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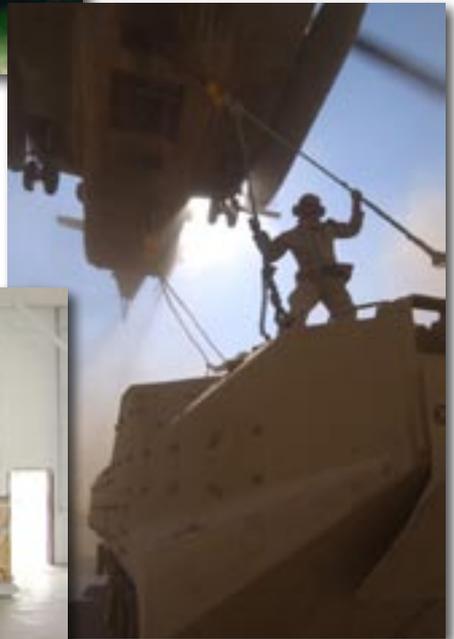


**TECHNOLOGY DRIVEN. WARFIGHTER FOCUSED.**

# **CENTER FOR TRANSPORTABILITY CERTIFICATION**

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### **Rigid Wall Shelter Transportability Certification**

■ **Telephone:**

- Comm 508-233-5245, DSN 256-5245
- Comm 508-233-5242, DSN 256-5242
- Comm 508-233-4382, DSN 256-4382
- Comm 508-233-4067, DSN 256-4067

■ **Email:**

- NATI-AMSRD-NSC-AD-B@conus.army.mil

■ **Website:**

- <http://nsrdec.natick.army.mil/>

### **Airdrop and Helicopter Sling Load Certification**

■ **Telephone:**

- Comm 508-233-5276, DSN 256-5276
- Comm 508-233-6355, DSN 256-6355

■ **Email:**

- NATI-AMSRD-NSC-AD-B@conus.army.mil

■ **Website:**

- <http://nsrdec.natick.army.mil/>

# U.S. ARMY Natick Soldier RD&E Center (NSRDEC) Certification Agency for Rigid Wall Shelter Transportability Certification and Reviewing Agency for Rigid Wall Shelter Overload

The Natick Soldier RD&E Center (NSRDEC) Shelters Technology, Engineering & Fabrication Directorate is the DOD certification agency for Shelter Transportability Certification (STC) and Shelter Overload Waiver Authority. It is recommended that NSRDEC be contacted early in the acquisition, design and development process. NSRDEC should also be included as part of the system Integrated Project Team (IPT) to ensure that all transportability issues for the shelter are addressed at the establishment of the program. A certification and/or overload waiver is required for all systems that must be approved by a Milestone Decision Authority prior to fielding.

## Rigid Wall Shelter Transportability Certification (STC) Process

1. A request for STC must be received in writing via memo, facsimile, or email. The request must:
  - a. Identify the shelter to be used, if DoD standard (e.g., S-788, S-280, ASF Two-side Expandable ISO Shelter, Navy BMF, etc).
  - b. Provide engineering details for the developmental or non-standard shelter, accompanied by its JOCOTAS waiver.
  - c. Indicate whether NSRDEC engineering assistance will be required to integrate the shelter.
  - d. Provide all applicable requirements.
  - e. Provide all applicable detailed drawings showing external modifications (e.g., demarcation panel installation) and internal integration of the system (e.g., rack installation), including weight distribution, CG locations in X-Y-Z, and any system shipping and storage plans.
  - f. Provide the test data and structural analyses information that prove the shelter will survive Internal Air Transport (IAT), if that is a requirement.
  - g. Provide the name of the transportability agent to which the certification will be sent.



- **The requestor, if applicable, should contact the Program Managers, Product Managers and/or user representatives as a source of all pertinent information. Send the information to:**

U.S. Army Natick Soldier RD&E Center  
ATTN: AMSRD-NSC-CP-CS  
Natick, MA 01760-5018  
FAX: DSN 256-5688 or Comm 508-233-5688  
Email: AMSSB-RSC-B@conus.army.mil

2. After the information in paragraph 1 is received, the NSRDEC will issue a cost estimate to the requestor no later than (NLT) two (2) weeks after receipt, of the request.
3. Generally, new systems must undergo transportability testing to verify that the equipment inside the shelter will survive transportation. NSRDEC's goal is not to further burden the program office with redundant testing for STC. Therefore, upon receipt of the required funds:

- a. NSRDEC will review the system design, recommend and/or assist in the implementation of any modifications that are to be made to the shelter. If required, NSRDEC will model the changes to ensure that the structural integrity of the shelter is maintained for transportability. If the S/E developer has an analytical model of the system being integrated into the shelter, NSRDEC will review the model to ensure adequate validation has been performed. If requested, NSRDEC will provide engineering support to the system developer to design and implement modifications to the shelter.



- b. NSRDEC will review the level of planned testing and make recommendations, as necessary. Testing will validate that the modifications/integration do not adversely impact the transportability performance of the shelter as specified in the appropriate shelter specification. NSRDEC will assist the S/E developer with coordinating any additional testing and provide oversight of the testing to ensure shelter compliance. Any additional tests deemed necessary by NSRDEC are scheduled and funded by the requestor after the initial analysis. The test agencies will provide time and cost estimates for their involvement directly to the requestor.
  - c. NSRDEC will assist the S/E developer in submitting a waiver request to JOCOTAS, if a non-standard shelter is being used.
  - d. NSRDEC will provide technical support and guidance until all test phases are complete, once testing is scheduled.
4. Once NSRDEC receives the test report and determines that the shelter successfully completed testing, NSRDEC will issue a Shelter Transportability Certification memorandum for the system to the responsible transportability agent. The memorandum will be specific to the system tested. Any future changes may require the system to be re-certified.
5. Additional Information
    - a. Shelter Transportability Certification by Similarity
      1. It is possible to certify a system by similarity to another system that already has a Shelter Transportability Certification.

