

About the author

Erica Sheward is a director of Castle Kitchens Limited, a UK-based food manufacturing company specialising in the provision of chilled and frozen prepared meals to the aviation and retail sectors and specialist catering services to the General Aviation sector.

Erica is also a director of food safety for Jet Academy, which specialises in delivering food safety and security training and auditing initiatives to the aviation industry, and a director of Global Food Standards, a food safety auditing company specialising in the development and implementation of food safety management systems based on manufacturing standards.

Her previous publications include *Your Passport to Food Safety*, a food safety training booklet for cabin crew and *In-Flight Food Safety – Passenger Health and You*, a cabin crew food safety training programme certified by the Royal Institute of Public Health.

Erica is a qualified British Retail Consortium third party auditor and also acts as an expert witness in cases of personal injury involving food safety liability. She is a serving member of the National Business Aviation Association of America Flight Attendant Committee and trains and lectures extensively throughout Europe and the USA.

Foreword

As someone who works globally in food safety I was delighted to be asked to write this foreword for Erica Sheward's first book on airline food safety.

We are at a time when consumer perception of the airline becomes less about the obvious safety factors like its crash record but more about service factors such as comfort and food; then the quality of the food and inherently its safety becomes a critical success factor in building the brand. All passengers, and especially frequent flyers such as me, have an expectation that we will arrive at our destinations fit for work or play. Until recently I had not paused to reflect on the hazards of eating on the plane and how this might affect not just my ability to perform on arrival but even whether I might arrive at all!

When I first met Erica Sheward I was struck by her devoted passion for ensuring safety in the airline catering business. This much needed book makes a compelling case for better management of food safety for all aspects of the aircraft food supply chain. It draws our attention not just to the obvious aspects of food preparation and service but also to the implications of issues such as water supply or pest control and the regulatory framework, or current lack of it, that surrounds the industry.

The dangers of sickness in flight are easily imagined and case studies have been well documented, not just of passenger sickness but also of crew incapacitation and thereby issues of fitness to fly. In this context the issue of food safety for the flight deck crew in the hours and days prior to crew service is often neglected and is certainly unregulated.

As one of the components of general aviation safety, food service is infrequently discussed, yet the wider world of 'terrestrial' food manufacture for retail and ground-based catering has much experience and many tools to offer. There are also a global regulatory framework and global practices learned by multinational food companies that can serve as a starting point for the airline industry. In this book we are reminded of the transnational nature of airline food provisioning with global sourcing, procurement, manufacture and storage of food and packaging. Beyond the provision of the food, we are made to consider the cultural habits of final preparation, serving and consumption of the food by consumers from any country or culture on an aircraft from any other country or culture. It is a fascinating and unique operating environment that deserves our attention.

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At the heart of this important book is the contention of whether airline food service should be treated as a catering operation or a food manufacturing operation, with all the inherent regulatory and best practice procedures and controls that surround such processes. Perhaps more important than regulations is the consideration of the vital importance of training and education of the food handlers at every stage of the supply chain, not least of whom are the cabin crew.

In considering a process to establish food safety we are drawn to two aspects that are well covered in this book. Product development, as in any other food industry, is critical at the start of the process and the relationship between the 'chef' and the manufacturing food technologist needs to be considered to ensure that food safety is designed into the product. Secondly we confront HACCP (Hazard Analysis and Critical Control Points) and how this should be used, not in a generic manner but to understand and control product and process specific risks. Throughout this discussion the prerequisites such as hygiene, environment, best practice and education are well covered – which is as it should be.

Beyond the insurmountable case that is made for better food safety in the airline food supply chain we are finally, in these times, forced to consider the vulnerability of this food chain to malicious attack. The simplicity with which deliberately contaminated food can jeopardise aircraft safety and security is worrying. Whether it is from a deliberate attack of bio-terrorism or an act of neglect on the part of the airline industry, let us hope that it does not take a disaster or crisis to drive change, as it so often has in other arenas. It is time for the airlines to work for themselves with the support of national governments and transnational regulatory bodies to set better standards and change behaviours to ensure that safe food and drink is served at all times on every airline.

