

Transportability and the Acquisition Process

All DoD Components shall ensure that transportability and deployability are a major consideration in the acquisition of all types of developmental systems, rebuys of fielded systems, modified materiel, or non-developmental items, and for all systems defined as a transportability problem item.

Department of Defense Instruction (DoDI) 4540.07, Operation of the DoD Engineering for Transportability and Deployability Program, section 6.2, 11 September 2007

“Efficient and economically transportable equipment and combat resources are critical to enhancing the Army’s warfighting capability. All new systems, major modifications, upgrades to current systems, nondevelopmental items, commercial items, and re-procurements designated as transportability problem items (TPI) must obtain approval from the Commander, SDDC, in accordance with DoDI 4540.07 and AR 70-47.”

Army Regulation (AR) 70-1, Army Acquisition Policy, section 4-5, 22 July 2011

Many people do not understand transportability and the role it plays in the DoD acquisition process. This paper attempts to provide a basic understanding of the transportability approval process and the role of the Military Surface Deployment and Distribution Command Transportation Engineering Agency (SDDCTEA). Before we get into the process, here are some basic definitions of terms taken from *AR 70-47, Engineering for Transportability Program, 11 September 2012*.

Transportability – *The inherent capability of an item or system to be effectively and efficiently moved by the required transportation assets and modes.*

Transportability Approval – *A statement from SDDCTEA, the Army transportability agent, that an item of materiel, in its shipping configurations, is transportable by the required mode(s) of transportation and meets its transportability requirements.*

The transportability approval is required prior to Milestone C according to several regulations. Details on the regulations will be provided later in this document.

Transportability Engineering – *The process of identifying and measuring limiting constraints, characteristics, and environments of transportation systems; the integration of these data into design criteria to use operational and planned transportation capability effectively; and the development of technical transportability guidance.*

DoDI 4540.07, paragraph 5.5.3 states that the Commander, Military Surface Deployment and Distribution Command (SDDC) serves as the Army Transportability Agent and the DoD Transportability Agent for all systems and equipment (S/E) matters requiring multi-component coordination.

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DoDI 4540.07, section 5.5.4 states that the Director, SDDCTEA serves as the Land Mode Transportability Agent for the DoD and the single point of contact for Army agencies in conducting transportability engineering and deployability analyses and for providing transportability and/or deployability guidance and assistance. SDDCTEA also serves as the DoD Secretariat for the Engineering for Transportability and Deployability Program per paragraph 5.2.3.1 of the DoDI.

What Types of Materiel Requires Transportability Approval?

Per paragraph 1-5.a(1) of *AR 70-47*, the AR applies to, "...all Army materiel (major end items, components, and spare parts) to include: research, development, test, and evaluation (RDT&E) systems; product improvements (including materiel modifications and upgrades); commercial items and military-adapted commercial items; foreign source items; nondevelopmental items; rapidly fielded equipment; reprocurements; and systems/equipment/munitions (SEM)."

Is the Materiel a Non-Problem Item?

If the materiel is considered a non-problem item (NPI) (SDDCTEA will make that determination per the definition of a transportability problem item (TPI) from *DoDI 4540.07* and *AR 70-47*), then per paragraph 1-5.c of *AR 70-47*, an NPI statement and email will be provided from SDDCTEA.

For transportability problem items (TPIs), a simple step-by-step process of transportability in the Army acquisition process and the organizations involved begins with the end user or Capability Developer (CAPDEV) providing a requirement for a capability that they desire. A flowchart of the process can be found in Figure 1. The requirement is recorded into a formal capability document such as a capability development document (CDD) or capabilities production document (CPD). SDDCTEA is required to review the capability document to ensure that transportability requirements are adequately covered.

SDDCTEA Reviews Capability Documents

SDDCTEA reviews capability documents to ensure transportability considerations are adequately stated per *AR 70-47*, paragraph 1-13.e, paragraph 1-14.a, and section 2.3.