2. The shelter must be of similar weight, center of gravity, and similarly integrated.
  3. The differences in the currently certified system and the system proposed to be certified by similarity must be such that when transported, the proposed system is no more likely to cause damage to the shelter than the one certified.
  4. NSRDEC will conduct a technical assessment to make the determination whether a system is suitable for Shelter Transportability Certification by similarity. NSRDEC will compare the proposed system and its supporting data with the certified system to determine if certification by similarity is warranted. Ultimately, NSRDEC will make the final determination whether a system can be certified by similarity, or will require the standard process, with testing, for Shelter Transportability Certification.
- b. Certification of Non-Army Shelters
- Natick will submit the data to the non-Army shelter's engineering activity to review the data. The shelter's engineering activity shall either submit a letter certifying that the shelter modifications have been evaluated and does not affect the transportability of the shelter or submit a letter enumerating any restrictions on the transportability of the shelter. Natick will endorse and forward the letter to the appropriate transportability agent. If the shelter is wholly owned and integrated by NAVAIR, then NAVAIR may directly submit a letter of certification for endorsement by NSRDEC.
- c. Certification of Converted ISO Shipping Containers
- Generally, an ISO Shipping Container does not require an STC since it is, by definition, transportable provided its Convention for Safe Containers (CSC) Certification is up-to-date. However, if the ISO Shipping Container has been modified to provide a live-in/ work-in environment, it has, by definition, been converted to a shelter. Thus, it requires an STC. As a shelter, the ISO Shipping Container would normally require a JOCOTAS Waiver, however, JOCOTAS has determined that a waiver is not necessary and is, therefore, not required for the STC. Thus the system developer must submit the required data to NSRDEC for normal processing and certification.
- d. Roles/Responsibilities:
1. The NSRDEC cost estimate includes the following for Shelter Transportability Certification efforts:
    - i. NSRDEC will provide engineering guidance to the requestor and contractors, as necessary, during the development of the system.
    - ii. NSRDEC will attend design reviews and IPT meetings, and participate in teleconferences, as necessary, during the development of the system.
    - iii. Establish test requirements.
    - iv. Conduct and/or provide technical assistance and guidance during testing, as necessary.

- iv. Provide engineering support throughout the shelter test program.
    - v. Grant Shelter Transportability Certification after it is determined from the test report that all certification requirements have been met.
  2. The requestor will need to contact and fund the test agency under separate cover.
  3. The test agency will schedule and coordinate all necessary testing with both NSRDEC and the requestor.
- e. References:
  - i. DODI 4540.7, Operation of the DOD Engineering for Transportability and Deployability Program (See Appendix I)
  - ii. ASTM E1925 Specification for Engineering and Design Criteria for Rigid Wall Relocatable Structures
  - iii. ASTM E1974 Standard Specification for Shelter, Electrical, Equipment S-250/G
  - iv. ASTM E1975 Standard Specification for Shelter, Electrical, Equipment S-280/G
  - v. ASTM E1976 Standard Specification for Shelter, Tactical, Nonexpandable
  - vi. ASTM E1977 Standard Specification for Shelter, Tactical, Expandable, One-Side
  - vii. ASTM E1978 Standard Specification for Shelter, Tactical, Expandable, Two-Side
  - viii. ASTM E2377 Standard Specification for Shelter, Electrical Equipment, Lightweight

## Rigid Wall Shelter Overload Waiver Request Process

1. A request for a Shelter Overload Waiver must be submitted in accordance with the Tactical Wheeled Vehicle (TWV) and Shelter Payload Overload Waiver Guidance, 14 April 2006. NOTE: See Appendix II.
2. After the information in paragraph 1 is received, U.S. Army Natick Soldier RD&E Center (NSRDEC) will issue a cost estimate no later than (NLT) two (2) weeks after receipt, of request.
3. Once NSRDEC receives funding and any other pertinent information, such as a test report, a determination will be made as to whether or not an overload waiver will be granted and what, if any, restrictions will apply.
4. An overload waiver will does not guarantee the issuance of either a Shelter Transportability Certification or a Transportability Approval.
5. Reference:  
Email, DoD, Army, Organizations, Army Operations Center, AOC CAT OPSWATCH G3 DAMO AOC(MC), 14 April 2006, SUBJECT: Tactical Wheeled Vehicle (TWV) and Shelter Payload Overload Waiver Guidance (See Appendix II).

**Funding Guidance:** Funding documentation should be sent to the U.S. Army Natick Soldier RD&E Center financial POC:

U.S. Army RDECOM  
Natick Soldier RD&E Center  
ATTN: IMNE-SSC-RMB  
Kansas Street  
Natick, MA 01760-5021

- a. RM Budget POC:  
Telephone: DSN 256-5012  
or Comm 508-233-5012  
FAX: 508-233-4109
- b. Technical POC:  
Telephone: DSN 256-5245  
or Comm 508-233-5245  
FAX: 508-233-5688



- **Please ensure that funding does not expire prior to all certification efforts or overload waiver reviews being completed.**
- **Funding documentation should note that funding is for either the Shelter Transportability Certification of, or Overload Waiver Request for, the System Description and/or Nomenclature.**

# U.S. Army Natick Soldier RD&E Center (NSRDEC) Certification Agency for Airdrop and Helicopter Sling Load

The following provides detailed instructions leading to certification for both Airdrop and Helicopter Sling Load (HSL) for Airdrop Systems, Equipment, and Materials (SEM). Natick Soldier RD&E Center (NSRDEC) Warfighter & Aerial Delivery Directorate is the DOD certification agency for HSL, and the Army certification agency for Airdrop, of SEM. It is recommended NSRDEC be contacted as early in the acquisition, design/development process as possible.

## Airdrop Certification Process

1. A request for airdrop certification/cost estimate must be received in writing via memo, facsimile, or email. The request must contain airdrop certification requirements, such as, airdrop configuration (i.e., (LV), A-22 High Velocity (HV), A7A LV, A-7A HV, Personnel Static Line, Palletized configurations, etc.) and any other pertinent information and/or special requirements (e.g., sinkable platforms). Requestor, if applicable, should contact Program Managers/Product Managers and/or user representatives as a source of all pertinent information. In addition, include all applicable drawings showing external dimensions of the item itself, including weight, as well as, the item's shipping and storage container.



Send the information to:

U.S. Army RDECOM  
Natick Soldier RD&E Center  
ATTN: AMSRD-NSC-WP-AD  
Kansas Street  
Natick, MA 01760-5017  
FAX: DSN 256-4652 or Comm 508-233-4652  
Email: NATI-AMSRD-NSC-AD-B@conus.army.mil  
Website: <http://nsrdec.natick.army.mil/>

2. After the information in paragraph 1 is received, U.S. Army Natick Soldier RD&E Center (NSRDEC) will issue a cost estimate no later than (NLT) two (2) weeks after receipt of request. The cost estimate will include test item requirements.
3. Upon receipt of the required funds, NSRDEC will:
  - a. Develop test airdrop rigging procedures for the required airdrop configurations.
  - b. For some heavy Low Velocity Airdrop (LVAD) loads, a roller load test is required to determine if the load will exceed C-141 roller limitations. NSRDEC is the only facility that has a roller load test bed facility.

