
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<td></td>
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<td>hot water and apply sanitiser.</td>
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<td>Walls/Bulkhead - high and</td>
<td>Detergent</td>
<td>Wash with hot water and detergent.</td>
<td>Weekly</td>
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<td>low level</td>
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<tr>
<td>Waste Compactor</td>
<td>Detergent</td>
<td>Clean with hot water and detergent.</td>
<td>Weekly</td>
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<tr>
<td>Waste Containers</td>
<td>Detergent</td>
<td>Clean with hot water and detergent.</td>
<td>Daily</td>
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<td>EQUIPMENT/ AREA</td>
<td>CLEANING AGENT</td>
<td>CLEANING ROUTINE</td>
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<tr>
<td>Waste Disposal Unit</td>
<td>Detergent</td>
<td>Clean with hot water and detergent.</td>
<td>Weekly</td>
<td>Ensure safe system of work</td>
</tr>
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<td>EQUIPMENT/ AREA</td>
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<tr>
<td>Windows</td>
<td>Detergent</td>
<td>Clean with hot water and detergent.</td>
<td>Periodically*</td>
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<tr>
<td>Wiping Cloths</td>
<td>Sterilising solution</td>
<td>Preferably use disposable cloths. If not, change cloths frequently. Boil or soak</td>
<td>Daily</td>
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<td></td>
<td></td>
<td>in sterilising solution at the end of each day.</td>
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<tr>
<td>Work Surfaces</td>
<td>Detergent Sanitiser</td>
<td>Clean as you go during the day. Before preparing ready to eat food and at the end</td>
<td>Daily</td>
<td>When sanitisers are used ensure that the necessary contact period is achieved.</td>
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<td></td>
<td></td>
<td>of each day, wash all surfaces with hot water and detergent, rinse with clean hot</td>
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<td></td>
<td></td>
<td>water and apply sanitiser.</td>
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*Periodically means ‘as necessary’ and relates to the build-up of dirt. COSHH Risk Assessments must be conducted prior to use of substances that are classified as toxic, harmful, corrosive, irritant or very toxic. Staff must be trained prior to use, in the safe use of cleaning chemicals and effective cleaning procedures.
CHAPTER 03 Annex H - MAINTENANCE OF CATERING PREMISES - RECORD OF WORKS SERVICES (TEMPLATE)

Unit/Galley/Kitchen/Mess:_______________________

<table>
<thead>
<tr>
<th>SER NO</th>
<th>WORK REQUIRED</th>
<th>WORKS SERVICE REFERENCE NO</th>
<th>DATE REPORTED</th>
<th>PRIORITY</th>
<th>HASTENING ACTION</th>
<th>CHECK OF WORK COMPLETED/ REMARKS</th>
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</table>
# CHAPTER 03 Annex I – PEST MANAGEMENT REGISTER (TEMPLATE)

UNIT: _______________  GALLEY/KITCHEN/MESS: _______________

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<tr>
<th>SER NO</th>
<th>LOCATION &amp; TYPE OF INFESTATION</th>
<th>TIME &amp; DATE REPORTED</th>
<th>SIGNATURE OF REPORTING SUPERVISOR</th>
<th>ACTION TAKEN PESTICIDE/INSECTICIDE USED</th>
<th>DATE OF PEST CONTROL</th>
<th>SIGNATURE OF CONTRACTOR 1 OR EHT PERSONNEL</th>
<th>REMARKS/WORK REQUIRED TO FABRIC TO ASSIST CONTROL</th>
<th>DATE OF NEXT EXTERNAL CHECK</th>
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</table>

Contractor’s Logs should be attached to this record.

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1 Contractor’s Logs should be attached to this record.
CHAPTER 03 Annex J – ANIMAL BY-PRODUCTS GUIDANCE

Animal By-Products Guidance

Process flow for the handling and disposal requirements of Animal By-Products

These disposal routes are those allowed for each category of Animal By-Products. However, the regulation is complex and does allow some other disposal routes for very limited types of Category 2 and Category 3 ABP.

1 If the competent authority does not consider the manure, digestive tract content or milk to present a risk of spreading any serious transmissible disease.
CHAPTER 03 Annex K – FOOD LABELLING

DEFROST LABEL
PRODUCT NAME
DATE................TIME.............

READY USE LABEL
PRODUCT
DATE...........TIME.............
USE BY........TIME.............

CONDIMENT LABEL
DATE OPENED
TO BE STORED IAW
MANUFACTURERS INSTRUCTIONS