Once the capability document has been finalized and approved, the Materiel Developer (MATDEV) or Program Manager (PM), takes the program and seeks a materiel solution for the stated need. Part of that search for the materiel solution can be to convene a source selection evaluation board (SSEB) to select a piece of equipment to continue through the acquisition process.

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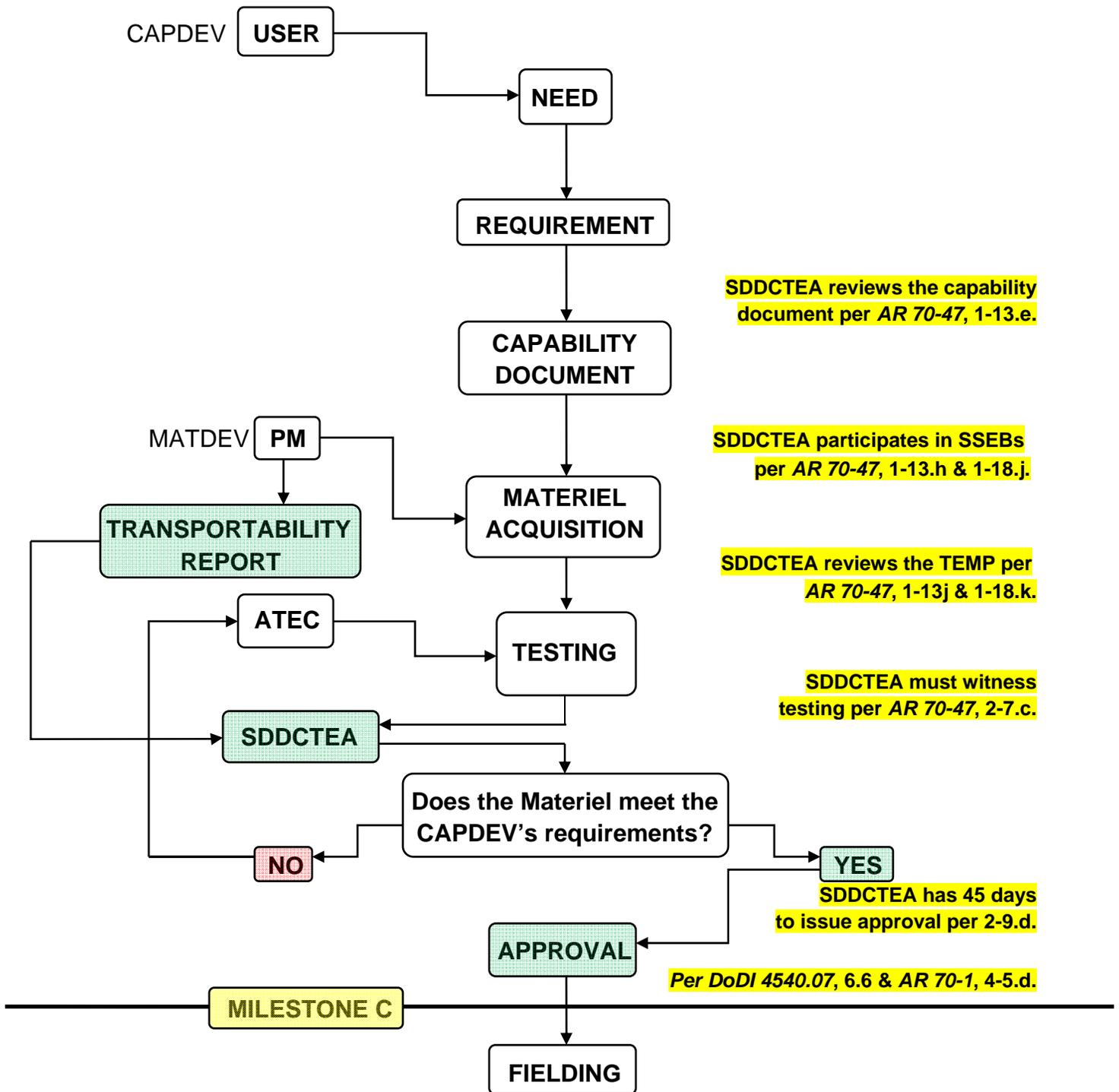


Figure 1. Transportability in Acquisition Flowchart

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SDDCTEA is Required to Participate in the SSEB

Per *AR 70-47*, paragraph 1-13.h, SDDCTEA is required to supply an Army transportability agent representative to support the MATDEV with SSEBs. In paragraph 1-18-j, the MATDEV is required to request support from SDDCTEA for SSEBs.

