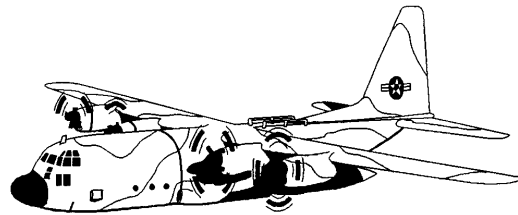
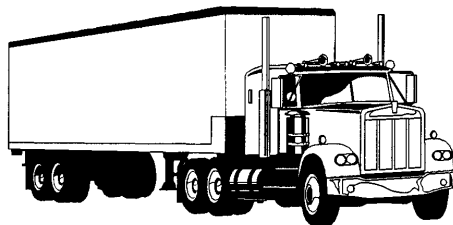




DoD 4540.5-M

DoD Nuclear Weapons Transportation Manual



February 1998

*Assistant to the Secretary of Defense for
Nuclear and Chemical and Biological Defense Programs*



**ASSISTANT TO THE SECRETARY OF DEFENSE
3050 DEFENSE PENTAGON
WASHINGTON, DC 20301-3050**

FOREWORD

This Manual is issued under the authority of DoD Directive 4540.5, "Logistic Transportation of Nuclear Weapons," 4 February 1998. It provides guidance for the transport of nuclear weapons by the DoD Components, expands on the transportation policies and responsibilities established in DoD Directive 4540.5, and describes a range of transportation activities. It also addresses safety, security, and use control guidance for the transport of nuclear weapons.

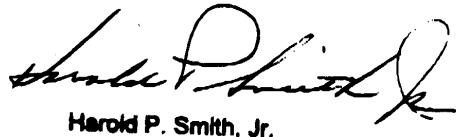
This Manual applies to the Office of the Secretary of Defense (OSD), the Military Departments, the Chairman of the Joint Chiefs of Staff, the Combatant Commands, and the Defense Agencies (hereafter referred to collectively as "the DoD Components").

This Manual is effective immediately and is mandatory for use by all the DoD Components.

Send proposed changes to this Manual to:

Office of the Assistant to the Secretary of Defense for Nuclear and Chemical and
Biological Defense Programs
Attn: Deputy Assistant for Nuclear Matters
3050 Defense Pentagon, Room 3E808
Washington, DC 20301-3050

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Harold P. Smith, Jr.

TABLE OF CONTENTS

Foreword	2
Table of Contents	3
References	5
Definitions	7
Acronyms and Abbreviations	11
 <u>CHAPTER 1 - DOD TRANSPORTATION POLICY</u>	
C1.1. General	12
C1.2. Definitions	12
 <u>CHAPTER 2 - DOD TRANSPORTATION RESPONSIBILITIES</u>	
C2.1. General	19
C2.2. ATSD(NCB)	19
C2.3. The Chairman of the Joint Chiefs of Staff	20
C2.4. The Secretaries of the Military Departments	21
C2.5. The Secretary of the Air Force	22
C2.6. The Commanders of the Combatant Commands	23
 <u>CHAPTER 3 - TRANSPORT ACTIVITIES</u>	
C3.1. General	25
C3.2. DoD Transportation Activities	25
C3.3. Transport Planning Factors	26
C3.4. Joint DoD-DoE Transportation Activities	28
C3.5. Safe Haven for DoE Transport Convoys	28
C3.6. Transportation Training	29
C3.7. Transportation Activities for Storage, Maintenance, and Modification	30
C3.8. Nuclear Weapons Technical Inspections for Transport Activities	30
 <u>CHAPTER 4 - TRANSPORTATION SAFETY</u>	
C4.1. General	31
C4.2. DoD Nuclear Weapon System Safety Policy and Program	31
C4.3. Transportation Safety Assessments	32

TABLE OF CONTENTS--Continued

CHAPTER 5 - TRANSPORTATION SECURITY

C5.1. General	34
C5.2. DoD Nuclear Weapon Security Policy and Program	34
C5.3. Transportation Security Assessments	35

CHAPTER 6 - USE CONTROL DURING TRANSPORT OPERATIONS

C6.1. General	36
C6.2. DoD Nuclear Weapons Use Control Policy	36
C6.3. Nuclear Weapon Transport Control Requirements	36

