Failure in Safety-Critical Systems:
A HANDBOOK OF INCIDENT AND ACCIDENT REPORTING

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Preface

Incident reporting systems have been proposed as means of preserving safety in many industries. For instance, the International Civil Aviation Organization (ICAO) recommends their use throughout the aviation industry. Unfortunately, the lack of training material or other forms of guidance can make it very difficult for engineers and managers to set up and maintain reporting systems. There has been a proliferation of small-scale local initiatives, for example within individual departments in UK hospitals. This, in turn, has made it very difficult to collate national statistics for incidents within a single industry.

There are, of course, exceptions to this. For example, the Aviation Safety Reporting System (ASRS) has established national reporting procedures throughout the US aviation industry. Similarly, the UK Health and Safety Executive have supported national initiatives to gather data on Reportable Injuries, Diseases and Dangerous Occurrences (RIDDOR). In contrast to the local schemes, these national systems face problems of scale. It can become difficult to search databases of 500,000 records to determine whether similar incidents have occurred in the past.

This book, therefore, addresses two needs. The first is to provide engineers and managers with a practical guide on how to set up and maintain an incident reporting system. The second is to provide guidance on how to cope with the problems of scale that can arise from successful local and national incident reporting systems.

In 1999, I was asked to help draft guidelines for incident reporting in air traffic control throughout Europe. The problems of drafting these guidelines led directly to this book. I am, therefore, grateful to Gilles le Gallo and Martine Blaize of EUROCONTROL for helping me to focus on the problems of international incident reporting systems. Roger Bartlett, safety manager at the Maastricht upper air space Air Traffic Control center also provided valuable help during several stages in the writing of this book. In particular, he emphasized the importance of identifying the rights of individuals who contribute to the reporting process.

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Chris Johnson, Glasgow, 2002.