Civil Aviation Authority

CAP 757

Occupational Health and Safety on-board Aircraft

Guidance on Good Practice

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Revision History

Issue 1 **August 2005**

CAP 757 was published to provide occupational health and safety guidance following the introduction of the Civil Aviation (Working Time) Regulations 2004, that placed specific health and safety duties on United Kingdom operators flying public transport aircraft.

Issue 2 **August 2007**

Additional chapter added providing guidance on control of biohazards in the aircraft environment.

Issue 3 **May 2009**

Chapters 2 and 4 revised to take account of changes and developments in industry practices.

Issue 4 **February 2010**

Additional chapter added providing guidance on reducing potential falls from doorways by crew members.

Amendment 2011/01 **May 2011**

Chapter 2 revised to take account of changes and developments in industry practices.

Amendment 2012/01 **February 2012**

Chapter 3 revised to take account of changes and developments in industry practices.

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Chapter 1 Legislation and Obligations

1 Introduction

1.1 The Civil Aviation (Working Time) Regulations 2004 place a number of obligations on employers[1] of aircraft crew members and on the Civil Aviation Authority (CAA).

1.2 Regulation 6 of the Legislation states:

> An employer shall ensure that each crew member employed by him is at all times during the course of that employment provided with adequate health and safety protection and prevention services or facilities appropriate to the nature of his employment.

1.3 The Civil Aviation Authority is responsible for regulation and enforcement of the 'relevant requirements'[2] of the Civil Aviation (Working Time) Regulations 2004.

1.4 These requirements are in addition to those already placed on employers through other health and safety legislation.

2 Purpose of this Document

2.1 This document provides guidance to aircraft operators and others involved in the operation of aircraft on good practice that may be applied in order to meet the obligations of the Civil Aviation (Working Time) Regulations 2004 and, in particular, Regulation 6.

2.2 Although it is intended that this document should be read in its entirety, each of the subject chapters are self-contained and can be used in isolation.

3 Guidance in this Document

3.1 The guidance contained in this document is not mandatory; however, employers have an obligation to comply with the Regulations. This document may be seen as providing a means of compliance with the Regulations and aircraft operators that observe its provisions will be following good practice and will normally find that this satisfies the requirements of the law. Employers are free to adopt alternative methods if they believe that these will achieve compliance with the Regulations.

3.2 The guidance contained in this document is directed toward specific occupational hazards that exist on-board aircraft. It suggests control measures and good practice that might be adopted to manage these risks. The guidance uses several concepts and definitions already in common use within the field of occupational health and safety to aid understanding.

3.3 The guidance offered may also be relevant to related activities such as ground handling operations and other activities closely associated with the operation of the aircraft. Operators should consider developing comprehensive health and safety systems that protect all persons involved in the operation of their aircraft. Many of the hazards faced by crew members also pose a risk to others on-board the aircraft (e.g. passengers and, while the aircraft is on the ground, ground staff) and these should be encompassed within a comprehensive system.

1. The legislation applies to employers whose undertaking is established in the United Kingdom.
2. 'relevant requirements' means regulations 5(2), 6, 7(2)(a), 8, 9 and 10 of the Civil Aviation (Working Time) Regulations 2004.

3.4 While any aircraft is within United Kingdom it should be remembered that the Health and Safety at Work legislation places obligations on employers to take measures that are designed to protect non-employees.

3.5 This guidance should be used in association with the normal risk assessment and mitigation processes for the management of the safety of aircraft, their operation and the individuals involved with their operation. Aircraft operators should ensure that this guidance is brought to the attention of all relevant persons and utilised in risk management processes where appropriate.

3.6 Although this guidance is primarily designed for large transport aircraft types, many of the principles contained within it are equally applicable to other types of aircraft.

3.7 The guidance contained within this document should be reflected in the airline's policies and procedures where relevant.

4 Enforcement of the Civil Aviation (Working Time) Regulations 2004

4.1 The CAA is responsible for the enforcement of certain of the requirements of the Regulations (see paragraph 1.3) and will, where appropriate, take any necessary enforcement action. Any action will follow the requirements set out in the Government Concordat for Good Enforcement to which the CAA is a signatory. Where the CAA believes that a contravention of the Regulations has taken place (or continues to take place) it may use one or more of its enforcement powers to bring about compliance. These powers include the issue of enforcement notices as well as prosecution.

4.2 The CAA considers that taking enforcement action should be a last resort unless operators have been grossly negligent in discharging the duties set out in the Regulations. The CAA will normally endeavour to secure compliance through dialogue with operators before taking any enforcement action.

4.3 A reactive approach to the enforcement of the Regulations has been adopted and CAA activity will be based on complaints or enquiries received.

4.4 The Regulations set out a range of penalties from limited fines on summary conviction, to imprisonment and/or unlimited fines on indictment.

5 "So far as is Reasonably Practicable"

5.1 Duties under the health and safety law are often qualified by the term "so far as is reasonably practicable" or "as low as reasonably practicable". The Civil Aviation (Working Time) Regulations 2004 refer to providing adequate health and safety protection. It is considered that where an employer does what is reasonably practicable to secure health and safety protection it is likely that the level achieved will be adequate for the purposes of Regulation 6.

5.2 The term "so far as is reasonably practicable" has been defined by the Courts[1]. To carry out a duty "so far as reasonably practicable" means that the degree of risk in a particular activity or environment can be balanced against the time, trouble, cost and physical difficulty of taking measures to avoid or reduce the risk. If these are so disproportionate to the risk that it would be unreasonable for the people concerned to have to incur them to prevent it, they are not obliged to do so.

1. Edwards vs NCB [1949] 1 All ER 743

5.3 Therefore, the greater the risk, the more reasonable it is to go to very substantial expense, trouble and invention to reduce it. But if the consequences and the extent of a risk are small, insistence on great expense would not be considered reasonable.

6 Overview of Risk Management

6.1 A hazard is anything that has the potential to cause harm or damage. The risk is the likelihood that harm will occur.

6.2 It is implicit when considering what is reasonably practicable, that hazards have to be identified and risks assessed.

6.3 The primary function of identifying the hazards and assessing the risks to crew members is to allow management of the risk, to prevent an incident or accident that may lead to fatalities, injuries or ill health. Risk assessments can also be used to assist in determining whether current controls meet the requirements of legislation. They are a key component in good occupational health and safety management.

6.4 Risk assessment can also be used to prioritise actions, and thereby assist in developing budgets and business cases.

6.5 In brief, when undertaking a risk assessment the following key questions should be asked:

- What are the hazards that arise from the activity, location or task?
- Who or what can be harmed and how?
- Are the risks being adequately controlled? If not, what more needs to be done, by whom, and by when?
- Have the results of the assessment been recorded?
- Does the assessment need to be reviewed and revised? When and how often?