The MATDEV (or contractor) would then need to submit to SDDCTEA a transportability report for the selected materiel per *AR 70-47*, section 2-4. The report is a detailed listing of all the physical characteristics for the piece of equipment and provides all the information necessary to perform a comprehensive transportability engineering analysis. A format for the transportability report can be found in Appendix B of *AR 70-47* or *Data Item Description (DI-PACK) 80880D*.

MATDEV Submits Transportability Report to SDDCTEA

Per *AR 70-47* section 2-4, a transportability report on the materiel that follows the format in Appendix B of *AR 70-47*, must be submitted to SDDCTEA.

The materiel selected by the MATDEV then needs to be tested to verify it meets the capabilities/requirements desired by the CAPDEV. This testing typically takes place in the “Engineering and Manufacturing Development” phase of the acquisition process. All required testing is stated in the test and evaluation master plan (TEMP). Required transportability testing typically would include *Military Standard (MIL-STD) 209*, Lifting and Tiedown Provision tests and a *MIL-STD-810* rail impact test. Required testing all depends on the particular transportability requirements of the materiel.

SDDCTEA is Required to Review the TEMP

Per *AR 70-47*, paragraphs 1-13.j and 1-18.k, SDDCTEA is required to review the transportability sections of the TEMP to ensure that transportability testing (such as *MIL-STD-209* and *MIL-STD-810 testing*) is adequately covered.

As stated earlier, transportability testing usually involves *MIL-STD-209* lift and tiedown provision testing as most materiel must be tied down (secured) during transport. The tiedown provisions must successfully pass their pull tests before moving on to other types of transportability testing, such as the *MIL-STD-810* rail impact test. Other specialized transportability testing would also take place based on the specific transportability requirements of the materiel. This other testing could include (but not limited to) test loadings, airdrops, or helicopter sling loading. Per *AR 70-47*, test procedures shall be coordinated with SDDCTEA at least 30 days before the test date. SDDCTEA shall be notified of the exact test time and location at least five days before the test. SDDCTEA or SDDCTEA’s appointed representative must witness all transportability testing.

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SDDCTEA Must Witness All Transportability Testing

Transportability procedures shall be coordinated with SDDCTEA at least 30 days prior to the test. SDDCTEA must be notified of the exact time and location of transportability tests 5 days before the test. SDDCTEA (or their appointed representative) must witness all transportability testing per *AR 70-47*, paragraph 2-7.c.

Once all required transportability testing has been successfully completed, the final test reports received by SDDCTEA, and SDDCTEA has received all required transportability certifications (shelter, air transport, helicopter sling load, and/or airdrop) from other transportability agents, SDDCTEA has 45 days to provide a transportability approval to the MATDEV per *AR 70-47*, paragraph 2-9.d. Transportability approval is also required prior to Milestone C per *DoDI 4540.07*, paragraphs 6.6 and 6.7; *AR 70-1*, paragraph 4-5.d; *AR 71-9, Warfighting Capabilities Determination*, paragraph 2-20.j; *AR 700-127, Integrated Logistics Support*, paragraph 2-16.h. Transportability approval is also used to support the Materiel Release process per *AR 700-142, Type Classification, Materiel Release, Fielding, and Transfer, 17 January 2013, section 2-23*.

SDDCTEA Transportability Approval in Support of Milestone C

Per paragraphs 6.6 and 6.7 of *DoDI 4540.07*, the MATDEV should request transportability approval for TPIs at least 90 days prior to Milestone C (6.6). SDDCTEA will provide transportability approval to TPIs before Milestone C (6.7). Per *AR 70-47*, paragraph 2-9.d, SDDCTEA has 45 days to provide a transportability approval to the MATDEV in support of Milestone C, once all transportability testing has been successfully completed, all transportability certifications have been received, and the materiel meets its transportability requirements. Please keep this in mind when planning for the Milestone C decision point. Other regulations where transportability approval is mentioned include, *AR 70-1* (section 4-5), *AR 71-9* (section 2-20), *AR 73-1* (section 2-18), *AR 700-127* (section 2-16), and *AR 700-142* (section 2-23).

