



DEPARTMENT OF THE ARMY
OFFICE OF THE ASSISTANT SECRETARY OF THE ARMY
ACQUISITION LOGISTICS AND TECHNOLOGY
103 ARMY PENTAGON
WASHINGTON, DC 20310-0103

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28 February 2019

MEMORANDUM FOR SEE DISTRIBUTION

SUBJECT: Policy Directive for Test and Evaluation of Middle-Tier Acquisition Programs

1. References:

a. Section 804 of the National Defense Authorization Act for Fiscal Year 2016, Public Law 114-92, as amended, Title 10, United States Code, Section 2302.

b. Memorandum, Assistant Secretary of the Army (Acquisition, Logistics and Technology), 25 September 2018, subject: Office of the Assistant Secretary of the Army (Acquisition, Logistics and Technology) Middle-Tier Acquisition Policy.

c. Memorandum, Under Secretary of Defense (Acquisition and Sustainment), 16 April 2018, subject: Middle Tier of Acquisition (Rapid Prototyping/Rapid Fielding) Interim Authority and Guidance.

d. Memorandum, Under Secretary of Defense (Acquisition and Sustainment), 9 October 2018, subject: Middle Tier of Acquisition (Rapid Prototyping/Rapid Fielding) Interim Governance.

e. Department of Defense Instruction (DoDI) 5000.02, Change 4, Operation of the Defense Acquisition System, 31 August 2018.

f. Army Regulation 73-1, Test and Evaluation Policy, 8 June 2018.

g. Title 10, United States Code, Section 2430, Major Defense Acquisition Program Defined.

h. Title 10, United States Code, Section 2366, Major Systems and Munitions Programs: Survivability Testing and Lethality Testing Required Before Full-Scale Production.

i. Title 10, United States Code, Section 139, Director of Operational Test and Evaluation.

j. Title 10, United States Code, Section 2399, Operational Test and Evaluation of Defense Acquisition Programs.

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k. Title 10, United States Code, Section 2400, Low-Rate Initial Production (LRIP) of New Systems.

l. Report to Congress on Chief of Staff of the Army Acquisition Authorities in response to Section 801 of the National Defense Authorization Act for Fiscal Year 2016, Public Law 114-92, March 2016.

m. DoDI 5000.61, Change 1, Department of Defense Modeling and Simulation Verification, Validation, and Accreditation, 15 October 2018.

n. Army Regulation 700-142, (Type Classification, Materiel Release, Fielding, and Transfer), 8 June 2018.

2. Purpose:

a. This directive, prepared in coordination with the Army Test Executive provides Test and Evaluation (T&E) policy to programs that the Army Acquisition Executive (AAE) approves for MTA as defined in reference 1.a.

b. The MTA primary intent is to deliver a required capability on an accelerated schedule (reference 1.b.). This policy directive provides T&E guidance to support rapid delivery of operationally effective, operationally suitable, survivable and safe solutions while adhering to Office of the Secretary of Defense and Assistant Secretary of the Army (Acquisition, Logistics and Technology) MTA policy, governance, and guidance (references 1.b. to 1.d.).

c. This policy directive does not apply to urgent capability acquisition as defined in reference 1.e. or to accelerated (rapid) acquisition programs or agile capabilities life cycle processes as defined in reference 1.f.

3. Background:

a. In accordance with references 1.a. and 1.c., an MTA program is not subject to the Manual for the Operation of the Joint Capabilities Integration and Development System or Department of Defense Directive 5000.01. An MTA program also is not subject to requirements applicable to a "major defense acquisition program" (MDAP) as that term is defined in Title 10 United States Code (U.S.C.) §2430(a). An MTA program that is a "covered system," "major munitions program," "missile program," or "covered product improvement program" as defined in Title 10 U.S.C. §2366 is subject to the requirements of that section pertaining to survivability and lethality testing. An MTA program that is an MDAP pursuant to Director of Operational Test and Evaluation designation under Title 10 U.S.C. §139(a)(2)(B) is subject to the requirements of Title 10 U.S.C. §2399 pertaining to Operational Test and Evaluation (OT&E). An MTA

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program that is a "major system" for purposes of Title 10 U.S.C. §2400 and DoDI 5000.02 is subject to the requirements of those two provisions pertaining to LRIP.

b. Current MTA policies, governance, and guidance (references 1.b. to 1.d.) do not provide direction on T&E nor do they provide the necessary detail for successful implementation of MTA's intent to deliver capability to warfighters with greater efficiency on an abbreviated schedule (reference 1.b.). This directive provides T&E policy for MTA programs.

c. T&E characterizes risks in order to inform decision makers. For MTA programs, decision makers may accept risk in order to expedite the prototyping and fielding of advanced technologies and capabilities to the Warfighter.

4. Directive:

a. A T&E strategy is required for all MTA programs. A formal T&E Master Plan is not required for MTA programs.

b. In coordination with the T&E organization, the materiel developer will develop a strategy that defines the appropriate scope of T&E. The T&E strategy informs the MTA initiation request and is included in the MTA program strategy (reference 1.b.) or Single Acquisition Management Plan (SAMP). The T&E strategy must be approved by the materiel developer, the responsible T&E organization, and the capability proponent at the equivalent rank or grade as the MTA Decision Authority. If the AAE is the MTA Decision Authority, the T&E Strategy shall be coordinated with the Army T&E Executive.

c. The T&E strategy will provide sufficient detail to allow for resourcing of all data collection events supporting assessment (progress towards demonstrating operational effectiveness, operational suitability and survivability) and/or evaluation (determination of operational effectiveness, operational suitability and survivability) to include modeling and simulation (M&S), experimentation, demonstrations, contractor testing and government testing. It will describe how the planned T&E will be used to inform and/or validate program requirements. The T&E strategy shall include an integrated test program schedule; any technical, developmental, operational, or integrated test events and objectives; a technical and operational evaluation framework; and a test resource summary.