6.6 The general principles for prevention consist of a broad package of measures:

- Eliminating the risk;
- Replacing the dangerous by the non-dangerous or the less dangerous;
- Combating risks at source;
- Developing a coherent overall prevention policy which covers technology, organisation of work, working conditions, social relationships and the influence of factors relating to the working environment;
- Adapting to technical progress;
- Adapting the work to the individual;
- Giving collective protective measures priority over individual protective measures; and
- Giving appropriate training and instructions to staff.

7 Development of this Document

7.1 This document has been developed by the Aviation Health and Safety Steering Group. The Working Group comprises representatives from airlines, other aircraft operators, trades unions and other enforcement agencies, and is chaired by the CAA.

7.2 The document will be subject to periodic review and amendment. New subjects will be added as required and their addition initiated through either the Aviation Health and Safety Steering Group or directly by the CAA. Material differences from the previous issue will be marked with marginal lines.

7.3 Editorial control of this guidance material remains with the CAA.

7.4 Special acknowledgement goes to the following organisations for their assistance in the original production of the guidance:

First Choice Airways Ltd	Manual Handling guidance
Britannia Airways Ltd	Trips, Slips and Falls guidance
British Midland Airways Ltd	Burns and Scalds guidance
Thomas Cook Airlines Ltd British Mediterranean Airways Ltd	Control of Biohazards in the Aircraft Environment

7.5 Other organisations contributing to this guidance include:

Unite

British Air Line Pilots Association

British Airways plc

British Business and General Aviation Association

British Helicopter Advisory Board

EasyJet Airline Company

Health and Safety Executive

Monarch Airlines Ltd

MyTravel Airways Ltd

Transport and General Workers Union

Thomas Cook Airlines U.K. Ltd

Virgin Atlantic Airways Ltd

Chapter 2 Manual Handling Guidance

1 Introduction

1.1 This chapter provides general guidance on manual handling operations, within the aircraft cabin environment. It is intended to assist aircraft operators to fulfil their obligations in relation to Regulation 6 of the Civil Aviation (Working Time) Regulations 2004, as amended, by outlining current industry good practice with regards to manual handling.

1.2 The guidance assumes the definition of manual handling operations as found in the Manual Handling Operations Regulations 1992. These Regulations state that a manual handling operation is one that requires any transporting or supporting of a load (including the lifting, putting down, pushing, pulling, carrying or moving thereof) by hand or by bodily force.

1.3 Manual handling incidents represent a substantial risk to employees working on-board an aircraft. A survey, involving ten UK airlines, found manual handling to be the cause of 16% of all reported incidents during 2007. With some of these resulting in significant injuries to crew members.

2 Hazards

2.1 Common hazards associated with manual handling activities in an aircraft cabin include:

- Manoeuvring carts/trolleys – pushing and pulling meal/drinks/duty-free carts. Typical loads can be in the range of 90-110kg. Including risk of carts toppling over and manoeuvring in to awkward locations;
- Lifting bar boxes/Bond bags into/out of stowages (overhead stowages/galley);
- Pushing and pulling drawers in carts/trolleys;
- Opening and closing aircraft doors;
- Opening and closing overhead stowages;
- Lifting passenger baggage into overhead stowages;
- Assisting persons with reduced mobility[1] (e.g. assistance to the seat or to the on-board toilet etc.);
- Carrying/lifting crew baggage that may vary in differing environmental conditions;
- Dealing with medical emergencies – moving incapacitated persons; and
- Moving within confined spaces – including awkward twisting movements, over-reaching for heavy manuals and equipment, and poor posture.

1. UK guidance issued by the Department for Transport "Access to Air Travel for Disabled Persons and Persons with reduced Mobility -Code of Practice. July 2008" Limits requirement of assistance to use of on-board wheelchair to and from toilets but does not permit the lifting of the passenger. Current US Department of Transport advice may require the lifting of non-ambulatory passengers from aircraft seat to on-board aircraft wheel chair in order to access aircraft toilets.

3 Potential Consequences of Hazards

3.1 The principal consequences of poor manual handling are the development of musculoskeletal disorders (conditions that affect the skeleton, muscles, tendons, ligaments, nerves and other soft tissues and joints), particularly resulting in upper limb disorders and back pain. Along with acute injuries caused by sudden over loading of the body.

3.2 The upper limb includes the neck, shoulders, arms, wrists, hands and fingers.

4 Persons at Risk

4.1 Cabin crew are most commonly at risk of injury from manual handling although it should be remembered that some activities required of flight crew members may also present a risk.

5 Risk Assessment

5.1 Aircraft operators should make a suitable and sufficient assessment of the risks posed to both cabin and flight crew members by manual handling operations while in the aircraft. Good practice is to include those who carry out the tasks as part of the assessment team to ensure the true nature of the activity is captured. Techniques such as use of the Health and Safety Executive Manual Assessment Chart (MAC) tool can be used to assist in making such assessments and prioritising any subsequent actions.

NOTE: The MAC tool can be accessed via the HSE website at: http://www.hse.gov.uk/msd/mac/

5.2 Risk assessments should take account of the tasks, the individuals involved (including any pre-existing conditions from which they may suffer), the loads and the specific environment. It should be remembered that crew must be fit for duty including being capable of undertaking emergency actions.

5.3 Where this risk assessment indicates that a risk to employees from manual handling operations exists, the following hierarchy of control measures should be implemented:

a) Avoid hazardous manual handling operations so far as is reasonably practicable; and

b) Reduce the risk of injury from those remaining manual handling operations, using the control measures described below, so far as is reasonably practicable.

5.4 Risk assessments should be reviewed periodically or when alterations are made to work practices or working environment and following a serious incident.

5.5 Additional risk assessment may be required where a crew member is returning to work following an injury and information suggests there could be a residual impact on their manual handling capabilities. This shall ensure they can safely undertake any emergency actions. Any assessment should also ensure that other manual handling activities are managed so as not to exacerbate any injury. Flight Crew are additionally required to comply with the Air Navigation Order with respect to fitness upon return to work.

6 Control Measures

6.1 Cabin Design, Fit Out and Service Standards/Routines

6.1.1 The design of the cabin layout should, so far as reasonably practicable, consider the ergonomics that affect manual handling activities.

6.1.2 The design of the cabin should, so far as reasonably practicable, consider the necessity to manoeuvre carts/trolleys in gangways, allowing adequate space for safe movement. Design considerations include the type of flooring, to allow sufficient grip and stowage design to allow easy removal and replacement of carts.

6.1.3 Flight safety design requirements must take precedence over manual handling operation requirements, however, good ergonomic design is compatible with flight safety and should be a consideration for operators.