- c. At the discretion of NSRDEC, a Simulated Airdrop Impact Test (SAIT), a.k.a. Static Drop Test, may be performed to determine if the item and its honeycomb energy dissipation kit are ready to begin airdrop testing from aircraft. Instead of performing a SAIT at NSRDEC, testing is often conducted at the site of the actual airdrop testing, or the location of the test items.
  - d. For Paratrooper Individual Combat Equipment, if determined necessary by NSRDEC, drop tower testing may be conducted instead of the more traditional SAIT, to simulate the ground impact of such equipment at the maximum allowed wind conditions on the drop zone. This allows NSRDEC to expose the test item to a horizontal velocity component, as well as a vertical velocity vector.
  - e. After completion of test rigging procedures, NSRDEC will develop a Proposed Test Plan (PTP). The PTP includes the test rigging procedures and NSRDEC test requirements. (Time: Rigging procedure development generally takes NLT 4 weeks from the receipt of funds, required materials, and test items. If any of the testing noted in 3b-d must be conducted additional time will be necessary.)
4. NSRDEC will send the PTP to the Air Force, specifically HQ Aeronautical Systems Center (ASC) and HQ Air Mobility Command (AMC). These Air Force entities must approve the PTP before airdrop tests can be conducted from Air Force aircraft. (Time: Per the Air Force, the PTP approval process takes NLT 120 days.)
  5. Once PTP approval has been granted by the Air Force, airdrop testing can begin. Typically three (3) successful airdrop tests per airdrop configuration are required for non-munition items. The number of airdrop tests required for munitions is variable (See notes below on munition airdrop test item requirements.) After the airdrop tests have been completed:
    - a. Airdropped munitions must be test fired to determine if any degradation in reliability occurred. The airdropped munitions should function the same as a munition which has not been airdrop tested.
    - b. In the case of vehicles, weapon systems and other non-munition items, a test to evaluate the item's functionality is performed. (Time: Variable. Depends on aircraft schedules and test facilities test schedules. Please contact U.S. Army Yuma Proving Ground (YPG), or Airborne and Special Operations Test Directorate (ABNSOTD), Ft. Bragg.)
  6. The testing agency, YPG or ABNSOTD, will then write a test report reporting airdrop and firing test results. (Time: Variable, please contact YPG or ABNSOTD, typically 30 days.)
  7. Once NSRDEC receives the test report and finds that airdrop and post-airdrop test criteria were successfully met, NSRDEC will issue an airdrop certification memorandum for the item. The airdrop certification memorandum will also direct the U.S. Army Quarter Master Center and School to publish the validated airdrop rigging procedure in the appropriate field manual series. (Time: NLT 2 weeks)

## 8. Additional Information:

### a. Ammunition and Munitions Items:

- i. All munitions airdrop certification testing must be performed at YPG.
- ii. An ammunition airdrop certification provides a guarantee of munition functionality of 90% reliability at 90% confidence. Twenty-two (22) test points with zero (0) failures are necessary to achieve this reliability/ confidence level. At least 22 tactical/live containers of the munition will be rigged throughout the different configurations and airdrop tests. Following airdrop testing, ammunition may be x-rayed to determine if they are safe to fire. Then, all airdropped rounds will be test fired. Airdropped munitions should function in the same manner as non-airdropped munitions of the same type.
- iii. Before any airdrop certification testing can be conducted from Air Force fixed-wing aircraft, a safety certification must be acquired from the HQ Air Mobility Command, Safety Office. This is the same safety certification that is required Air Force fixed-wing airlift transport.
- iv. In addition to the munitions that are to be airdropped in the required configurations, the U.S. Air Force requires a malfunction airdrop test to be performed before any other airdrop tests for that munition can be conducted. Three (3) containers of the munition are rigged nose-up, nose-down, and on its side with a streamer to keep load orientation (no parachute). The purpose is to simulate an airdrop malfunction, to make sure that the aircraft is not in danger if the munition explodes upon impact with the ground at terminal velocity.

### b. Airdrop Certification by Analogy

- i. It is possible to airdrop certify an item by analogy to another similar item that is already airdrop certified.
- ii. The items must be of similar weight and external dimensions. The items must also use the same shipping and storage container.
- iii. The differences in the currently certified item and the item proposed to be certified by analogy must be such that when exposed to the airdrop shock environment, the components of the new item must have the same level of robustness, or be less susceptible to the airdrop shock environment.
- iv. NSRDEC will either require an engineering assessment from the item developer, or conduct a technical assessment to make the determination whether an item is suitable for airdrop certification by analogy. NSRDEC will evaluate any recommendations with supporting data for certification by analogy. Ultimately, NSRDEC will make the final determination whether an item can be certified by analogy, or will require the standard process, with testing, for airdrop certification.

c. Roles and Responsibilities: The NSRDEC cost estimate includes the following for Airdrop Certification efforts:

- i. NSRDEC will provide engineering guidance to the item developer and contractors, as necessary.
- ii. Develop airdrop rigging procedures.
- iii. Establish test requirements.
  - a. Test items (quantity and type)
  - b. Test method/scope of test
- iv. Conduct testing at NSRDEC, if necessary.
  - a. Roller Load Test
  - b. Simulated Airdrop Impact Test (SAIT), a.k.a. Static Drop Test
  - c. Drop Tower Test
- v. Create the airdrop Proposed Test Plan (PTP) for Air Force approval.
- vi. Provide engineering support throughout the airdrop test program.
- vii. Grant airdrop certification after it is determined from the test report that all certification requirements have been met.



The customer will need to contact and fund the airdrop test agency (ABNSOTD or YPG) under separate cover. The test agency will coordinate all necessary test assets for any airdrop and post airdrop functionality tests.

d. Relevant Documents

- i. MIL-HDBK-669, Loading Environment and Related Requirements for Platform Rigged Airdrop Materiel
- ii. MIL-STD-814D, Requirements for Tiedown, Suspension and Extraction Provisions on Military Materiel for Airdrop
- iii. AR 70-44, DOD Engineering for Transportability
- iv. AR-47, Engineering for Transportability

## 9. Funding Guidance

Funding documentation should be sent to the U.S. Army RDECOM, Natick Soldier RD&E Center financial POC:

U.S. Army RDECOM  
Natick Soldier RD&E Center  
ATTN: IMNE-SSC-RMB  
Kansas Street  
Natick, MA 01760-5021

a. RM Budget POC:

Telephone: DSN 256-5012 or Comm 508-233-5012

FAX: 508-233-4109

b. Technical POC:

Telephone: DSN 256-5276 or Comm 508-233-5276

FAX: 508-233-4652

- **Please ensure that funding does not expire prior to all certification efforts being completed. Funding documentation should note that funding is for the Airdrop and/or Helicopter Sling Load Certification of the System Description/ Nomenclature.**

## Helicopter Sling Load (HSL) Certification Process

1. A request for Helicopter Sling Load (HSL) certification must be received in writing via memo, facsimile, or email. The request must contain:
  - a. The item(s) description, HSL certification requirements, including specific item configurations (e.g., HMMWV M-1097A1 with SICPS [S-788] shelter, LMTV M-1081 2 ½-Ton Truck, M-200A1 Trailer mounted PP-AN/MJQ-14).
  - b. Specific aircraft requirements (e.g., UH-60A/L, CH-47D, CH-53E) and HSL load configurations (e.g., Single Point and/or Dual Point lift).
  - c. Include all applicable drawings showing external dimensions of the item itself, including weight, CG locations in X-Y-Z relative to the HSL lift provisions, size of lift provisions, and any item shipping and storage plans.
  - d. The requestor, if applicable, should contact Program Managers/Product Managers and/or user representatives as a source of all pertinent information. Send the information to:



U.S. Army RDECOM  
Natick Soldier RD&E Center  
ATTN: AMSRD-NSC-WP-AD  
Kansas Street  
Natick, MA 01760-5017  
FAX: DSN 256-4652 or Comm 508-233-4652

2. After the information in paragraph 1 is received, U.S. Army Soldier and Biological Chemical Command/Natick Soldier RD&E Center (NSRDEC) will issue a cost estimate no later than (NLT) two (2) weeks after receipt of request. The cost estimate will include test item requirements.
3. Upon receipt of the required funds, NSRDEC will:
  - a. Develop test rigging procedures for the required HSL configurations and determine the scope of testing. Any tests deemed necessary by NSRDEC are scheduled and funded after the initial analysis. Testing includes the following:
    - i. Static Lift Test (lifting with a crane using a standard helicopter sling set)
    - ii. Helicopter Lift Provision and Supporting Structure Strength Proof Load Test
    - iii. Helicopter Flight Evaluation Test

- b. Typically, as a minimum, static lift testing is required to verify rigging procedure chain link counts and any potential sling interference issues. At the discretion of NSRDEC and the program office, proof load and flight evaluation testing is often conducted at the location of the test items (Aberdeen Test Center [ATC], Yuma Proving Ground [YPG], or Airborne and Special Operations Test Directorate, Fort Bragg [ABNSOTD]).
  - c. Actual helicopter flight evaluation tests may not be required for some HSL loads. NSRDEC is the only facility that has data to allow comparative analysis leading to Helicopter Sling Load certification based upon similarity.
  - d. In rare instances tests conducted on identical items, or tests done for other governmental agencies, may be used in lieu of required HSL specific tests. (Time: Rigging procedure development generally takes NLT 4 weeks from the receipt of funds, required materials, and test items. If any of the testing noted in 3a,i-iii must be conducted additional time will be necessary.)
4. NSRDEC will forward the scope of test and test rigging procedures to the appropriate test agency. The test agencies will provide time and cost estimates for their involvement. (Time: Variable. Depends upon aircraft requirements and facility test schedules. Please contact ATC, YPG, or ABNSOTD.)
  5. Once testing is scheduled, NSRDEC will provide technical support and guidance until all test phases are complete. (Time: Variable. Depends upon aircraft availability and facility test schedules. Please contact ATC, YPG, or ABNSOTD. Typically 10-30 days.)
  6. The testing agency, YPG, APG or ABNSOTD, will then write a test report detailing the results of the Helicopter Sling Load testing. (Time: Variable, please contact ATC, YPG, or ABNSOTD, typically 30 days.)
  7. Once NSRDEC receives the test report and determines that proof load and flight evaluation post-test criteria were successfully met, NSRDEC will issue a HSL certification memorandum for the item. The certification memorandum will also direct the U.S. Army Quarter Master Center and School to publish the validated helicopter rigging procedure in the appropriate field manual series. (Time: NLT 2 weeks)
8. Additional Information
    - a. Petroleum Oils and Lubricants (POL), Rations, and Ammunition/ Munitions Items
      - i. Munitions, POL and Rations are normally flown by helicopter in cargo nets or bags. HSL certification and testing is not required for cargo net and bag loads.
      - ii. There are numerous delivery methods (A-22 cargo bag, 5,000-pound, 10,000-pound capacity nets) listed in the Multiservice Helicopter Sling Load: Basic Operations and Equipment publication.
      - iii. Natick can provide assistance to all governmental agencies interested in helicopter lift.

## b. Helicopter Certification by Similarity

- i. It is possible to certify an item by similarity to another similar item that is already Helicopter Sling Load certified.
- ii. The item must be of similar weight, center of gravity, and external profile.
- iii. The differences in the currently certified item and the item proposed to be certified by similarity must be such that when exposed to the helicopter flight aerodynamic environment, the item is as susceptible or less susceptible to aerodynamic instability.
- iv. NSRDEC will conduct a technical assessment to make the determination whether an item is suitable for Helicopter Sling Load certification by similarity. NSRDEC will evaluate any recommendations with supporting data for certification by similarity. Ultimately, NSRDEC will make the final determination whether an item can be certified by similarity, or will require the standard process, with testing, for HSL certification.

## c. Roles and Responsibilities: The NSRDEC cost estimate includes the following for Helicopter Sling Load Certification efforts:

- i. NSRDEC will provide engineering guidance to the item developer and contractors, as necessary.
- ii. Develop HSL rigging procedures.
- iii. Establish test requirements.
  - a. determine test items (quantity and type)
  - b. establish test method/scope of test
- iv. Conduct and/or provide technical assistance and guidance during testing, if necessary.
- v. Provide engineering support throughout the HSL test program.
- vi. Grant HSL certification after it is determined from the test report that all certification requirements have been met.

The customer will need to contact and fund the HSL test agency (ABNSOTD, APG, or YPG) under separate cover. The test agency will coordinate all necessary test assets for any prior and post sling load functionality tests.

## d. Relevant Documents

- i. MIL-STD-209, Interface Standard for Lifting and Tiedown Provisions.
- ii. MIL-STD-913A, Requirements for the Certification of Sling Loaded Military Equipment For External Transportation by Department of Defense Helicopters.
- iii. MIL-STD-1366D, Interface Standard for Transportability Criteria.
- iv. AR 70-44, DOD Engineering for Transportability
- v. AR-47, Engineering for Transportability

9. Funding Guidance

Funding documentation should be sent to the U.S. Army RDECOM, Natick Soldier RD&E Center financial POC:

U.S. Army RDECOM  
Natick Soldier RD&E Center  
ATTN: IMNE-SSC-RMB  
Kansas Street  
Natick, MA 01760-5021

a. RM Budget POC:

Telephone: DSN 256-5012 or Comm 508-233-5012  
FAX: 508-233-4109

b. Technical POC:

Telephone: DSN 256-5276 or Comm 508-233-5276  
FAX: 508-233-4652

- **Please ensure that funding does not expire prior to all certification efforts being completed. Funding documentation should note that funding is for the Airdrop and/or Helicopter Sling Load Certification of the System Description/ Nomenclature.**



## Appendix I

# Department of Defense

## INSTRUCTION

NUMBER 4540.7  
October 12, 2004  
USD(AT&L)

**SUBJECT:** Operation of the DoD Engineering for Transportability and Deployability Program

■ **References:**

- a. DoD Directive 4510.11, "DoD Transportation Engineering," April 12, 2004
- b. DoD Directive 5000.1, "The Defense Acquisition System," May 12, 2003
- c. DoD Instruction 5000.2, "Operation of the Defense Acquisition System," May 12, 2003
- d. Joint Committee on Tactical Shelters (JOCOTAS) Brochure, "DoD Standard Family of Tactical Shelters (Rigid/Soft/Hybrid)<sup>1</sup>," January 20041

1. **PURPOSE**

Under the authority of reference (a), this Instruction implements policy, establishes procedures, and assigns responsibilities, for operating the DoD Engineering for Transportability and Deployability Program.