They are most likely doing exactly this but the discussions that this book will no doubt stimulate must surely help to raise awareness and hasten progress. The author is to be congratulated in helping us to understand this area of the food industry and I fervently hope that her enthusiasm and commitment to improve the standards will be successful.

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Preface

The aviation industry is a multibillion pound amalgam of emerging technologies, manufacturing processes and service profiles, which combine to create the end product. Most of us experience this to a greater or lesser degree several times during the average lifetime.

Considering all the contributory factors which combine to assure aviation safety, it is ironic that the perceived risks to aviation safety posed by the in-flight meal solutions on offer are rendered negligible.

As both a product provider and consultant to the industry I have grown increasingly convinced that the attributable risks to aviation safety posed by the catering chain of logistics and supply have been underestimated dramatically.

The 21st century technology evidenced in every other area of the industry is both necessary and obvious if the industry is to continue to meet the global increase in demand for advanced and eclectic travel opportunities. State of the art avionics and service technologies, streamlined and aesthetically driven cabin interior solutions, spellbinding in-flight communication and entertainment options: all continue to develop and evolve in tandem with an increasingly fast-paced and modern world.

The challenges are driven by customer expectations. The customer expects the prototypes to become reality as fast as their predecessors have embarked on their maiden flight. The safety expectations move just as swiftly.

It is my belief that in the 21st century the attributable risks posed to aviation safety by the catering product, rival any other in the mechanical, operational or security arenas. Any suggestion that the customer expectations which drive aviation safety standards generally are not equivocal in the foodservice area, are unfounded. The status of customer expectations with regard to the catering product is directly linked to historical deficiencies in aesthetic appeal and quality shortfalls. In this regard the customer perception of quality is not linked to safety expectations in the same way as non-food service products are.

The historical customer fascination with the quality, i.e. aesthetics, ergonomics, etc. of in-flight food products, has lulled the industry into a false sense of security over the requirement to develop products and protocols assuring all-round product safety assuming quality and safety as one in the way that food manufacturers do. Everything that appertains to product safety needs to be placed under scrutiny: date marking and labelling, nutritional data and raw

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material outsourcing, above all manufacturing standard GHPs, GMPs and HACCP.

Recent attempts from within to develop generic industry standards did little to sway my firmly held belief that much that the aviation industry attempts to do escapes scrutiny and avoids the primary issue which faces it. As long as the aviation community refuses to accept that every aspect of the logistical and operational food service supply chain should be governed by manufacturing standard food safety management and quality assurance protocols, it will remain a risk to aviation safety. It is only by the adoption of a manufacturers' mentality as opposed to the cosy caterers' ethics, that the emerging safety and security issues which face the aviation catering community can be effectively dealt with. How can issues of bio-terrorism be tackled when systems management protocols are so inappropriate? How can the industry react effectively to the worldwide overhaul of food labelling requirements when their specialist meal provision has no cohesive structure or basis for analysis? How can full traceability be assured when the supply chain is so haphazard and broker driven? How can menu development occur in tandem with product safety considerations, when celebrity chefs determine the critical source of supply?

The component nature of the product and the requirement for global replication should be the issues which drive forward the adoption of food manufacturing standards, not the smoke screen behind which both the aircraft operators and catering providers hide. In this book I will attempt to unravel the issues which appertain to product safety in the aviation catering environments, and suggest ways in which standards can be reviewed to assure the same advancements in food service products as one would expect to find in the aviation product itself.

The lessons learned by food manufacturers over the past 30 years can serve as a great incentive to get it right first time. The assumption that catering safety issues will be hidden from scrutiny by a flying public preoccupied with quality is a dangerous and potentially costly assumption to make.

As the numbers of those flying swell year on year, a new generation of supermarket psyched, product safety aware litigants take to our skies. Unless a proactive approach to their quality and safety demands is undertaken, instead of the historically reactive methods still employed, the aviation industry may well find itself left too far behind to recover.

Erica Sheward 2005

Introduction

Just over 90 years ago, on 1 January 1914, a gentleman named Abe Pheil became the world's first airline passenger. A phosphate miner, he sat on an open bench in the cockpit of the seaplane nicknamed Limping Lucy. The pilot in charge on board this 21 minute flight from St Petersburg to Tampa in Florida USA was a 25 year old named Tony Jannes. He wore no uniform and did not work for an airline.