6.1.4 When cabin service standards are developed, all stakeholders such as maintenance engineers, cabin crews and cleaners should be consulted on the cabin layout and, in particular, the way in which galleys are used.

6.1.5 Similarly, cabin service standards should be developed using operational visits to determine whether manual handling risks can be reduced.

6.1.6 Aircraft operators should ensure that cabin service is designed to reduce the amount of manual handling required and to avoid the necessity to carry or manoeuvre heavy or unstable articles.

6.1.7 Aircraft operators should ensure that flight deck stowage locations for manuals and items which need to be accessed during flight, be located in accordance with good ergonomic principles, where possible. This should reduce the risk of manual handling injuries to flight crew.

6.2 Carry-on Baggage

6.2.1 As far as possible, cabin crew should provide minimal assistance with passenger carry-on baggage and encourage passengers to stow their own baggage.

6.2.2 Where possible, cabin crew should avoid lifting carry-on baggage into overhead lockers but, if no other solution can be found, the crew member should assess the baggage and, if necessary, request assistance before lifting it.

6.2.3 If passengers require assistance with the stowing of baggage, the following should be considered:

- Where possible, take the baggage from the passenger before it is placed on the floor, thereby removing the need to bend and lift the load;
- If possible, rest the bag on top of the seat or armrest prior to placing it in the overhead stowage;
- If necessary, ask the passenger or another crew member to assist in stowing the bag if the bag is heavy or awkward to lift;
- If necessary, assistance should be sought from other crew members to close heavy overhead stowages; and
- If the baggage is considered too heavy to lift, it should be placed beneath passenger seats or removed to the aircraft hold.

NOTE: Individual company policy on the maximum weight and size of carry-on baggage should be clearly stated and strictly applied so as to reduce manual handling risks.

6.2.4 These considerations should be equally applied to crew baggage. Incident data suggests high weight crew bags have been a factor in several manual handling incidents resulting in serious injury.

6.3 **Galley**

6.3.1 Frequently used items should be placed in areas that do not require frequent overhead lifts or frequent bending for access.

6.3.2 The use of software packages may assist in determining best loading arrangements.

NOTE: When amending loading arrangements, flight safety, in particular flight weight and balance requirements, take precedence.

6.4 **Carts/Trolleys/Boxes**

6.4.1 When moving heavy carts/trolleys (e.g. full double carts), it is good practice for two crew members to assist with the movement of the cart.

6.4.2 Particular attention is required when moving carts or boxes from stowages. Consider the alignment of wheels before applying force.

6.4.3 Sliding drawers should move easily and should be fitted with handles/grips.

6.4.4 Consideration should be given to providing drawers that are either transparent or have vision panels to allow identification of contents.

6.4.5 The cabin service should be designed so as to minimise, so far as is reasonably practicable, the need for repetitive bending actions to retrieve items from carts, whilst ensuring that the cart remains stable (e.g. not top-heavy). Consideration should be given to the stability of carts after they have been removed from the stowages and the aircraft.

6.4.6 The requirement to use the carts/trolleys while the aircraft is flying at a steep angle should be avoided as far as possible. Where it is necessary to continue service in these conditions, further safeguards may be required to protect crew members e.g. lighter loads, adequate and fully functioning braking systems.

6.5 **Maintenance**

6.5.1 Aircraft operators should ensure that:

- the ongoing aircraft inspection and maintenance programmes include routine preventive maintenance, repair and replacement of all equipment such as carts, drawers and bar boxes that might increase the risk of manual handling injuries;
- particular attention is given in maintenance programmes for cart stowages including catches, latches and paddles;
- adequate procedures are in place to identify and remove unserviceable equipment from aircraft;
- any changes to maintenance or reporting systems are communicated to all relevant employees; and
- where maintenance provision is outsourced, that contracts include provision to meet the objectives above.

6.5.2 Suitable airline audit and review mechanisms should be in place to check that standards are maintained.

6.6 Weight Limits

6.6.1 Although no specific weight limits for loads are set, risk assessment processes should be used to determine the maximum permissible load in those situations that may be faced by employees. Risk assessments should take account of the ergonomic factors of the task, the individual, the load and the environment.

NOTE: It is useful to provide information on the weight of articles by, for example, marking the article with its weight or having a system for colour coding bands of weight. The weights could also be provided as part of catering plans supplied to crew.

6.7 Opening and Closing of Aircraft Doors

6.7.1 In opening and closing aircraft doors in normal operations, aircraft operators should have clear company policies and procedures in place that ensure that only appropriately trained staff assist the crew members in opening and closing doors.

6.7.2 Stairs and jetty/walkways should remain in position and attached to aircraft until the associated aircraft door is closed.

6.7.3 Ensure that stairs and jetty/walkways are in place before opening the associated doors unless the equipment does not allow it.

NOTE: See also Chapter 5 of this document 'Guidance to Reduce Potential Falls from Aircraft Doorways by Crew Members' for full details. Further guidance on measures that can be taken to ensure the safe operation and use of aircraft doors is also available from the HSE (Sector Information Minutes 05/2005/05).

6.8 Training and Education

6.8.1 Aircraft operators should provide adequate training to ensure that every crew member is aware of manual handling hazards and the mechanisms in place to control them. Manual handling training should be carried out prior to the commencement of duties as a crew member, both cabin and flight crew. Training should be appropriate, targeted and reinforced periodically and take account of any emerging trends from incident data.

6.8.2 Operators should ensure that the techniques learnt in training are applied in operational situations through an adequate monitoring regime. Crew members must implement the techniques learnt when undertaking manual handling activities. Crew must report to their managers any difficulties in implementing the handling techniques learnt.

6.8.3 Training should be of adequate length to cover the relevant manual handling tasks. It should be targeted to the tasks and contain practical elements as required.

6.8.4 Crew should be taught to identify their personal limitations and address the importance of the correct manual handling techniques. This should include importance of the use of dynamic assessment throughout the working day to ensure they remain within their own safe handling limits. Crew members must report any injury that impacts on their ability to undertake manual handling activities.

6.8.5 Risk identification, information on potentially hazardous manual handling operations and awareness of common injuries should be included in the education material provided to crew and training designed to reflect and reduce such identified risks.

6.8.6 The factors outlined in the guidance to the Manual Handling Operations Regulations should be included in any training programme (avoidance of hazards, dealing with unfamiliar loads, the importance of housekeeping).

6.8.7 Exercise and the importance of taking care of the back should be included in training material.

6.8.8 Training should include the incident reporting protocol and the importance that the protocol has in developing future prevention measures.

6.8.9 Periodic training reviews should be undertaken. These reviews should include consultation with crew member employee health and safety representatives and take account of any appropriate consultation guidelines. Reviews should include evaluation of crew manual handling injuries information in order to improve training practices.