2. **APPLICABILITY**

This Instruction applies to the Office of the Secretary of Defense, the Military Departments, the Chairman of the Joint Chiefs of 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 in the Department of Defense (hereafter referred to collectively as the "DoD Components").

3. **DEFINITIONS**

Terms used in this Directive are defined in enclosure 1.

4. **POLICY**

This Instruction implements policy established in reference (a).

5. **RESPONSIBILITIES**

5.1. The Under Secretary of Defense for Acquisition, Technology, and Logistics (USD(AT&L)) shall:

5.1.1. Establish policies governing DoD engineering for transportability and deployability programs.

5.1.2. Ensure that effective transportability and deployability

<sup>1</sup> Available at <http://nsrdec.natick.army.mil/media/print/JOCOTAS.pdf>

engineering techniques and procedures for new and modified systems and equipment (S/E) are incorporated into the DoD materiel acquisition process, as defined DoD Directive 5000.1 and DoD Instruction 5000.2 (references (b) and (c)).

- 5.1.3. Ensure that S/E, including components and spare parts, are designed, engineered, and constructed so that required quantities can be transported and deployed efficiently and economically by existing and planned transportation assets.
- 5.1.4. Ensure that DoD transportability and deployability engineering procedures incorporate the increasing role of modeling and simulation in system development and testing.
- 5.2. The Heads of the DoD Components shall:
  - 5.2.1. Establish engineering for transportability and deployability programs consistent with this Instruction to ensure that transportability and deployability requirements are considered in the design and development of new or modified defense materiel and equipment.
  - 5.2.2. Designate component transportability agents and, where applicable, mode transportability agents and empower them to accomplish the following tasks. Enclosure 2 identifies the component and mode transportability agent offices.
  - 5.2.3. Ensure the Component Transportability Agents shall:
    - 5.2.3.1. Coordinate closely with the Surface Deployment and Distribution Command Transportation Engineering Agency (SDDCTEA) (the DoD Secretariat for the Engineering for Transportability and Deployability Program) on all transportability or deployability matters relating to more than one component.
    - 5.2.3.2. Convene as warranted meetings of working groups within their component to exchange information, resolve problems, and recommend policy objectives when necessary.
    - 5.2.3.3. Maintain liaison for their respective components with other DoD Components, with major commands of their respective components, and with other appropriate Government and non-government agencies in matters pertaining to transportability and deployability.
    - 5.2.3.4. Coordinate with the other component transportability agents when their component requires changes in the design of DoD transport systems.
    - 5.2.3.5. Coordinate with the other component transportability agents, and the Joint Staff, prior to formalizing and implementing modifications to portions of the defense transportation system that may affect its transportability characteristics.

5.2.4. Ensure the Mode Transportability Agents shall:

- 5.2.4.1. Prepare, coordinate, and maintain joint transportability and deployability criteria covering modes, terminals, and equipment for which their components have transportability and deployability engineering responsibility.
- 5.2.4.2. Monitor changes to the elements of commercial transportation systems for which they have transportability responsibility.
- 5.2.4.3. Coordinate changes, which may affect transportability or deployability, with other DoD Components, including the Joint Staff.
- 5.2.4.4. Analyze the transportability and deployability of S/E transportability problem items, as defined in enclosure 1.
- 5.2.4.5. Approve S/E transportability problem items, as defined in enclosure 1, that meet the transportability and deployability requirements of their capabilities documents.

5.2.5. Ensure Component Materiel Developers shall:

- 5.2.5.1. Design, develop, procure, and field systems that meet the requirements of the DoD Engineering for Transportability and Deployability Program.
- 5.2.5.2. Inform their component and/or mode transportability agent(s) of any system that is identified as a transportability problem item (see enclosure 1), and follow their component's procedures for obtaining transportability approval and/or certification.
- 5.2.5.3. Reconcile any system incompatibilities and/or non-concurrences identified through coordination with the appropriate mode transportability agents prior to the next acquisition Milestone review.
- 5.2.5.4. Ensure that adequate testing is conducted to perform the following:
  - 5.2.5.4.1. Verify that the S/E meets the transportability requirements of the capabilities documents.
  - 5.2.5.4.2. Verify proper fit of the S/E on required transporters.
- 5.2.5.5. In coordination with the appropriate mode transportability agent(s), incorporate modeling, simulation, and other Virtual Proving Ground (VPG) technologies where it can save testing time and/or funding instead of physical transportability testing.
- 5.2.5.6. Make available test and evaluation reports for use in certifying that the S/E meets the transportability requirements, and for use, if necessary, in developing transportability guidance and procedures.

5.2.6. Ensure the respective Combat Developers and/or User Representatives shall:

- 5.2.6.1. Annotate the minimum acceptable transportability and deployability requirements for all S/E for both strategic and tactical deployment and transport in capabilities documents. Transportation assets available, tools, personnel, materials handling equipment available for disassembly and re-assembly, time required for preparation for transport and to become operational after transport, and time required for force deployment shall be considered in establishing S/E requirements.
- 5.2.6.2. Annotate these requirements as key performance parameters when failure to meet them shall prevent the S/E from accomplishing its intended mission.
- 5.2.6.3. Request the appropriate mode transportability agent(s) to conduct deployability analyses no later than the System Development and Demonstration phase of the acquisition cycle to establish a baseline for the effect that each alternative for meeting the S/E's requirements has on force deployment.
- 5.2.6.4. Staff new or revised S/E transportability and deployability requirements with the appropriate mode transportability agent(s).
- 5.2.7. Ensure the Testers shall:
  - 5.2.7.1. Support the materiel developer, when required, with transportability testing capabilities (both technical and, when appropriate, operational testing) to include modeling, simulation, and other VPG technologies.
  - 5.2.7.2. Ensure that the S/E can be loaded (proper fit) and unloaded by appropriate technical and operational personnel on required transporters.
  - 5.2.7.3. Develop test reports and/or evaluation reports for use in certifying S/E for transport, when required, and for use in developing transportability guidance and procedures.
- 5.2.8. Ensure the Evaluators shall:
  - 5.2.8.1. In coordination with the mode transportability agent(s), ensure transportability testing is conducted to adequately evaluate the transportability requirements of the S/E.
  - 5.2.8.2. Evaluate the end-item, in its tactical and packaged or shipping configurations, as well as associated support equipment and test, measurement, and diagnostic equipment, to ensure it is deployable.
  - 5.2.8.3. Evaluate the ability of the transportation asset to carry the load.
  - 5.2.8.4. Evaluate the ability of the transportation network and current bridging (including tactical bridging) to support the weight and dimensions of the new system in the required operational environment.
- 5.3. The Director, Defense Logistic Agency (DLA), shall ensure that the Directors of the DLA Centers coordinate all policy matters relative to transportability and deployability in DLA Supply Center contracts.