REFERENCES

- (a) [DoD Directive 4540.5](#), "Logistic Transportation of Nuclear Weapons," January 1998
- (b) [DoD Directive 3150.2](#), "DoD Nuclear Weapon System Safety Program," December 23, 1996
- (c) DoD Directive 5210.41, "Security Policy for Protecting Nuclear Weapons," September 23, 1988
- (d) DoD C-5210.41-M, "Nuclear Weapon Security Manual (U)," April 1994, authorized by DoD Directive 5210.41, September 23, 1988
- (e) Technical Publication 20-7, "Nuclear Safety Criteria (U)," Secret, September 1, 1986 ¹
- (f) "U.S. Air Force Special Weapons Overflight Guide (U)," Secret, August 6, 1989 ²
- (g) Technical Publication 20-11, "General Firefighting Guidance (U)," Confidential, July 31, 1995 ¹
- (h) [DoD Directive 3150.8](#), "DoD Response to Radiological Accidents," June 13, 1996
- (i) DoD 5100.52-M, "Nuclear Weapon Accident Response Procedures (NARP)," September 1990, authorized by DoD Directive 3150.8, June 13, 1996
- (j) Technical Publication 45-51C, "Transportation of Nuclear Weapons Materiel (Supplement) - Military Criteria for Shipment," July 15, 1995 ¹
- (k) DoD Directive 5210.42, "Nuclear Weapon Personnel Reliability Program (PRP)," May 25, 1993
- (l) DoD Directive S-3150.7, "Controlling the Use of Nuclear Weapons (U)," June 20, 1994
- (m) Technical Publication 45-51, "Transportation of Nuclear Weapons Materiel - General Shipping and Limited Life Component (LLC) Data," March 16, 1984 ¹
- (n) Technical Publication 45-51A, "Transportation of Nuclear Weapons Materiel Shipping and Identification Data for Stockpile Major Assemblies (U)," Secret, January 15, 1996 ¹
- (o) Technical Publication 45-51B, "Transportation of Nuclear Weapons Materiel (Supplement) - Palletized Cargo," December 1, 1976 ¹
- (p) Technical Publication 45-51D, "Transportation of Nuclear Weapons Materiel (Supplement) - Shipment by Safe-Secure Trailer (SST)," March 16, 1984 ¹
- (q) Technical Publication 45-51F, "Shipment by DoE (Air)," March 16, 1984
- (r) Technical Publication 25-1, "DoD Nuclear Weapons Technical Inspection System," October 1, 1996 ¹
- (s) CJCSM 3150.04, "Joint Reporting Structure Nuclear Weapons Reports (U)," Secret-FRD, December 15, 1995 ³

- (t) Memorandum of Agreement Between the Department of Defense and the Energy Research and Development Administration for Temporary Storage of U.S. ERDA Shipments at Military Installations, December 24, 1975 ¹
 - (u) Technical Publication 100-4, "Custody, Accountability, and Control of Nuclear Weapons and Nuclear Materiel," December 1, 1993 ¹
 - (v) Technical Publication 50-2, "Procedures for the Use and Control of Logistics and Depot Storage Codes for Permissive Action Link (PAL) Equipped Weapons (U)," Confidential, June 14, 1996 ¹
 - (w) CJCSI 3260.01, "Joint Policy Governing Positive Control Materiel and Devices (U)," Secret-FRD, July 31, 1995 ³
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¹ Available from the Defense Special Weapons Agency; FCDSWA Attn: FCPSP, 1690 Texas Street, SE, Kirtland AFB, NM 87117-5669.

² Available from the U.S. Air Force Treaties and Agreements Branch; HQ USAF/XONP, Rm. 1D373, Attn: Dale Cheney, 1480 Air Force Pentagon, Washington, DC 20330-1480.

³ Available through normal channels and from Defense Special Weapons Agency, FCDSWA, 1690 Texas St., SE, Kirtland AFB, NM 87117-5669.

DL1. DEFINITIONS

DL1.1. Terms used in this Manual are defined, below:

DL1.1.1. Abnormal Environments. Environments as defined in a nuclear weapon's stockpile-to-target sequence and military characteristics in which the weapon is not expected to retain full operational reliability.

DL1.1.2. Certification. A formal determination by the applicable DoD Component that personnel, facilities, organizations, equipment, and procedures may perform or be used to perform assigned nuclear missions.

DL1.1.3. Command Disable System (CDS). A system internal to a bomb or a warhead that, when activated, destroys a weapon's ability to achieve a significant nuclear yield. Disablement is achieved by nonviolent means.

DL1.1.4. Custody. Responsibility for the control of, transfer and movement of, and access to, nuclear weapons. Custody also includes maintenance of accountability for nuclear weapons.

DL1.1.5. Exclusion Area. A designated area immediately surrounding one or more nuclear weapons, the boundaries of which normally are the walls, floor, and ceiling of a structure or are delineated by a permanent or temporary barrier.