Because requirements and capabilities are always being updated or revised, any revision in the materiel might require new transportability testing and/or an update to the transportability approval. In the final paragraph of each transportability approval, SDDCTEA includes a statement about the need to update the transportability approval if modifications take place or changes occur that increase the size and/or weight of the system. *DoDI 4540.07* (6.2.1), *AR 70-1* (4-5) and *70-47* (1-5.a(1)) also state that any product improvements, developmental systems, non-developmental items, modifications, upgrades to current systems or procurements will require an updated transportability report and an upgraded transportability approval.

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Transportability Approval Updates

Any product improvements, modifications, upgrades, or reprocurments may require new transportability testing and will require an updated transportability approval, especially when changes have occurred in the size and/or weight of the materiel.

Once a transportability approval has been issued by SDDCTEA, their role in the Engineering for Transportability Program is not over. SDDCTEA is responsible for managing data collection and maintaining the *Standard Characteristics (Dimensions, Weight, and Cube) for Transportability of Military Vehicles and Other Outsize/Overweight Equipment, Army TB-55-46*, per *DoDI 4540.07 (5.5.4.8)* and *AR 70-47 (1-13.o)*. The MATDEV is required to support this data collection per *AR 70-47 (1-18.l)*.

SDDCTEA also publishes and distributes transportability guidance/procedures for moving military equipment by the various transport modes. These publications used to be called "pamphlets," but this name was changed to "modal instructions" in the latest update to *AR 70-47* to prevent confusion with other "pamphlets" published by the Department of the Army. These modal instructions are required per *DoDI 4540.07 (5.5.4.6)* and *AR 70-47 (1-13.k)*. The MATDEV is required to support the development and update of these modal instructions per *AR 70-47 (1-18.i)*. The modal instructions are sent out free of charge and can be ordered or electronically downloaded from the SDDCTEA web site, <http://www.tea.army.mil/pubs/deploy.asp>. The current list of modal instructions available are as follows:

55-19 Tiedown Handbook for Rail Movements
55-20 Tiedown Handbook for Truck Movements
55-21 Lifting and Tiedown of U.S. Military Helicopters
55-22 Marine Lifting and Lashing Handbook
55-23 Containerization of Military Vehicles
55-24 Vehicle Preparation Handbook for Fixed Wing Air Movements

70-1 Transportability for Better Deployability
700-4 Vessel Characteristics for Shiploading
700-6 LMSR User's Manual
700-7 Fast Sealift Ship User's Manual

A CD with all these documents and all related transportability regulations can also be ordered from the SDDCTEA web site.

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For any transportability engineering questions, feel free to contact the Transportability Engineering Branch at SDDCTEA.

U.S. Army Military Surface Deployment and Distribution Command
Transportation Engineering Agency (ATTN: SDTE-DPE)
1 Soldier Way, Building 1900W
Scott AFB, IL 62225-5006

(618) 220-5263
DSN 770

usarmy.scott.sddc.mbx.tea-dpe@mail.mil

Transportability References

DoDD 4510.11, DoD Transportation Engineering, 12 April 2004

DoDI 4540.07, Operation of the DoD Engineering for Transportability and Deployability Program, 11 September 2007

AR 70-1, Army Acquisition Policy, 22 July 2011

AR 70-47, Engineering for Transportability Program, 11 September 2012

AR 71-9, Warfighting Capabilities Determination, 28 December 2009

AR 73-1, Test and Evaluation Policy, 1 August 2006

AR 700-127, Integrated Logistics Support, 26 March 2012 (RAR)

AR 700-142, Type Classification, Materiel Release, Fielding, and Transfer, 17 January 2013

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