- 5.4. The Director, Defense Contract Management Agency (DCMA), shall:
  - 5.4.1. Provide appropriate guidance to Defense Contract Management Districts (DCMDs) relative to transportability and deployability.
  - 5.4.2. Coordinate all policy matters relative to transportability and deployability in DCMA contracts with the component transportability agents.
  - 5.4.3. Establish liaison between DCMDs, the other DoD Components, and the DLA Supply and Support Centers in performing transportability deployability functions.
- 5.5. The Secretary of the Army shall:
  - 5.5.1. Ensure that the Assistant Secretary of the Army for Acquisition, Logistics, and Technology provides policy guidance for the Army Engineering for Transportability and Deployability Program.
  - 5.5.2. Authorize the Deputy Chief of Staff for G-4 general staff oversight for the Army's Engineering for Transportability and Deployability Program.
  - 5.5.3. Ensure the Commander, Surface Deployment and Distribution Command, shall:
    - 5.5.3.1. Serve as the Army Transportability Agent and the DoD Transportability Agent for all S/E and matters requiring multi-component coordination.
    - 5.5.3.2. Coordinate DoD transportability and deployability interest in common-user land transportation programs with other DoD Components, and Federal, State, and appropriate overseas agencies, and integrate the needs of the DoD Components into these programs.
    - 5.5.3.3. Serve as the single DoD manager for military traffic, land transportation, and common-user ocean terminals and coordinate the land transportation, inland waterway, logistics-over-the-shore, containers-over-the-shore, and ocean terminals portion of the DoD Engineering for Transportability and Deployability Program.
  - 5.5.4. Ensure that the Director, SDDCTEA, shall:
    - 5.5.4.1. Prepare, coordinate, and maintain the DoD Directive implementing the DoD Engineering for Transportability and Deployability Program within the Department of Defense.
    - 5.5.4.2. Serve as the Land Mode Transportability Agent for the Department of Defense.
    - 5.5.4.3. Serve as the single point of contact for Army agencies in conducting transportability engineering and deployability analyses, and providing transportability and/or deployability guidance and assistance.

- 5.5.4.4. Provide all transportability approvals to the Army developing and procuring agencies and provide land transportability approvals to other DoD Components.
  - 5.5.4.5. Review capabilities documents, specifications, and other requirements documents to assure that transportability and deployability are sufficiently addressed for systems to meet their mission requirements.
  - 5.5.4.6. Prepare and publish guidance containing transportation procedures for land transportation and common-user ocean terminals, and for transport of newly acquired or modified Army equipment.
  - 5.5.4.7. Provide DoD representation on the Association of American Railroads' (AAR) Open Top Car Loading Rules Committee and obtain approval of loading drawings for inclusion in the AAR "Rules Governing the Loading of Commodities on Open Top Cars."
  - 5.5.4.8. Manage data collection, validation, input, and dissemination for the Joint Equipment Characteristics Database in accordance with DoD standard data elements within the Transportation Logical Data Model.
  - 5.5.4.9. Conduct force deployability assessments for proposed acquisition category (ACAT) I and II systems, and for ACAT III systems if deemed necessary by the appropriate mode transportability agent(s), for consideration no later in the acquisition cycle than the System Development and Demonstration phase.
  - 5.5.4.10. Provide a permanent secretariat for the DoD Engineering for Transportability and Deployability Program for administrative continuity and record keeping.
  - 5.5.4.11. Provide modeling and simulation capabilities and transportability and deployability engineering expertise to support the VPG and other initiatives using computer-aided design/ computer-aided engineering methodologies in support of the DoD Engineering for Transportability and Deployability Program.
- 5.5.5. Ensure the Commander, U.S. Army Soldier Systems Center (Natick), shall:
- 5.5.5.1. Provide rotary and/or tilt-wing aircraft sling load design guidance for materiel developers.
  - 5.5.5.2. Develop, review, and certify procedures for external transport of equipment by rotary and/or tilt-wing aircraft for all DoD Components, and internal transport of equipment by Army rotary and/or tilt-wing aircraft.
  - 5.5.5.3. Provide airdrop design guidance to materiel developers.
  - 5.5.5.4. Develop or reviews airdrop-rigging procedures and certifies S/E for airdrop for the appropriate DoD

Component and/or mode transportability agent or the designating agency.

5.6. The Secretary of the Navy shall:

5.6.1. Ensure the Commander, Naval Supply Systems Command, shall:

5.6.1.1. Coordinate with the appropriate mode transportability agents to resolve transportability issues that affect Navy materiel systems.

5.6.1.2. Serve as the Navy's Component Transportability Agent.

5.6.2. Ensure the Commander, Military Sealift Command, shall:

5.6.2.1. Provide sealift transportability analysis to the requesting component for military systems requiring transport on Navy and merchant cargo vessels.

5.6.2.2. Serve as the Ocean Mode Transportability Agent.

5.6.2.3. Coordinate DoD transportability interest in common-user ship construction and modification programs with appropriate Federal and DoD Components, and integrates the needs of the DoD Components into these programs.

5.6.2.4. Coordinate the ocean transportation portion of the Navy's Engineering for Transportability and Deployability Program.

5.6.3. Ensure that the Commandant of the Marine Corps empowers the Commander, Marine Corps Systems Command, to:

5.6.3.1. Serve as the Marine Corps Component Transportability Agent.

5.6.3.2. Execute the Marine Corps Engineering for Transportability and Deployability Program, obtain mode-specific transportability certifications from Component Transportability Agents, and review the transportability section of capabilities documents, specifications, and other appropriate materiel requirements documents.

5.6.3.3. Furnish the SDDCTEA with the transportability characteristic data for all Marine Corps equipment and notify the SDDCTEA of changes in equipment dimensions or weight.

5.7. The Secretary of the Air Force shall ensure the Commander, Air Force Materiel Command:

5.7.1. Coordinates DoD transportability interests in common-user aircraft construction and modification programs with appropriate Federal and DoD Components and integrate the foreseen needs of the DoD Components into these programs.