DL1.1.6. Handling. The process by which weapons are physically manipulated directly or indirectly by people (characterized as lifting, sliding, hoisting, or lowering through the use of manpower, cranes, forklifts, or hoists).

DL1.1.7. Insensitive High Explosive (IHE). High explosive that requires a shock of more than usual strength to cause detonation.

DL1.1.8. Life-Cycle Process. The breadth of activities applicable to a nuclear weapon throughout its lifetime, which includes development, production, stockpile maintenance, and retirement.

DL1.1.9. Limited Area. A designated area immediately surrounding one or more exclusion areas. Normally, this is between the boundaries of the exclusion areas and the outer or inner fence or boundary of the perimeter security system.

DL1.1.10. Limited Life Component (LLC). A component used in a nuclear weapon whose performance degrades over time and that must be replaced on a

periodic basis.

DL1.1.11. Logistic Transport. The transport of nuclear weapons associated with peacetime deployment requirements, maintenance, quality assurance and reliability testing, and retirement.

DL1.1.12. Military First Destination (MFD). Designated continental United States (CONUS) military locations that receive, and accept into the DoD stockpile, direct shipments of nuclear ordnance materiel from the Department of Energy contractor plants.

DL1.1.13. Military Requirement. An established need justifying the transport of a nuclear weapon to accomplish approved logistic actions such as deployment, maintenance, quality assurance and reliability testing, or retirement.

DL1.1.14. Normal Environments. The expected logistic and operational environments, as defined in a nuclear weapon's stockpile-to-target sequence and military characteristics, that the weapon is required to survive without degradation of operational reliability or safety.

DL1.1.15. Nuclear Weapon. A complete assembly (i.e., implosion type, gun type, or thermonuclear type), in its intended ultimate configuration that, on completion of the prescribed arming, fuzing, and firing sequence, is capable of producing the intended nuclear reaction and release of energy.

DL1.1.16. Nuclear Weapon Movement. The phase of a transport operation in which a nuclear weapon is physically conveyed from one location to another. The term "logistic movement" may be used interchangeably with nuclear weapon movement.

DL1.1.17. Nuclear Weapon System. A nuclear weapon and the means to deliver it to its target.

DL1.1.18. Nuclear Weapon Transport Operation. The process of moving a nuclear weapon from one location to another location, including the activities necessary to authorize the movement, plan the movement, prepare the weapon for movement, move the weapon, and receive the weapon at its destination.

DL1.1.19. Positive Measures. Design features, safety rules, procedures, or other controls, including physical security and coded systems, used collectively or individually to reduce the likelihood, severity, or consequences of an accident or

deliberate threat involving a nuclear weapon or nuclear weapon system.

DL1.1.20. Safe Haven. Temporary storage provided DoE classified shipment transporters at DoD facilities in order to ensure safety and security of nuclear material and/or nonnuclear classified material.

DL1.1.21. Safe-Secure Trailer (SST). A modified semi-trailer that is used for highway transport of special nuclear materiel, including nuclear weapons. SSTs are armored and include penetration sensing and deterrent materiels. They are owned and operated by the DoE.

DL1.1.22. Safety. The positive measures used to protect public health and the environment from accidental or inadvertent actions involving nuclear weapons that may result in detonation (high explosive or nuclear) or in dispersal or release of hazardous or radioactive materiels.

DL1.1.23. Security. The prevention of loss of custody, theft, or diversion of a nuclear weapon system; prevention of unauthorized access; or prevention of unauthorized actions, vandalism, sabotage, and malevolent damage.

DL1.1.24. Stockpile-To-Target Sequence. A document that defines the logistical and employment concepts and related physical environments involved in the delivery of a nuclear weapon from the stockpile to the target. It may also define the logistic flow involved in moving nuclear weapons to and from the stockpile for quality assurance testing, modification and retrofit, and the recycling of LLCs.

DL1.1.25. Transport Carrier. A specific, certified means of conveying a nuclear weapon from one location to another location. Air transport carriers include fixed-wing aircraft. Water transport carriers include barges of the U.S. Navy. Ground transport carriers include DoE-owned SSTs and military-owned vehicles.

DL1.1.26. Transport Mode. The type of conveyance (e.g., air, water, or ground) used to move a nuclear weapon from one location to another location.

DL1.1.27. Transportation Mission. A movement of nuclear weapons involving a single transport carrier that may include interim stops between the origin and the final destination.