6.9 Audit and Review

6.9.1 Suitable airline audit and review mechanisms should be in place to check that standards for manual handling activities are maintained.

Chapter 3 Burns and Scalds

1 Introduction

1.1 This chapter provides general guidance on reducing the risk of injury from burns and scalds within the aircraft cabin environment. It is intended to assist aircraft operators to fulfil their obligations in relation to Regulation 6 of the Civil Aviation (Working Time) Regulations 2004, by outlining current industry good practice with regards to handling hot liquids and contact with hot surfaces.

1.2 Burns and scalds account for a significant proportion of the injuries sustained by crew on-board aircraft. A recent benchmarking exercise between airlines showed that accidents involving hot surfaces, food and liquids contributed to between 20% and 25% of the total number of reported crew injuries each year. It also accounts for a significant number of injuries to passengers whilst on-board the aircraft.

2 Hazards

2.1 The occurrence of burns and scalds are mainly associated with the preparation and serving of hot food and drinks. However, exposure to or contact with steam, hot liquids/food or hot surfaces can occur during movement around the cabin and galley. This can be exacerbated by external factors such as turbulence.

2.2 Factors associated with burns and scalds within the aircraft cabin may include:

- Defective boilers which spit hot water or eject steam;
- Uneven heating of meals requiring additional rotation within ovens;
- Steam venting from ovens;
- Poor receptacle design/integrity (cups, foil trays and covers);
- No or ill-fitting lids;
- Compatibility of equipment, e.g. pots with brewers;
- Defective equipment;
- Poorly designed service delivery procedures, including incompatible or lack of personal protective equipment (PPE);
- Unsafe practices, e.g. holding a cup whilst pouring hot liquid; or
- Menu designs, e.g food stuffs that contain high amounts of hot liquid.

3 Potential Consequences of Hazards

3.1 Incident data indicates that burns and scalds are high frequency but low severity events with very few leading to lost-time injuries.

3.2 The consequences of burn or scald events include:

- Pain and discomfort with the potential for permanent scarring;
- Crew being unable to perform primary safety duties; and
- Loss of crew productivity.

4 Persons at Risk

4.1 The following persons should be considered to be at risk:

- Cabin crew;
- Pilots; and
- Passengers.

5 Risk Assessment

5.1 Operators should make a suitable and sufficient assessment of the risks that may arise from burns and scalds in the cabin environment.

5.2 Where this risk assessment identifies significant risks, control measures should be implemented to reduce those risks as far as is reasonably practicable.

5.3 Risk assessments should be reviewed periodically or when alterations are made to work practices or working environment and following any serious incident.

6 Control Measures

6.1 Product and Service Design

6.1.1 So far as is reasonably practical, consideration should be given to the ergonomics of food trays and to the content of food delivered by tray, to minimise the risks associated with the potential spillage of hot liquids.

6.1.2 Quality control of meal production should include checks and systems to prevent over filling of food trays.

6.1.3 Where design allows, boilers and containers should include features to reduce the likelihood of burns and scalds such as:

- Use of insulated materials to prevent burns from the exterior surfaces;
- Pot lid designs that allow venting but prevent spills if the pot topples over;
- Controlled pouring that prevents spitting; and
- 'One mould' designs that reduce the potential for individual component failure.

6.1.4 Consideration should be given to the ergonomics of containers provided for hot drinks. Elements to reduce spillage may include;

- Lid provision;
- Structural integrity of container when filled;
- Warning notices, e.g. 'Caution Hot' triangles on cardboard cups;
- Insulation properties of the container;
- Thermo-reactive colour changes to warn of high temperatures;
- The match of the container to the seat cup holders.

6.1.5 Work equipment should be designed to ensure that each element is compatible with another where interaction takes place

6.2 Galley

6.2.1 The design of the galley and layout of equipment should aim to reduce the potential for scalds and burns occurring, so far as reasonably practicable.

6.3 Personal Protective Equipment

6.3.1 Aircraft operators should ensure that, if required, suitable PPE is provided and used by crew members when necessary. Provision should be based on the risk assessment undertaken.

6.3.2 Where oven gloves are provided they should be flexible and of gauntlet style, to cover both hand and forearm. Any gloves should also have suitable dexterity to enable items to be handled safely.

6.3.3 Airlines may wish to consider issuing each individual crew member with their own PPE to ensure availability and correctness of fit.

6.3.4 No charge shall be made to crew members for the provision of any PPE, such as oven gloves.

6.3.5 Systems should be in place to ensure that the appropriate PPE is available, in good condition and is in use.

6.3.6 Crew members are required to wear the PPE provided.

6.4 Maintenance and Inspection

6.4.1 Aircraft operators should ensure that:

- the ongoing aircraft inspection and maintenance programmes include routine preventive maintenance to accommodate the repair or replacement of equipment that might increase the risk of burns and scalds. Particular attention should be paid to water boilers, brewers, ovens, tea and coffee pots;
- adequate procedures are in place to identify and remove unserviceable equipment from aircraft;
- any changes to maintenance or reporting systems are communicated to all relevant employees; and
- where maintenance provision is outsourced, contracts should specify provisions to meet the objectives above.

6.5 In-flight Procedures

6.5.1 Cabin crew should warn passengers that they are serving hot liquid (as part of the customer interaction) particularly if children, the elderly or persons with reduced mobility are in the seat row.

6.5.2 Before the flight, checks should be made to ensure that all necessary equipment is available and serviceable.

6.5.3 Procedures should clearly specify any working practices that must be avoided (e.g. raising oven temperatures to speed-up cooking times).

6.5.4 Aircraft operators should ensure that First Aid procedures include provision for burns and scalds treatment.

6.5.5 Flight crew should ensure that cabin crew are informed of any predicted turbulence before the flight and are kept updated on the likelihood of turbulence as the flight progresses.

6.5.6 Aircraft operators should provide crew members with the procedures and authority to stop or suspend cabin service on safety grounds, e.g. during turbulence.

6.5.7 Defect reporting procedures should be in place.

6.6 Training and Education

6.6.1 Aircraft operators should provide adequate training to ensure that crews are aware of the risk of burn and scald injuries and of the mechanisms in place to control them. It is advisable that this training is periodically reinforced. Training should include:

- the effects of turbulence and the safety actions required to protect both crew and passengers;
- the correct storage of items of equipment;
- the method for reporting equipment or system defects;
- safe methods for serving hot foods and drinks including awareness that children and adults can knock things out of hands, causing spillages;
- instruction on why and when the catering service must be stopped;
- how to safely operate ovens and boilers / hot water dispensers; and
- the correct use and care of PPE (e.g. oven gloves).