(1) The T&E strategy will provide for sufficient data to determine the operational effectiveness, operational suitability, survivability and safety of an MTA program, while at the same time allowing Army decision makers to understand program risks.

(2) The T&E strategy will be based on program requirements and consideration of factors such as existing data, technology maturity, operator complexity, integration

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and interoperability characteristics, mission impacts, training, and sustainment/logistical needs. It will employ representative threats or validated and accredited models to assess the MTA program. The Independent Evaluator will provide input to the MTA Decision Authority on the risks, T&E limitations, and program requirements not addressed.

(3) Since requirements will likely evolve over the course of an MTA program development, it is prudent that the T&E strategy sets the conditions for periodic assessments of performance and validation/revalidation of requirements as execution proceeds. Modeling, experimentation (reference 1.1.) and T&E results will be used to validate and refine MTA program requirements and determine the military utility of the program. The capability proponent shall use T&E results to modify the applicable requirement document, engaging in continuous learning as the T&E strategy unfolds in a test – learn – fix – test approach.

(4) The T&E strategy will maximize use of flexible and innovative T&E approaches (e.g., hierarchical Bayesian models for reliability, M&S, and risk-based T&E). Supporting MTA programs with responsive T&E requires an innovative environment of continuous learning that mitigates or informs risk. This can be enabled through:

(a) Use of small events that are focused on particular aspects of performance. These can be credible contractor or government-led events focused on particular aspects of a system. These events can be used to inform requirements that may have otherwise been established without quantitative analysis.

(b) Increased use of M&S. When M&S is going to be used for the MTA program, the plan for validation, verification and accreditation (VV&A) shall be incorporated into the T&E strategy (reference 1.m.). When the M&S is well rationalized, lack of VV&A should not impede its use. VV&A of all M&S shall be considered during the course of the program and appropriate weight given to its findings. Expanded use of M&S will become increasingly important as the Army expands its development and application of artificial intelligence and machine learning systems where physical verification of state conditions and responses will become prohibitive.

(c) Greater reliance on contractor expertise and M&S for MTA system reliability. Incorporate use of reliability design activities as a primary source of data. Rapid improvement events may be conducted at a component or subsystem level to work out design flaws or to improve design margins. The materiel developer, in coordination with the T&E organization, is responsible for determining the scope of the reliability design activities and ensuring the MTA program contract is structured to obtain the required data and analyses. Concepts such as Bayesian statistics, highly accelerated life

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testing, highly accelerated stress screening and rapid design improvement events are to be considered. Traditional sequential reliability growth testing is discouraged.

d. Increased prototyping and experimentation (reference 1.l.) allows for early learning of system capabilities, limitations and military utility. Soldiers will be involved and leveraged throughout prototyping, experimentation and developmental testing to characterize operational risks in order to inform decision makers. The use of reserve component units for experimentation and testing is encouraged, provided that Active Duty Operational Support funding is available. National Guard and Army Reserve personnel may provide recent and relevant industry experience that is valuable for assessing or evaluating the systems under development. Operational testing will focus on data gaps that remain after reviewing all available data to complete an operational effectiveness, operational suitability and survivability evaluation.

e. The T&E organization will provide continuous and cumulative assessments during program execution to support MTA program knowledge points and decision reviews. Evaluations and assessments of MTA programs will consider all credible data. This may require the materiel developer to establish standard language, metrics, data dictionary, data methods and database structures across M&S, experimentation, demonstrations, contractor testing and government testing. The responsible T&E organization will advise on the adequacy of existing data to satisfy requirements verification.

f. In accordance with reference 1.f., U.S. Army Test and Evaluation Command (ATEC) must complete a safety release before any hands-on testing, use or maintenance by Soldiers. In accordance with reference 1.n., ATEC must complete a safety confirmation to support Materiel Release.

g. If the MTA program satisfies the criteria described in paragraph 3.a. of this directive, it must complete survivability and lethality testing (reference 1.h.) and OT&E (reference 1.j.) before production exceeds LRIP equivalent quantities (reference 1.k.).

h. The delivery of contractor test data will be included in the materiel developer's contracting actions. The materiel developer will deliver the data to the responsible T&E organization. The responsible T&E organization will be afforded the opportunity to review test plans for contractor testing; witness testing at the contractor facility; and review test reports (to include all derived test data), in conjunction with the materiel developer, to assess the adequacy of the test data for use in evaluation. The materiel developer will include the use of contractor test data in their MTA program strategy or SAMP. In addition, the materiel developer's Request for Proposal will address program T&E needs, to include test articles, T&E data rights and government access to test data.

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i. All T&E-related approvals external to the Army require coordination through the Army T&E Executive.

5. This policy is in effect until superseded by further guidance or an update to reference 1.f.

6. The points of contact are Dr. Melanie L. Loncarich, 703-545-1150, DSN 865-1150 or melanie.l.loncarich.civ@mail.mil and Ms. Laura I. Pegher, 571-256-9438, DSN 260-9438 or laura.i.pegher.civ@mail.mil.



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Army Acquisition Executive

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