

## **PART A**

### **GENERAL**

There are a number of high level subjects to be addressed in any manual. These form an introduction and set the scene. Here they look at R&M in general, how R&M relates to other engineering disciplines and what it consists of at a high level.

#### **Chapter 1 Introduction to the Manual**

General comment on the background, purpose, scope, etc.

#### **Chapter 2 Acronyms and Abbreviations used in R&M work**

A list of acronyms and abbreviations used elsewhere in the manual

#### **Chapter 3 Glossary of R&M Related Terms**

A list of terms used elsewhere in the manual. Some developing terms are worthy of comment here.

#### **Chapter 4 Examination of the Overall R&M Activity**

A structured breakdown of the overall R&M Activity. This addresses the basic areas of R&M activity and their relationship with non-R&M activities and other R&M activities. It takes the form of a structured analysis and decomposition of the process.

#### **Chapter 5 R&M Processes**

Reliability and Maintainability Process provide a comprehensive step by step guide to managing the R&M aspects of specifying, acquiring, fielding and maintaining equipment throughout the CADMID cycle. The maps do not specify how individual equipment should be managed but enable informed decisions and programmes to be developed to optimise the acquisition and through life management process.

#### **Chapter 6 R&M and Project Risk**

R&M is often (incorrectly) seen as a peripheral activity in the development process for a new system. This chapter addresses the risks to a project of not considering R&M requirements at the appropriate time and with the necessary level of commitment. A positive approach is given, aiming to give project managers an understanding of the level of risk being taken and how that might be reduced. (This chapter is presently being developed)

**Chapter 7 R&M as a System Engineering Discipline**

R&M is an essential part of system design. This chapter explains the integrated nature of R&M requirements and their relationship with functional and other requirements.

**Chapter 8 Computer Aided Engineering Tools for R&M**

Computer Aided Engineering is becoming more and more prevalent. This is also true in the R&M field. Many tools are available and much R&M work is done using spreadsheets and databases. This chapter aims to list the DGSS supported tools and make general comments (benefits and pitfalls) about the use of these and other tools.

**Chapter 9 Modelling**

A model can be defined as a 'simplified representation of a complex system or process'. Modelling is used to provide evidence of the behaviour of a system or process before the system is built, the process initiated or costly decisions are undertaken. This chapter describes the fundamental stages of modelling activities, as applied in the R&M arena, and considers some of the problems encountered.

**Chapter 10 R&M Guidance for the Acquisition of Off the Shelf (OTS) Equipment and Systems Based on OTS Components**

This document provides guidance on the R&M activities with respect to the use of OTS technology in MoD procurement. These guidelines provide an approach to OTS procurement in terms of R&M which satisfies the requirements of Defence Standard 00-40 Part 1, but embraces the objectives of OTS procurement, chiefly lower procurement and support costs.

**Chapter 11 Reliability Trial Design, Implementation and Decision Making – A Think Piece**

There are numerous standards, guides and text books on Reliability trials, the majority of which assume the reader understands the subject and needs assistance with implementation of some aspect of the trial. This paper aims to give an overview of how trials link into the main engineering and programming effort.