DL1.1.28. Use Control. The positive measures that allow the authorized use and prevent or delay unauthorized use of nuclear weapons. Use control is accomplished through a combination of weapon system design features, operational procedures, and safety rules.

ACRONYMS AND ABBREVIATIONS

AL1.1. Acronyms and abbreviations used in this Manual are provided below:

AL1.1.1.	<u>ATSD(NCB)</u>	Assistant to the Secretary of Defense for Nuclear and Chemical and Biological Defense Programs.
AL1.1.2.	<u>CDS</u>	Command Disable System.
AL1.1.3.	<u>CONUS</u>	Continental United States.
AL1.1.4.	<u>DSWA</u>	Defense Special Weapons Agency.
AL1.1.5.	<u>DoD</u>	Department of Defense.
AL1.1.6.	<u>DoE</u>	Department of Energy.
AL1.1.7.	<u>ERDA</u>	Energy Research and Development Administration.
AL1.1.8.	<u>FCDSWA</u>	Field Command, Defense Special Weapons Agency.
AL1.1.9.	<u>IHE</u>	Insensitive high explosive.
AL1.1.10.	<u>JNWPS</u>	Joint Nuclear Weapons Publication System.
AL1.1.11.	<u>LLC</u>	Limited Life Component.
AL1.1.12.	<u>MFD</u>	Military first destination.
AL1.1.13.	<u>MTO</u>	Materiel transfer order.
AL1.1.14.	<u>NWTI</u>	Nuclear weapons technical inspection.
AL1.1.15.	<u>OSD</u>	Office of the Secretary of Defense.
AL1.1.16.	<u>PRP</u>	Personnel Reliability Program.
AL1.1.17.	<u>SST</u>	Safe-secure trailer (DoE).
AL1.1.18.	<u>SWOG</u>	U.S. Air Force Special Weapons Overflight Guide (Reference (f)).
AL1.1.19.	<u>TP</u>	Technical publications (DoE and/or DWSA).
AL1.1.20.	<u>TSD</u>	Transportation Safeguards Division (DoE).
AL1.1.21.	<u>U.S.</u>	United States.

C1. CHAPTER 1

DOD TRANSPORTATION POLICY

C1.1. GENERAL

C1.1.1. The Department of Defense has nuclear weapons deployed at locations in and outside the CONUS. Transport operations to support those deployments must be planned and conducted in a safe and secure manner due to the nature of nuclear weapons. This Chapter elaborates on the policy for the logistic transport of nuclear weapons established in DoD Directive 4540.5 (reference (a)).¹

C1.1.2. Logistic transport operations include, but are not limited to, movements to and from MFD, operational bases, or storage facilities; movements between operational bases and storage locations; movements between operational bases and missile silos; and movements between ships and between ship and shore. Logistic transport does not include movements in limited areas.

C1.1.3. The policies prescribed for logistic transport of nuclear weapons apply to operational transport and emergency logistic movements to the maximum extent possible. Primarily, operational transport is guided by the operational plans of the responsible DoD organization and relevant TP, and will be responsive to the assigned mission and the exigency of the operational situation. Operational transport includes, but is not limited to, aircraft generation; force generation exercises; ballistic missile submarine deployments; and movements related to weapon employment.

C1.2. NUCLEAR WEAPON TRANSPORTATION POLICY

It is DoD policy that:

C1.2.1. Nuclear weapons require special consideration because of their political and military importance and the potential consequences of an accident, incident, or unauthorized act.

C1.2.2. The DoD Components shall take precautions to ensure that a nuclear weapon movement has minimal impact on public health, safety, and the environment.

¹ Extracts from reference (a) are denoted in bold type in the text.

C1.2.3. DoD nuclear weapon system safety policy, DoD nuclear weapon system safety standards, and DoD nuclear weapon security policy and criteria shall apply to nuclear weapon transport operations.

C1.2.3.1. DoD nuclear weapon system safety policy and the four DoD nuclear weapon system safety standards are described in DoD Directive 3150.2 (reference (b)). Also see Chapter 4 for additional detail.

C1.2.3.2. DoD nuclear weapon security policy and criteria are described in DoD Directive 5210.41 and DoD C-5210.41-M (references (c) and (d)). Also, see Chapter 5 for additional detail.

C1.2.3.3. Minimum spacing, numerical limits, and plutonium limits, as specified in TP 20-7 (reference (e)), must be observed during the transport of nuclear weapons.

C1.2.3.4. Within allowable safety limits, nuclear weapon transport operations may be combined. When space is available, compatible opportune cargo may be carried.