5.7.2. Serves as both the Air Force's component and Airlift Mode Transportability agent.

- 5.7.3. Oversees the Air Force Engineering for Transportability and Deployability Program.
- 5.7.4. Ensures transportability criteria are published in the DoD Deskbook for Air Force System Program Managers' use in the development or modification of Air Force systems and equipment.
- 5.7.5. Provides technical support through the Engineering Directorate, Flight Systems Division, Air Transportability Test Loading Agency for air transportability certification and airdrop Proposed Test Plan approvals for Air Force aircraft to the appropriate component and/or mode transportability agent(s) or the designated development agency.
- 5.8. The Chairman of the Joint Chiefs of Staff, shall ensure coordination with appropriate Combatant Commands to help resolve transportability and deployability issues that affect the theater commander's ability to move personnel and materiel in support of a war or contingency plan.
- 5.9. The Commander, U.S. Transportation Command, through the Chairman of the Joint Chiefs of Staff, shall provide recommendations on DoD transportation and deployment interests so that these interests can be considered in defense common-user transport construction and modification programs.
6. PROCEDURES
  - 6.1. The concept of developing efficiently and economically transportable equipment and combat resources shall be an integral part of the DoD acquisition process.
  - 6.2. All DoD Components shall ensure that transportability and deployability are a major consideration in the following:
    - 6.2.1. The acquisition of all types of developmental systems, rebuys of fielded systems, modified materiel, or non-developmental items.
    - 6.2.2. The acquisition of all systems defined as transportability problem items (see enclosure 1).
    - 6.2.3. The procurement or modification of defense transportation systems.
    - 6.2.4. The modification of force design.
  - 6.3. The component combat developers and/or user representatives, in coordination with component materiel developers and the component and/or mode transportability agent(s), shall include clear and definitive transportability and, when appropriate, deployability requirements, in materiel requirements documents. (This shall include requirements for strategic transport (highway, rail, ocean shipping, and U.S. Air Force and Civil Reserve Air Fleet aircraft) and tactical transport (internal airlift, low and/or high-velocity airdrop, internal and/or external lift by rotary/tilt-wing aircraft, landing craft, and amphibious shipping).)

- 6.4. Component mode transportability agents shall conduct a force deployability assessment for proposed acquisition category ACAT I and II systems no later in the acquisition cycle than the System Development and Demonstration phase. (This assessment shall analyze the effect of the new system on the available transportation assets and the time required to deploy the gaining units. If the mode transportability agent deems necessary, force deployability assessments may be conducted for ACAT III systems. The mode transportability agent and the user representative shall determine the scope of the deployability analysis on a system-by-system basis.)
- 6.5. The component materiel developers and combat developers and/or user representatives shall coordinate transportability and deployability issues with the appropriate mode transportability agent(s).
- 6.6. The component materiel developers shall request approval for S/E that qualify as transportability problem items (see enclosure 1) from the appropriate mode transportability agent(s) at least 90 days prior to Milestone C.
- 6.7. The component mode transportability agents shall analyze and approve all S/E that qualify as transportability problem items (see enclosure 1) before Milestone C.
- 6.8. The component user representatives, materiel developers, testers, evaluators, and logisticians shall maintain a liaison with the mode transportability agents and each other to assure consideration and accomplishment of transportability and deployability requirements.
- 6.9. The component user representatives, materiel developers, testers, evaluators, and logisticians shall forward correspondence concerning transportability policy, regulations, transportability reports, requests for transportability approvals, and technical and operational matters pertaining to the day-to-day operations of the Engineering for Transportability and Deployability Program to the appropriate component and/or mode transportability agent(s).
- 6.10. The component materiel developers shall submit requests to the Director, SDDCTEA, Attn: SDTE-DPE, 720 Thimble Shoals Blvd., Suite 130, Newport News, VA 23606-4537, for approval by the AAR of loading drawings for inclusion in the AAR "Rules Governing the Loading of Top Cars."
- 6.11. The component and mode transportability agents and component user representatives and materiel developers shall obtain transportability engineering and design assistance and safety of flight air worthiness approval (certification) from Aeronautical Systems Center (ASC/ENFC), Attn: ATTLA, 2530 Loop Road West, WPAFB, OH 45433-7101 for:
  - 6.11.1. Transportability problem items to be airlifted inside U.S. Air Force (USAF) prime mission cargo aircraft.
  - 6.11.2. All cargo and equipment to be airdropped from USAF

prime mission cargo aircraft using non-standard components or procedures.

- 6.12. The component and mode transportability agents and component user representatives and materiel developers shall obtain engineering and design assistance, and certification from the Director, U.S. Army Soldier Systems Center (Natick), Kansas Street, Natick, MA 01760, for materiel to be:
    - 6.12.1. Airdropped from fixed-wing aircraft (Attn: AMSSB-RAD-D(N)).
    - 6.12.2. Internally or externally transported by rotary/tilt-wing aircraft (Attn: AMSSB-RAD-D(N)).
    - 6.12.3. Mounted in DoD standard rigid-wall shelters as shown in the Joint Committee on Tactical Shelters (JOCOTAS) Brochure entitled "DoD Standard Family of Tactical Shelters" (Attn: AMSSB-RCP(N)). (The JOCOTAS must approve the use of non-standard shelters.)
7. EFFECTIVE DATE  
This Instruction is effective immediately.
- Enclosures - 2
    - E1. Definitions
    - E2. DoD Component Transportability Points of Contact

  
Paul Wolfowitz  
Deputy Secretary of Defense

## E1. ENCLOSURE 1

### DEFINITIONS

- E1.1.1. Capabilities Document. The document that details the minimum acceptable operational requirement for the S/E.
- E1.1.2. Combat Developer. An organization within a DoD Component responsible for formulating operational doctrine and concepts, force and unit organization, and S/E requirements.
- E1.1.3. Component Transportability Agent. The office within each DoD Component that has primary responsibility for transportability and deployability matters.
- E1.1.4. Defense Transportation System. That portion of the global transportation infrastructure that supports DoD common-user transportation needs across the range of military operations. It consists of those common-user military and commercial assets, services, and systems organic to, contracted for, or controlled by the Department of Defense. Also called the "DTS."
- E1.1.5. Deployability. The ability to move forces and materiel anywhere in the world in support of a military operation.
- E1.1.6. DoD Transport System. Organic transportation assets (trucks, trailers, ships, aircraft, railcars, tugs, barges, containers, etc.) planned and acquired for use in the peacetime and mobilization movement of DoD materiel, equipment, and units.
- E1.1.7. Evaluator. The organization within each DoD Component that assesses whether the S/E meets the user representative's requirements based on the tester's test reports.
- E1.1.8. Force Deployability Assessment. An assessment that determines the impact of an S/E's proposed design characteristics on the receiving unit or force's ability to meet current and future deployment criteria using existing and future deployment assets.
- E1.1.9. Mode Transportability Agent. The office within each DoD Component that has primary responsibility for transportability and deployability matters associated with one mode of transport (land, ocean, or airlift).
- E1.1.10. Materiel Developer. An organization within a DoD Component responsible for research and development and production validation of an item.
- E1.1.11. Systems and Equipment (S/E). All items and item components necessary for the equipment, maintenance, operation, and support of military activities, without distinction of their application for administrative or combat purposes, excluding ships.
- E1.1.12. Tester. An organization within a DoD Component that is responsible for testing S/E under simulated or actual operational conditions.

