

# Treatment of M&S in DoDI 5000.2

Comparison of the May 2003 and December 2008 Versions

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# Overview

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- ❑ Dec 08 version is much longer: 79 vs. 36 pages
- ❑ Total mentions of M&S slightly less
- ❑ Much continuity, but some significant changes
  - Details on following slides
- ❑ T&E Section (Encl 5 of May 03, Encl 6 of Dec 08) continues to have the most extensive, and strongest, M&S guidance

# SDD vs. EMD Sections (1 of 2)

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## ❑ May 03:

Section 3.7.1 System Demonstration, “Purpose”

*“Development and demonstration are aided by the use of simulation-based acquisition and test and evaluation integrated into an efficient continuum and guided by a system acquisition strategy and test and evaluation master plan (TEMP).”*

## ❑ Dec 08:

Section 6.d, EMD Phase, “Additional Phase Requirements”

*“T&E shall be conducted in an appropriate continuum of live, virtual, and constructive system and operational environments.”*

# SDD vs. EMD Sections (2 of 2)

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## ❑ May 03:

Section 3.7.5, “System Demonstration”:

*“Successful development test and evaluation to assess technical progress against critical technical parameters, early operational assessments, and, where proven capabilities exist, the use of modeling and simulation to demonstrate system integration are critical during this effort.”*

## ❑ Dec 08:

Section 6.c.(6)(d) EMD Phase, Phase Description, “System Capability and Manufacturing Process Demonstration”:

*“Successful developmental test and evaluation (DT&E) to assess technical progress against critical technical parameters, early operational assessments, and, where proven capabilities exist, the use of modeling and simulation to demonstrate system/system-of-systems integration are critical during this effort.”*

# Integrated T&E (1 of 2)

May 03 Encl. 5; Dec 08 Encl. 6

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## □ Intro/Overview in both:

*“The PM, in concert with the user and test and evaluation communities, shall coordinate developmental test and evaluation (DT&E), operational test and evaluation (OT&E), LFT&E, family-of-systems interoperability testing, information assurance testing, and modeling and simulation (M&S) activities, into an efficient continuum, closely integrated with requirements definition and systems design and development. The T&E strategy shall provide information about risk and risk mitigation, provide empirical data to validate models and simulations, ...”*

*“Adequate time and resources shall be planned to support pre-test predictions and post-test reconciliation of models and test results, for all major test events.”*

*“OT&E shall require more than an OA based exclusively on computer modeling, simulation, or an analysis of system requirements, engineering proposals, design specifications, or any other information contained in program documents ...”*

# Integrated T&E (2 of 2)

May 03 Encl. 5; Dec 08 Encl. 6

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- ❑ “T&E Strategy” in May 03, removed from Dec 08 version:

*“Projects that undergo a Milestone A decision shall have a T&E strategy that shall primarily address M&S, including identifying and managing the associated risk, and that shall evaluate system concepts against mission requirements.”*

- ❑ “T&E Planning” in May 03, “Overview” in Dec 08:

*“Appropriate use of accredited models and simulation shall support DT&E, IOT&E, and LFT&E.”*

- ❑ “M&S” in both:

*“The PM shall plan for M&S throughout the acquisition life cycle. The PM shall identify and fund required M&S resources early in the life cycle.”*

# Resource Estimation

May 03 Encl. 6; Dec 08 Encl. 7

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- “CAIG Procedures” in both:

“The CAIG, DoD Components, and PM shall share data and models and use the same CARD.” [Cost Analysis Requirements Description]

# Human Systems Integration

May 03 Encl. 7; Dec 08 Encl. 7

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## ❑ “Training” in May 03:

*“The PM shall develop training system plans to maximize the use of new learning techniques, simulation technology, embedded training, and instrumentation systems that provide anytime, anyplace training and reduce the demand on the training establishment. Where possible, the PM shall maximize the use of simulation-supported embedded training, and the training systems shall fully support and mirror the interoperability of the operational system.”*

## ❑ “Training” in Dec 08 (same, except added Distributed Learning):

*“The PM shall develop training system plans to maximize the use of new learning techniques, simulation technology, embedded training, and distributed learning [DoDI 1322.26, reference (be)], and instrumentation systems that provide anytime, anyplace training and reduce the demand on the training establishment. Where possible, the PM shall maximize the use of simulation-supported embedded training, and the training systems shall fully support and mirror the interoperability of the operational system.”*

# Technical Data Management (1 of 2)

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## ❑ May 03: Sec 3.9.2, Sustainment

*“Sustainment includes supply, maintenance, transportation, sustaining engineering, data management, configuration management, manpower, personnel, training, habitability, survivability, environment, safety (including explosives safety), occupational health, protection of critical program information, anti-tamper provisions, and information technology (IT), including National Security Systems (NSS), supportability and interoperability functions.”*

## ❑ Dec 08:

Section 5.c, Technology Development Phase, Phase Description  
(7) *The TDS shall document the following:*

*(g) A data management strategy (see Section 9 in Enclosure 12).*

Section 8, Operations and Support Phase, Phase Description

*(b) Life-cycle sustainment considerations include supply; maintenance; transportation; sustaining engineering; data management; configuration management; HSI; environment, safety (including explosives safety), and occupational health; protection of critical program information and anti-tamper provisions; supportability; and interoperability.*

# Technical Data Management (2 of 2)

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## ❑ Dec 08: Enclosure 12, Systems Engineering

### 9. DATA MANAGEMENT AND TECHNICAL DATA RIGHTS

*a. Program Managers for ACAT I and II programs, regardless of planned sustainment approach, shall assess the long-term technical data needs of their systems and reflect that assessment in a Data Management Strategy (DMS). The DMS shall:*

*(1) Be integrated with other life-cycle sustainment planning and included in the Acquisition Strategy;*

*(2) Assess the data required to design, manufacture, and sustain the system, as well as to support re-competition for production, sustainment, or upgrades; and*

*(3) Address the merits of including a priced contract option for the future delivery of technical data and intellectual property rights not acquired upon initial contract award and shall consider the contractor's responsibility to verify any assertion of restricted use and release of data.*

*b. The DMS shall be approved in the context of the Acquisition Strategy prior to issuing a contract solicitation.*

# Engineering Development Models

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- ❑ May 03: Section 3.7.3, System Integration

*“This effort shall typically include the demonstration of prototype articles or engineering development models (EDMs).”*

- ❑ Dec 08: Section 5.c, Technology Development Phase, Phase Description

*“For an evolutionary acquisition, the TDS shall include a preliminary description of how the materiel solution will be divided into acquisition increments based on mature technology and an appropriate limitation on the number of prototype units or engineering development models that may be produced in support of a Technology Development Phase”*