Since that eventful day, the industry has made great progress; the accessibility of air travel to the ordinary man in the 21st century is such that many people commute as effortlessly on board aircraft as they do by bus or train.

Back in 1914, the success of the trip or otherwise would no doubt have been determined by the fact that the aircraft survived the flight without falling from the skies. These days, however, the average airline passenger expects a lot more by way of in-flight comforts: a comfortable seat, an in-flight meal that meets the same attributable standards of quality as for a meal served in a restaurant on the ground, a fully flushing toilet and hot and cold running water, in-flight movies and music at the touch of a button.

This expectation is today a startling reality. All credit to the ingenuity of modern technology in tandem with the vast amount of work that goes on behind the scenes at every major airport in the world, thus providing the infrastructure that brings the passenger not only movies and music at the touch of a button but also ensures the safety of the product and thereby the safety of the passenger.

Whether or not Abe Pheil was given an in-flight meal was not recorded by the newspapers of the day. The first record of in-flight catering appeared in *Flight* magazine on 14 December 1922, with the following short paragraph:

'Mr Lloyd, the manager of the Trust House has now arranged for luncheon boxes for any passenger who feels that he or she would like to relieve the monotony of an air journey by taking a meal.'

It is highly likely that anyone who took up the offer of an in-flight meal was less worried about the safety of the contents of the luncheon box than the possibility that the aircraft might not survive the trip. Aviation catering has come a long way since the early pioneering days and is now a multibillion pound industry worldwide.

In the 21st century, how safe is the food and drink available for both passenger and crew consumption on board the aircraft that we travel on to transit the globe? The reality is that, whilst in all other areas of aviation safety technology has forged ahead at a rapid rate, delivering state of the art aircraft design and manufacture, the world of aviation food safety has been dramatically left behind.

The aim of this book is to focus on every aspect of the in-flight product, its evolution and current method and level of production and attempt, to uncover why, in terms of food safety, it is a prehistoric industry.

With an in-depth knowledge of the airline catering industry, the product requirement, logistics and every aspect of the supply chain and manufacturing process are brought under scrutiny, with a best practice scenario documented and discussed in each case.

Aviation food safety management systems and current codes of practice are analysed in terms of existing practices. Airline climate and culture changes, which would facilitate the evolution of a best practice utopia, are scrutinised. Parallels are drawn between current mainstream food manufacturing systems and how they might be introduced into airline catering operations.

The major issue is to highlight a situation where, as a direct result of the refracted evolution of the industry, food safety management systems are devised and implemented along catering guidelines instead of mainstream food manufacture. This is indeed a startling reality bearing in mind the volumes involved and the requirement for global provision and replication of the product.

Analysis of the relative failure of the current codes of practice within the industry and a direct comparison with the manufacturing sector are included to highlight the gravity of the failure of current GMPs and GHPs throughout the extended supply chain. We discuss why the unique nature of the airline catering product renders this the case.

An examination of the extended and refracted supply chain and the component nature of the product highlights the difficulties inherent in airline catering supply and why every aspect of the operation is a potential food safety management nightmare. In the industry many crucial aspects of the supply chain are overlooked or ignored and these are focused on in detail in the book. The burgeoning requirement to prepare, cook and serve an eclectic array of menus from scratch actually on board is a major example; the impact of flying food handlers' fitness to work is another.

If one takes into account the diverse nature, specification and evolution of the product, coupled with the airlines' obligation to supply a safe product all over the world, regulatory compliance issues are rendered something of an irrelevance in the devising of food safety supply, manufacture and management systems.

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Best practices and a new perspective are outlined with accompanying examples of systems documentation, in order to encourage and support the requirement to restructure the processes, improving levels of food safety and security globally.

Aligning food safety requirements and GMPs with aviation safety, security and aircraft design issues poses a major headache. Traditionally, extended consultation and liaison with sources of food safety management expertise from outside the industry have never been an option. The historical climate of self-regulation renders the industry susceptible to criticism and failure. The result of the industry's shortcomings is examined in terms of its potential impact not only on food safety but also on aviation safety.

A fundamental reassessment and restructuring of every product and process appertaining to the product delivery has to occur so that aviation food safety standards can fall into line with the rest of the industry's emerging technologies.