6.7 Audit and Review

6.7.1 Suitable airline audit and review mechanisms should be in place to check that standards are maintained.

Chapter 4 Slips, Trips and Falls Guidance

1 Introduction

1.1 This chapter provides general guidance on reducing the risk of injury from slips, trips and falls within the aircraft cabin environment. It is intended to assist aircraft operators to fulfil their obligations in relation to Regulation 6 of the Civil Aviation (Working Time) Regulations 2004, by outlining current industry good practice with regards to avoiding injury from slips, trips and falls.

1.2 Slips, trips and falls are a recognised cause of a substantial number of workplace accidents. A survey of ten airlines in 2007 showed that significant injuries have resulted from slips and trips as well as a substantial loss in productivity due to crew member absence.

1.3 Many slip, trip and fall accidents occur on the ground in the UK where existing UK Health and Safety legislation applies. A considerable number also occur in overseas destinations when crews stop over. This guidance is not specifically designed to address these issues but many of the principles outlined are equally pertinent.

2 Hazards

2.1 Hazards associated with slips, trips and falls in the aircraft cabin and flight deck environments include:

- Slippery cabin flooring particularly in the galley areas and adjacent to aircraft doors where contamination is carried on from outside; or caused by debris/gash on flooring surfaces;
- Tripping over protruding objects e.g. passengers' legs, bags etc.;
- Falling during turbulence;
- Stairwells connecting upper and lower decks; and
- Falling from open aircraft exits or while opening doors;
- On freight aircraft, contaminated unprotected cargo floors;
- Open under floor equipment bay hatches in the cabin floor during turnaround maintenance.

3 Persons at Risk

3.1 Cabin crew are most commonly at risk of injury from slips, trips and falls while moving about the cabin, although it should be remembered that flight crew may also be at risk, such as when required to open or close doors.

4 Risk Assessments

4.1 Aircraft operators should make a suitable and sufficient assessment of the risks from slips, trips and falls in the cabin environment. Risk assessments should take account of the tasks and the specific environment, including the potential for activities outside the aircraft to impact on the internal environment.

4.2 Where this risk assessment indicates significant risks to crew members, control measures should be implemented to reduce that risk as far as is reasonably practicable.

4.3 Risk assessments should consider seasonal variations to hazards such as the increased risk of slippery floors, especially in the vicinity of cabin doors when aircraft need to be de-iced, particularly if passengers board the aircraft from the ramp.

4.4 Risk assessments should be reviewed periodically, when alterations are made to work practices or the working environment, and following a serious incident.

5 Control Measures

5.1 Cabin Design and Fit Out

5.1.1 The design of the cabin environment, particularly flooring and fall prevention systems at exits, should, so far as reasonably practicable, reduce the potential for slips, trips and falls occurring, e.g. avoidance of designs that require the aircraft door to be opened to move gash bins.

5.1.2 Flight safety design requirements must take precedence over designing-out slip, trip and falls requirements.

5.2 Housekeeping

5.2.1 Aircraft operators should ensure adequate systems are in place to allow the efficient storage of items that could cause a trip hazard, e.g. baggage, waste materials.

5.2.2 Aircraft operators should ensure they have adequate systems in place to allow defect reporting of items that may increase slip, trip and fall hazards, e.g. worn carpets.

5.2.3 Measures should be taken to ensure that slippery cabin floor and galley surfaces are promptly cleared so as to reduce the slip, trip and fall risk. This includes routines that remove waste and other items from the floor, e.g. seat pocket emergency cards.

5.2.4 The use of appropriate mats can assist in reducing the amount of contamination carried on-board. Mats may also reduce slip hazards in the galley, but where these are used engineering approval is required.

5.2.5 Where possible a holistic approach should be taken to reducing carry-on slip hazards;

5.2.6 Where an underfloor equipment bay access hatch in the cabin floor is open and crew are present, access should be restricted and suitable warning signs displayed.

5.3 Clothing/Personal Protective Equipment

5.3.1 Crew footwear should minimise the risk of slips, trips and falls.

5.3.2 Where cabin crew members supply their own footwear, guidance should be provided on what is considered appropriate to minimise the risk of slips, trips and falls.

5.3.3 Where specific footwear is required, operators should ensure that it is worn.

5.4 Maintenance

5.4.1 Aircraft operators should ensure that:

- the ongoing aircraft maintenance and inspection programmes include interior repair and replacement of any aircraft fittings that might increase the risk of slips, trips and falls, e.g., galley flooring, protruding items from seats and other fittings;
- any changes to maintenance or reporting systems are communicated to all relevant persons; and

- where maintenance provision is outsourced that contracts include provision to meet the objectives above.

5.5 Cleaning

5.5.1 Operators should agree and reinforce cleaning standards for the aircraft cabin with the appropriate service provider. These should include the use of the correct products and drying procedures to ensure non-slip cabin floors.

5.5.2 Operators should ensure that where cleaning provision is outsourced that contracts include provision to meet paragraph 5.5.1 above.

5.5.3 Aircraft operators should ensure adequate cleaning materials are on-board for crew members to use to clean up spillages.

5.6 Training and Education

Aircraft operators should provide adequate training to ensure that crews are aware of slip trip and fall hazards and the mechanisms in place to control them. It is advised that this training is periodically reinforced. Training may include:

- The extent and effects of turbulence that can occur during flight and the safety actions required to protect themselves;
- The actions required to prevent falls from opening/closing doors and open doorways;
- Precautions to be taken for slippery galley and cabin floor surfaces, in particular from galley spills or passengers transferring de-icing fluid from their shoes into the cabin. Reinforcing that speedy clearing of spills greatly reduces the risks;
- The need to ensure that adequate lighting is available to identify slip and trip hazards while moving around the aircraft;
- The requirement for good housekeeping, e.g. the need for aisles to be kept clear;
- Advice on appropriate footwear e.g. non-slip heels and soles;
- The requirement to be proactive and to quickly report defects, e.g. worn carpets, with the need to follow up if action is not taken;
- The need to communicate potential hazards to other crew prior to resolution; and
- The necessity to take personal care in the busy environment of an aircraft. Crews should be reminded to move around the aircraft at a safe pace to avoid slipping or tripping inadvertently.
- Advice that ad hoc methods of increasing the floor friction such as the use of sugary beverages is not only ineffective but also potentially damaging to aircraft structures.

6 Audit and Review

6.1 Suitable airline audit and review mechanisms should be in place to check that standards are maintained.

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Chapter 5 Guidance to Reduce Potential Falls from Aircraft Doorways by Crew Members

1 Introduction

1.1 This chapter provides general guidance on reducing the risk of falls from the doorways of aircraft. It is intended to assist aircraft operators to fulfil their obligations in relation to Regulation 6 of the Civil Aviation (Working Time) Regulations 2004, by outlining current industry good practice.

