

## **CHAPTER 43**

### **ASSURANCE THROUGH THE R&M CASE**

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## **1. INTRODUCTION**

**1.1** An R&M Case is defined as a reasoned, auditable argument created to support the contention that a defined system will satisfy the R&M requirements. The R&M Case provides an audit trail of the engineering considerations from requirements through to evidence of compliance. It provides traceability through R&M Case Reports accepted by the authority in the evidence framework of why certain activities have been undertaken and how they were judged as being successful, or otherwise.

**1.2** During acquisition the R&M Case will be used to demonstrate to the Purchaser that R&M requirements are being achieved. The Case shall contain an overview of the design philosophy used, together with the identification and justification of the R&M programme plan tasks needed to be undertaken during the design, development and production programme in order to demonstrate that the user's R&M requirements will be met. Evidence that supports R&M achievement will be entered into a declared evidence framework to produce progressive assurance of R&M achievement. Key stages in the evidence framework will be linked to project payment milestones to ensure that R&M programmes deliver the expected levels of R&M at each stage.

**1.3** At the beginning of a project the R&M Case shall provide confidence, before committing resources, that the R&M risks will be identified and managed. The Case will be controlled and proceed through a number of stages of increasing detail. This detail provides the body of evidence giving progressive assurance against the R&M requirements. Ultimately, during in-service use the R&M Case should provide confidence that the system remains reliable and maintainable in its operational role.

**1.4** The R&M Case must be reviewed and updated if:

- a) The system is modified;
- b) There are changes in how or where the system is used;
- c) There are changes in the R&M requirements;
- d) There is a deviation between actual performance and design intention.

## **2. ADDITIONAL GUIDANCE**

**2.1** An argument for developing and presenting evidence to build confidence in the level of system R&M through progressive assurance and the R&M Case are provided in Part G, Leaflet 1.

**2.2** Detailed guidance, with examples, on producing and evaluating cases may be found in Def Stan 00-42, Part 3.

## **CHAPTER C43/0**

### **REFERENCES**

- 1 Standards for Defence - Reliability and Maintainability – Assurance Guide – Part 3: R&M Case

