



ACQUISITION,  
TECHNOLOGY  
AND LOGISTICS

## THE UNDER SECRETARY OF DEFENSE

3010 DEFENSE PENTAGON  
WASHINGTON, DC 20301-3010

March 21, 2011

*Incorporating Change 1, December 2, 2011*

MEMORANDUM FOR SECRETARIES OF THE MILITARY DEPARTMENTS  
CHAIRMAN OF THE JOINT CHIEFS OF STAFF  
UNDER SECRETARIES OF DEFENSE  
DEPUTY CHIEF MANAGEMENT OFFICER  
ASSISTANT SECRETARIES OF DEFENSE  
GENERAL COUNSEL OF THE DEPARTMENT OF DEFENSE  
DIRECTOR, OPERATIONAL TEST AND EVALUATION  
DIRECTOR, COST ASSESSMENT AND PROGRAM  
EVALUATION  
INSPECTOR GENERAL OF THE DEPARTMENT OF DEFENSE  
ASSISTANTS TO THE SECRETARY OF DEFENSE  
DIRECTOR, ADMINISTRATION AND MANAGEMENT  
DIRECTOR, NET ASSESSMENT  
DIRECTORS OF THE DEFENSE AGENCIES  
DIRECTORS OF THE DoD FIELD ACTIVITIES

SUBJECT: Directive-Type Memorandum (DTM) 11-003 – Reliability Analysis,  
Planning, Tracking, and Reporting

References: (a) DoD Directive 5134.01, “Under Secretary of Defense for Acquisition, Technology, and Logistics (USD(AT&L)),” December 9, 2005  
(b) DoD Instruction 5000.02, “Operation of the Defense Acquisition System,” December 8, 2008  
(c) Department of Defense Reliability, Availability, Maintainability, and Cost Rationale Report Manual, June 1, 2009  
(d) DoD 8910.1-M, “DoD Procedures for Management of Information Requirements,” June 30, 1998

Purpose. In accordance with the authority in Reference (a), this DTM, consistent with the direction of the Under Secretary of Defense for Acquisition, Technology, and Logistics to immediately enhance reliability in the acquisition process and with recent Secretary of Defense direction to improve the efficiency of the Defense acquisition system:

- Amplifies procedures in Reference (b) and is designed to improve reliability analysis, planning, tracking, and reporting.

- Institutionalizes reliability planning methods and reporting requirements timed to key acquisition activities to monitor reliability growth.
- Is effective upon its publication to the DoD Issuances Website; it shall be incorporated into Reference (b). This DTM shall expire effective ~~November 23, 2011~~ December 31, 2012.

Applicability. This DTM applies to:

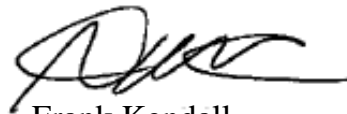
- OSD, the Military Departments, the Office of the Chairman of the Joint Chiefs of Staff and the Joint Staff, the Combatant Commands, the Office of the Inspector General of the Department of Defense, the Defense Agencies, the DoD Field Activities, and all other organizational entities within the DoD (hereafter referred to collectively as the “DoD Components”).
- Major Defense Acquisition Programs (except Information Systems) and designated special interest programs.

Responsibilities. The Heads of the DoD Components shall implement and ensure Component compliance with the procedures in the Attachment. These procedures shall be applied to other than Acquisition Category I programs by designation of the Component Acquisition Executive (Reference b).

Procedures. See Attachment.

Information Requirements. The reporting requirement at section 1 of Attachment 1 has been assigned RCS DD-AT&L(OT)2398 in accordance with DoD 8910.1-M (Reference (d)).

Releasability. UNLIMITED. This DTM is approved for public release and is available on the DoD Issuances Website at <http://www.dtic.mil/whs/directives>.



Frank Kendall  
Acting

Attachment:  
As stated

ATTACHMENT

PROCEDURES

1. Program Managers (PMs) shall formulate a comprehensive reliability and maintainability (R&M) program using an appropriate reliability growth strategy to improve R&M performance until R&M requirements are satisfied. The program will consist of engineering activities including: R&M allocations, block diagrams and predictions; failure definitions and scoring criteria; failure mode, effects and criticality analysis; maintainability and built-in test demonstrations; reliability growth testing at the system and subsystem level; and a failure reporting and corrective action system maintained through design, development, production, and sustainment. The R&M program is an integral part of the systems engineering process.
2. The lead DoD Component and the PM, or equivalent, shall prepare a preliminary Reliability, Availability, Maintainability, and Cost Rationale Report in accordance with Reference (c) in support of the Milestone (MS) A decision. This report provides a quantitative basis for reliability requirements and improves cost estimates and program planning. The report shall be attached to the Systems Engineering Plan (SEP) at MS A and updated in support of MS B and C.
3. The Technology Development Strategy preceding MS A and the Acquisition Strategy preceding MS B and C shall specify how the sustainment characteristics of the materiel solution resulting from the analysis of alternatives and the Capability Development Document sustainment key performance parameter thresholds have been translated into R&M design requirements and contract specifications. The strategies shall also include the tasks and processes to be stated in the request for proposal that the contractor will be required to employ to demonstrate the achievement of reliability design requirements. The Test and Evaluation Strategy and the Test and Evaluation Master Plan (TEMP) shall specify how reliability will be tested and evaluated during the associated acquisition phase.
4. Reliability Growth Curves (RGC) shall reflect the reliability growth strategy and be employed to plan, illustrate, and report reliability growth. A RGC shall be included in the SEP at MS A, and updated in the TEMP beginning at MS B. RGC will be stated in a series of intermediate goals and tracked through fully integrated, system-level test and evaluation events until the reliability threshold is achieved. If a single curve is not adequate to describe overall system reliability, curves will be provided for critical subsystems with rationale for their selection.

5. PMs and operational test agencies shall assess the reliability growth required for the system to achieve its reliability threshold during initial operational test and evaluation and report the results of that assessment to the Milestone Decision Authority at MS C.
  
6. Reliability growth shall be monitored and reported throughout the acquisition process. PMs shall report the status of reliability objectives and/or thresholds as part of the formal design review process, during Program Support Reviews, and during systems engineering technical reviews. RGC shall be employed to report reliability growth status at Defense Acquisition Executive System reviews.