1.2 The guidance is written specifically to reduce the risk of falls from aircraft doors by flight and cabin crew during normal operations, but it is recognised that this will assist in also reducing the risk to passengers. Chapter 4 of CAP 757 provides further guidance on slips, trips and falls. The specific risks associated with falls from aircraft doors associated with maintenance, cleaning, catering and use of ambulifts fall outside the scope of this guidance. Further information on wider aspects of fall prevention from aircraft doors can be found in Heath and Safety Executive SIM05/ 2005/05 " Preventing Falls from Height from, or when opening or closing Aircraft Doors.
http://www.hse.gov.uk/foi/internalops/sectors/cactus/5_05_05.pdf

2 Hazard

The hazard associated with unprotected open aircraft doors is the fall risk between aircraft and ground. This risk is greatly increased during aircraft door opening and closing operations when airbridge/steps may not be positioned correctly or are not in place.

3 Persons at risk

Cabin crew are at greatest risk from aircraft door opening and closing activities, but flight crew, aircraft service personnel and passengers are also at risk of falls where open doors are left unprotected.

4 Control Measures

4.1 Equipment

4.1.1 Ground equipment which interfaces with the aircraft doors should have platforms of sufficient width that will allow the aircraft doors to be opened / closed with the equipment in place and the safety rails deployed.

4.1.2 The use of a single strap across the aircraft door is not an acceptable means of fall prevention when ground equipment is not in place.

4.2 Monitoring and Communication

4.2.1 Once cabin and flight crew have boarded an aircraft, no aircraft door shall be opened, closed or left open without the airbridge/steps correctly and safely in position. Wherever possible airbridge/steps should not be moved while an aircraft door is open.

4.2.2 When boarding an aircraft the cabin crew should satisfy themselves that the airbridge/ steps are correctly positioned with the appropriate rails/guards in place, before they are used or before working in the vicinity of the open aircraft door.

4.2.3 Before passenger embarkation a cabin crew member should be assigned responsibility for each open door to monitor safety & security. This assigned cabin crew member should also be responsible for the communication with the ground handling staff regarding the safe removal of the airbridge/steps and safe closure of the aircraft door.

4.2.4 Ground handling staff must be briefed and trained on the operator's door opening and closing protocols as they play a critical role in maintenance of safety in this activity

4.3 Aircraft Door Closure

4.3.1 When the doors are ready to be closed, ground handling staff must receive authorisation that it is safe to remove the airbridge/steps, from the cabin crew member assigned to that particular door. The authorisation shall be given to the ground handling staff while they are at the aircraft door (either at the top of the steps or on the airbridge adjacent to the aircraft door) It is not acceptable to use remote signals between the cabin crew and ground handling staff due to the risk of misinterpretation. One method to ensure effective communication is the use of a physical authorisation process (e.g. a permit based system). Appendix 1 provides an example of such a permit approach.

4.3.2 When cabin crew are closing the door, they must ensure the door is closed safely following the procedures set out in their training which should include both feet set firmly inside the aircraft, and use of the appropriate assist handles. Cabin crew are responsible for asking for assistance from ground handling staff if necessary. Whenever possible the door should be flush with the fuselage and fully closed before the ground handling staff descend the steps or move to the manoeuvring position for the airbridge.

4.3.3 Before removing ground support equipment from any aircraft door, the equipment operator must ensure that the door has been fully closed.

4.4 Aircraft Door Opening

4.4.1 Once an aircraft is in position and is in a safe condition to receive airbridge/steps, the ground handling staff will approach and position the airbridge/steps as agreed with the operator. Once the airbridge or steps are positioned correctly and secured, the ground handling staff will signal to the cabin crew that the airbridge/steps are in position by use of an agreed signal. Visual signals alone are not considered adequate due to the potential for misinterpretation. The cabin door should be opened in accordance with the procedure agreed between the operator and the ground handling company.

4.4.2 Whether the door is opened from the inside or outside of the aircraft it is critical that a cabin crew member is present at each open door to ensure that the airbridge/steps and the appropriate rails/guards are in position to prevent falls and it is safe for the passengers to leave the aircraft. This also assists with the maintenance and monitoring of aircraft security.

4.4.3 If the cabin crew are not satisfied that the airbridge/steps are in the correct position, the ground handling staff must be informed. Whenever possible, the door should be closed to allow the repositioning. Once the steps have been adjusted the door opening procedures should be repeated.

4.4.4 At all times when opening and closing aircraft doors, cabin crew members must ensure that both feet are set firmly inside the aircraft, and use is made of the appropriate assist handles.

Chapter 5, Appendix 1 Example of a Permit for the Removal Airbridge/Steps from Aircraft

When the door is ready to be closed, the member of ground staff who will be moving the steps/airbridge must obtain a completed "permit to remove Airbridge/steps" document from the crew member assigned to the door. The permit must be fully completed, and detail which steps/airbridge are authorised to be removed. One permit must be issued for each set of steps/airbridge deployed.

Procedure:

1 Cabin Crew Issue Permit to Remove Airbridge/Steps to Ground Handling Staff.

2 Ground Handling Staff responsible for removal of airbridge/steps remains outside cabin door until the door is flush with the fuselage

3 Slide rail should be retracted as appropriate.

4 Stabilisers (if fitted) to be raised once clear of all personnel.

5 Airbridge/steps to be removed from the aircraft once all personnel clear.

The permit must be retained with the flight file paperwork. The permit should contain

- Flight no
- Date
- Cabin Crew ID and signature
- Indication of which Airbridge/steps the permit applies to.

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Chapter 6 Control of Biohazards in the Aircraft Environment

1 Introduction

1.1 This chapter provides general guidance on reducing the risk of infection from biological hazards that may occur within the aircraft environment and that could potentially affect crew members. It is intended to assist aircraft operators fulfil their legal obligations under the Civil Aviation (Working Time) Regulations 2004. While not directly addressing the requirements of International Health Regulations 2005[1] or the Food Safety (General Food Hygiene) Regulations 1995[2], the suggested controls will assist in meeting the objectives of this legislation.

1.2 Biohazards are a cause for concern globally and in particular where groups of people congregate. On board the aircraft cabin crew have to manage passenger illness, provide food handling and maintain the hygiene standards of the toilet and galley areas. The aircraft environment is a difficult area to work in due to limited space and the number of activities that are carried out in close proximity.

1.3 This guidance is not designed to address directly biohazards that occur outside the aircraft, but does suggest controls that may have to be taken outside to reduce or eliminate the biohazard from being transported onto the aircraft.