- E1.1.13. Transportability. The inherent capability of an item or system to be effectively and efficiently moved by required transportation assets and modes.
- E1.1.14. Transportability Problem Item. S/E that meet any of the following conditions are defined as transportability problem items and should be coordinated with the appropriate mode transportability agent:
  - E1.1.14.1. The item is wheeled or tracked, and is to be towed, hauled or self-propelled on or off highway.
  - E1.1.14.2. The item increases the physical characteristics of the designated transport assets.
  - E1.1.14.3. The item requires special handling or specialized loading procedures.
  - E1.1.14.4. The item has inadequate ramp clearance for ramp inclines of 15 degrees.
  - E1.1.14.5. The item exceeds any of the following conditions:
    - E1.1.14.5.1. Length - 20 feet (6096 mm, 240 in).
    - E1.1.14.5.2. Width - 8 feet (2438 mm, 96 in).
    - E1.1.14.5.3. Height - 8 feet (2438 mm, 96 in).
    - E1.1.14.5.4. Weight - 10,000 pounds (4,535 kg).
    - E1.1.14.5.5. Weight per linear foot - 1,600 pounds/foot (726 kg/m).
    - E1.1.14.5.6. Floor contact pressure - 50 psi (344.7 kpa).
- E1.1.15. User Representative. An organization that generates requirements for S/E.

## E2. ENCLOSURE 2

### DoD COMPONENT AND MODE TRANSPORTABILITY POINTS OF CONTACT

#### E2.1. GENERAL

Table E2.T1. Identifies the offices with primary transportability and deployability engineering responsibility within each of the DoD Components. Table E2.T2. identifies the Mode Transportability Agents and their associated DoD Component. The information in this section, along with phone numbers, email addresses, and the names of the points of contact shall be continuously updated at <http://www.tea.army.mil/dpe/index.htm> on the Internet.

**Table E2.T1. DoD Component Offices with Primary Transportability and Deployability Engineering Responsibility**

DoD Component	Primary Agency within DoD Component	Subordinate to Primary Agency
<b>USA</b>	<b>DCS G-4</b>	<b>DALO-FPM</b>
<b>USN</b>		<b>NAVSUP (4D)</b>
<b>USMC</b>	<b>MARCORSYSCOM</b>	<b>Dir R&amp;E</b>
<b>USAF</b>	<b>SAF/AQ</b>	<b>AFMC/LGT</b>
<b>DLA</b>		<b>DSCC DSCR DSCP DESC</b>

**Table E2.T2. DoD Mode Transportability Agents**

DoD Component	Mode Transportability Agents
<b>USA</b>	<b>SDDCTEA (land)</b>
<b>USN</b>	<b>COMSC (ocean)</b>
<b>USAF</b>	<b>AFMC (airlift)</b>

#### E2.2. ADDRESSES FOR DoD COMPONENT TRANSPORTABILITY AGENTS LISTED IN TABLE E2.T1., ABOVE

E2.2.1. Department of Defense and Department of the Army: Commander, Surface Deployment and Distribution Command, Building 1990, 709 Ward Drive, Scott AFB, IL 62225.

E2.2.2. Department of the Navy: Commanding Officer, Naval Operational Logistics Support Center (N431A), 1837 Morris Street, Norfolk, VA 23511-3492.

E2.2.3. Marine Corps: MARCORSYSCOM, Attn: Transportation Officer, Systems Engineering, Interoperability, Architectures & Technology, Research & Engineering, 2200 Lester Street, Quantico, VA 22134-5080.

E2.2.4. Department of the Air Force: HQ AFMC/LGTT, 4375 Chidlaw Road, Suite 6, Wright-Patterson AFB, OH 45433-5006.

E2.2.5. Defense Logistics Agency:

E2.2.5.1. Defense Supply Center Richmond, Attn: DSCR-TC, Richmond, VA 23297.

E2.2.5.2. Defense Supply Center Philadelphia, Attn: DSCP-PMT, 700 Robbins Ave., Philadelphia, PA 19111.

E2.2.5.3. Defense Supply Center Columbus, Attn: DSCC-OT, Box 3990, Columbus, OH 43216.

E2.2.5.4. Defense Energy Support Center, Attn: DESC-BI, 8725 John J. Kingman Road, Ft. Belvoir, VA 22060.

E2.3. ADDRESSES FOR DoD MODE TRANSPORTABILITY AGENTS LISTED IN TABLE E2.T2., ABOVE

E2.3.1. Land: Director, SDDCTEA, Attn: SDTE-DPE, Building 1990, 709 Ward Drive, Scott AFB, IL 62225.

E2.3.2. Ocean: Commander, Military Sealift Command, Attn: N7, 914 Charles Morris Court, SE, Washington Navy Yard, Washington, DC 20398-5540.

E2.3.3. Airlift: Department of the Air Force: HQ AFMC/LGTT, 4375 Chidlaw Road, Suite 6, Wright-Patterson AFB, OH 45433-5006.

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## Appendix II

FROM: DOD, ARMY, ORGANIZATIONS, ARMY OPERATIONS CENTER, AOC CAT OPSWATCH G3 DAMO AOC(MC) [MAILTO:AMHSDBA@INFO.AMHSCENTRAL.COM]

SENT: FRIDAY, APRIL 14, 2006 10:37 PM

TO: OPSDIR EUSTIS

SUBJECT: TACTICAL WHEELED VEHICLE (TWV) AND SHELTER PAYLOAD OVERLOAD WAIVER GUIDANCE

CLASSIFICATION: UNCLASSIFIED FOR OFFICIAL USE ONLY

PRECEDENCE: PDTG 4/15/2006 2:30:00 AM

FROM: DOD, ARMY, ORGANIZATIONS, ARMY OPERATIONS CENTER, AOC CAT OPSWATCH G3 DAMO AOC(MC)

SUBJECT: TACTICAL WHEELED VEHICLE (TWV) AND SHELTER PAYLOAD OVERLOAD WAIVER GUIDANCE

UNCLASSIFIED//FOR OFFICIAL USE ONLY.

**This document is available to other DoD agencies upon request due to the FOUO classification.**

**Please contact:**

- **Telephone:** Comm 508-233-4347, DSN 256-4347
- **Email:** NATI-AMSRD-NSC-AD-B@conus.army.mil

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***THE SCIENCE BEHIND THE WARRIOR:  
YESTERDAY, TODAY AND TOMORROW.***

**US ARMY NATICK SOLDIER RESEARCH, DEVELOPMENT  
& ENGINEERING CENTER (NSRDEC)**

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