2 Definition of Biohazard

2.1 For the purposes of this guidance a biohazard is defined as a biological agent, organism or substance, that poses a threat to human health. It includes bacteria, viruses, spores and toxins that impact negatively on human health.

3 Contributory Factors to Risk

3.1 Potential sources of a biohazard include food, water, needles, contaminated surfaces, and bodily substances - blood, faeces, vomit or droplets from coughing. The likely points of crew contact/origin are:

- Crew, ground staff or passenger who have contracted food poisoning e.g. travellers diarrhoea;
- Crew, ground staff or passenger who are infected with a contagious disease e.g. Tuberculosis;
- Crew assisting passengers who are soiled with excreta;
- Crew performing resuscitation on passengers with no protection;
- Outbreaks of contagious disease in countries passengers are travelling from;
- Food contaminated with bacteria;
- Malfunctioning galley equipment resulting inadequately cooked or heated food;

1. International Health Regulations 2005 Chapter 2 Article 24(c) Permanently keeps conveyances for which they are responsible free of sources of infection or contamination, including vectors and reservoirs. The application of measures to control sources of infection or contamination may be required if evidence is found.
2. Food Safety (General Food Hygiene) Regulations 1995 (as amended)

- Soiled toilets and galleys;
- Poor maintenance of contaminated upholstery;
- Poor maintenance of ventilation and filtration systems;
- Poor controls on water uplifts or toilet waste; and
- Handling needles left by passengers.

4 Potential Consequences of Biological Contamination

4.1 The following are the possible consequences due to the lack of control of biohazards:

- Crew acquiring infection or illness making them unable to work;
- Crew or passengers affecting others resulting in mass illness;
- Pilot incapacitation;
- Containment of an aircraft by port health or quarantine officials;
- Litigation from passengers;
- Penalties from breach of legislation;
- Operational costs to the airline; and
- Damaged reputation for the airline.

5 Persons at Risk

5.1 The following persons should be considered at risk:

- Cabin crew;
- Flight deck crew;
- Passengers (especially young children and the elderly); and
- Engineers and aircraft handling staff including cleaners

NOTE: Although risks to passengers and non crew members are not covered by the Civil Aviation (Working Time) Regulations 2004, other legislation, such as the Health an d Safety at Work etc. Act 1974, requires that aircraft operators take measures to manage risks to other individuals such as passengers and ground staff.

6 Risk Assessments

6.1 Operators should make a suitable and sufficient assessment of the risks from biohazards in the cabin environment.

6.2 Where this risk assessment indicates significant risks to crew members, control measures should be implemented to reduce that risk as far as is reasonably practicable.

6.3 Risk assessments should be reviewed periodically or when alterations are made to work practices or working environment and following a serious incident.

7 Control Measures

7.1 Personal Hygiene

7.1.1 The single simple and most effective method of preventing infection is the practice of good personal hygiene. This will greatly limit the spread of infectious material.

7.1.2 Simply washing hands will considerably reduce the risk of contamination from hand to mouth/nose, foodstuffs and other surfaces. It is recognised that due to aircraft design separate crew/food preparation washing facilities are not always available. The use of appropriate biocide wipes/gels as a substitute method for hand hygiene will assist in reducing possible cross-contamination.

7.2 Cabin Design and Service Design

7.2.1 The design of the aircraft cabin environment and the service operated within the cabin should, as far as reasonably practicable, reduce the potential for biohazards arising.

7.2.2 Consideration should be given to the type of work surfaces particularly in food preparation areas both in terms of resistance to contamination and ease of cleaning.

7.2.3 It is recognised that on some aircraft types, passengers leaving toilet facilities rejoin the cabin through the galley. This provides an ideal opportunity for cross contamination of surfaces as passengers move about the aircraft. Systems of work should be in place to mitigate this potential contamination.

7.3 Cleaning, Disinfection and Pest Control

7.3.1 Soiling of surfaces and equipment is unavoidable on aircraft. It is therefore essential that such residues are not allowed to accumulate to levels that expose crew members to risk of contamination or other materials such as food that will be come the onward agent of infection.

7.3.2 Operators should ensure that effective cleaning and disinfection systems are in place. These are the key to controlling biological contamination onboard aircraft. Effective cleaning and disinfection will remove microbiological hazards, however, unsatisfactory cleaning may result in the redistribution of contamination that may increase the risk.

7.3.3 Cleaners working on aircraft need to be carefully monitored. It is not unknown for cleaners to clean the toilet floor and then the galley floor with the same equipment or use the same surface cloths in both toilet and galley (Chemical hazards from inappropriate use or storage of chemicals, and physical hazards from inappropriate or defective cleaning equipment may also occur.).

7.3.4 The reasons for cleaning:

- To remove matter on which biohazards would grow, thus reducing the risk of contamination and risk of infection from a surface;
- To disinfect specific equipment and surfaces to kill or prevent spread of microrganisms ;
- To remove materials that would encourage pest infestations
- To reduce the risk of foreign matter contamination;
- To remove dirt and grease and ensure a pleasant and safe working environment;
- To promote a favourable image to customers.

7.3.5 Removal of dirt, grease and food residues should take place through the process of cleaning. Operators must ensure they have appropriate systems in place to deal with differing cleaning requirements such as:

- Deep clean (technical clean of the whole aircraft);
- Intermediate clean (galley and toilet areas); and
- Turnaround clean.

7.3.6 The aircraft manufacturer must approve any chemicals used in the cleaning process.

7.3.7 Cleaning involves the application of energy to a surface, to remove dirt and grease. Energy is applied as:

- Physical, e.g. scrubbing;
- Heat, e.g. hot water; and
- Chemical, e.g. detergent.

7.3.8 Operators need to ensure that whichever of the three methods above they use that they understand the potential problems for commercial and civil aircraft:

- Abrasive scrubbing of aircraft components can lead to wear and premature change out of expensive aircraft parts;
- Hot water can, over wet areas, lead to corrosion under aircraft floors as well as potentially creeping into electrical systems; and
- Many detergents have to be very strong to be effective against certain hardy bacteria and spores and as a result they are not approved for aircraft use as they weaken interior plastics. This can lead to cleaning companies to use weak and ineffective detergents.

NOTE: The use of emerging technologies may assist in reducing these problems; there are new types of biocidal santiser coming onto the market that achieve a very high efficiency in destroying bacteria without using a very strong and aggressive detergent. Some have both Boeing and Airbus approvals and some even have a residual effect that continues to be effective for a number of weeks after application.

7.3.9 Disinfection is the process of chemically reducing micro-organisms to a safe level that will not cause premature spoilage or infection. The aircraft manufacturer must approve any disinfectants used in the process.

7.3.10 Operators should have adequate arrangements onboard aircraft to deal with waste generated during flights. Waste should not be allowed to accumulate, be adequately contained and offloaded as soon as practicable.

7.3.11 Operators should have adequate arrangements onboard aircraft to deal with potential pests that may take residence or accumulate in large numbers on board aircraft.

7.3.12 Several types of insect provide good disease vectors transferring infective material to food or surfaces. Flies and cockroaches present the greatest hazard because of their feeding habits and the sites that they visit. Flies often land on animal faeces where they pick up large numbers of infective material on their hairy bodies. In addition they defecate and vomit previous meals back onto the food as they feed. Cockroaches often live in sewers and commonly feed on infected waste. They hide in the most inaccessible places onboard aircraft and may transfer organisms from their legs and bodies to food and equipment as they move around aircraft. Operators should ensure that they have adequate pest control measures in place.

7.3.13 In flight disinsection may also be required to kill insects such as Mosquitoes.

7.3.14 Rodents are also common carriers of disease. They can excrete various harmful organisms including salmonella. Contamination may occur from droppings, urine, hairs and surface gnawing. Aircraft operators should ensure systems are in place both to identify possible infestation and provide suitable destruction methods.

7.3.15 Galley worktops on which rodents may have walked must be disinfected before use. Food suspected of being contaminated by rodents must be destroyed.

7.3.16 Operators should consider initiating an appropriate testing regime to establish the effectiveness of any cleaning program. This might include the use of testing equipment such as Adenosine Tri Phosphate (ATP) Luminometers that allow quick and easy testing of cleaning effectiveness by measuring Reflective Light Units (RLU) which is the bioluminescence of microbes. This type of testing takes only 30 seconds to perform.

7.3.17 The operator should ensure the quality and compliance of any sub-contracted cleaning agents work. Appropriate auditing of the contracts and contractors should be in place.

7.4 Personal Protective Equipment

7.4.1 Aircraft operators must ensure that adequate personal protective equipment is available for dealing with biohazards.

7.4.2 Equipment should include gloves, masks and aprons and bio hazard bags for the handling and containment of body fluid spillage or excretions, especially where infection may be present.

7.4.3 Provisions should also take account for the containment, handling and safe disposal of needles and syringes used on aircraft.

7.5 Reporting Procedures and Screening

7.5.1 Aircraft operators should ensure systems are in place that:

- Provide for appropriate health screening for contagious diseases;
- Provide crew members with information on appropriate preventative vaccinations; and
- Provide robust reporting systems for crew suffering from suspected illnesses of an infectious nature especially symptoms of gastroenteritis.

7.6 Emergency procedures

7.6.1 Aircraft operators should ensure they have in place systems to deal with emergency situations that may arise in order to reduce the possibility of contamination of crew members.

7.6.2 Aircraft operators require protocols for the safe handling of dead passengers, their separation from other persons and protection from the risk of contamination from bodily substances.

7.6.3 Aircraft operators should have in place procedures for the management of needle-stick injuries, immediate first aid actions and subsequent follow up arrangements.

7.6.4 Aircraft operators should have in place procedures for the management and isolation of passengers/crew with a suspected infectious disease. The procedures may include the use of telemedicine services e.g. 'Med-link', where there is a possible impact on onboard health.

7.6.5 Aircraft operators should provide suitable spill kits to allow crew to deal effectively and safely with spilt bodily substances. Kits should contain an effective disinfectant that will deal with the potentially infectious material that cannot be readily removed from surfaces by hand, e.g. carpets and cloth seat covers.

7.7 Aircraft Maintenance

7.7.1 Aircraft operators should ensure that:

- The ongoing aircraft inspection and maintenance programmes include routine preventative maintenance for aircraft ventilation, galley, water and toilet systems to reduce the possibility of the accumulation of biological matter;
- Adequate procedures are in place to identify unserviceable equipment to allow timely repair or replacement;
- Any galley equipment returned from maintenance is adequately cleaned prior bringing back into service (free from solvents, grease or oils);
- Due to the nature of toilet maintenance, e.g. tank toilet pump change, maintenance staff should take time to sanitise the area pre- and post-maintenance. This process should include their own good personal hygiene controls and the possible utilisation of a toilet sanitisation kit;
- Any changes to maintenance or reporting systems are communicated to all relevant employees; and
- Where maintenance provision is outsourced, that contracts include provision to meet the objectives above.

7.7.2 Suitable audit and review mechanisms should be in place to check that standards are maintained.

7.8 Food Preparation

7.8.1 Aircraft operators should ensure that the handling of food is conducted in a way to avoid contamination by harmful biological agents.

7.8.2 Most aircraft food is catered on board pre-packed and ready to serve or to cook. Aircraft operators should have a separate programme for auditing the standards at the catering premises providing the food to ensure the food is free from biological hazards.

7.8.3 Where food is prepared on board adequate food hygiene procedures should be in place to avoid potential cross contamination.

8 Training and Education

8.1 Aircraft operators should provide adequate training to ensure that crew members are aware of biohazards and the mechanisms in place to control them. Training should be carried out prior to the commencement of duties as a crew member. Training should be reinforced periodically.

8.2 Training should include:

- Personal health/hygiene controls to prevent cross contamination;
- Training of crew in the recognition of passenger illness that may be infectious e.g. constant productive cough and signs of fever;
- Safe handling of an ill or dying/dead passenger and precautions to take with biohazard products and needles;
- Crew training on how to reduce cross-contamination of infection and biohazards and keeping the food area safe from infection;
- Education of crew on outbreaks of disease and overseas health awareness;
- Crew food hygiene awareness; and
- Harmful biological agent control in galleys, toilets and contact with body fluid spills.

Chapter 7 Incident Reporting and Investigation

1 Introduction

1.1 In order to ensure that any appropriate remedial action is taken following an incident, such as amendment to procedures to prevent recurrence, it is important that all incidents are correctly reported and investigated to determine the causal factors.

1.2 Analysis of reported incidents can also provide an indicator of safety performance.

2 Incident Reporting

2.1 Aircraft operators should have in place an effective incident reporting system.

2.2 The reporting system should not be used as a method of assigning blame but, rather, should be used to identify causal factors and to instigate remedial action.

2.3 Aircraft operators should monitor all incident reports to identify trends in incident and accident occurrence.

3 Incident Investigation

The cause of incidents should be investigated in order to identify the causal factors and to enable corrective action to be taken.

4 Post-incident Actions

4.1 Put in place corrective action so as to prevent recurrence and take measures to ensure that it is effective.

4.2 Aircraft operators should ensure that crew members are fully fit before returning to flying duties following an incident.

4.3 Aircraft operators may wish to consider the use of specialist occupational health practitioners to assist with any rehabilitation after injury.

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Appendix A References

The following reference material has been used in the preparation of this document:

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