C1.2.3.4.1. Airlifting opportune cargo during nuclear weapon transport operations is not permitted if doing so may necessitate additional landings, delaying or rerouting the mission or additional in-flight refueling of the aircraft due to the extra weight.

C1.2.3.4.2. Airlifting passengers, except those directly associated with the transportation operation, is not authorized.

C1.2.4. Nuclear weapon movements shall be kept to the minimum consistent with military requirements.

C1.2.5. Nuclear weapon transport operations shall be conducted through the transport modes and movement routes that balance safety, security, and military requirements.

C1.2.5.1. A primary consideration in choosing transport modes and movement routes shall be to ensure that safety and security are maintained and that neither is unacceptably degraded at the expense of the other. For any given transport operation, the safest transport mode may not be the most secure, and vice versa.

C1.2.5.1.1. The balance of safety and security for a nuclear weapon transport operation will consider relevant factors. The most significant of those include number and type of weapons, transport mode, plutonium dispersal mechanism, threats, length of movement, and bilateral agreements with allies.

C1.2.5.1.2. Each transport mode currently in use for nuclear weapon movements has unique advantages. Different segments of a movement may require the use of different transport modes. Different transport carriers pose different safety and security risks. Certain transport modes are not viable for particular transport operations. The Department of Defense maintains a variety of transport carriers to provide a flexible set of transport alternatives.

C1.2.5.1.3. Military Departments shall notify the ATSD(NCB) of the decertification of a class of transport carriers no later than 30 days after decertification.

C1.2.5.1.4. The decision to conduct a nuclear weapon transport operation shall be a specific qualitative judgment by the responsible official for each movement.

C1.2.5.2. Nuclear weapon movements should be planned to minimize the number of stops or landings of the transport carrier.

C1.2.5.3. The balance of safety and security concerns must be reevaluated when the factors impacting the safety or security of the operation change significantly.

C1.2.5.4. If an emergency requires an immediate landing and the aircraft commander must choose between communication security and flight safety, safety will take precedence.

C1.2.5.5. In planning for nuclear weapon movements, consideration should be given to known and potential risks; current intelligence estimates of the general and local threats to the point of origin, routes, en route stops, and destination of the transport operation; the transport mode; the availability of security resources; the source and availability of emergency assistance; and operational security.

C1.2.5.6. Planning for ground transport operations should also include convoy procedures; adequate handling and support equipment at departure and destination points; and coordination with Government intelligence Agencies and law-enforcement Agencies, as applicable.

C1.2.5.7. Minimum essential navigation and communication equipment, as specified by the applicable Military Department, must be available and operable aboard the transport carrier or the transport operation will be terminated.

C1.2.5.8. Aircraft transporting nuclear weapons are prohibited from approaching in an unsafe distance of unfriendly borders. Positive measures must be developed to prevent overflight of or landing in unfriendly territory or in countries where those actions are prohibited. The terms "unfriendly border," "unsafe distance," and "unfriendly territory" are defined in the U.S. Air Force SWOG, (reference (f)). Reference (f) is applicable to all elements of the Department of Defense. The U.S. Air Force shall maintain reference (f) and make copies available to the DoD Components.

C1.2.5.9. Technical procedures for fire-fighting operations are prescribed in TP 20-11 (reference (g)).

C1.2.5.10. For an accident or significant incident during a nuclear weapon transport operation, emergency response procedures, in accordance with DoD Directive 3150.8 (reference (h)) and DoD 5100.52-M (reference (i)) shall be executed.

C1.2.6. The movement by air of nuclear weapons that contain high explosives other than insensitive high explosives (IHE) should be approved by the Secretary of the Military Department or a Commander of the Combatant Command, or their delegated commanders.

C1.2.6.1. That approval authority may be delegated, in accordance with subsections C2.4.5. and C2.6.5. of Chapter 2.

C1.2.6.2. All movement approvals must be accomplished before a movement is made.

C1.2.7. Procedures, equipment, and facilities involved in the transport of nuclear weapons shall be certified for that purpose.

C1.2.7.1. Detailed technical and operational procedures and all equipment used in transport operations shall be certified and periodically recertified. The procedures for certification shall be documented in Military Department regulations and JNWPS TPs, when applicable.

C1.2.7.2. Properly certified handling and support equipment, as determined

by the Military Department, must be available at departure and destination points. Equipment certification must be complete before use in transport operations.

C1.2.7.3. Nuclear weapons must be loaded and unloaded through nuclear-certified military terminal facilities only. Certification of nuclear weapon facilities involved in nuclear weapon transport operations shall be based on successful completion of an inspection conducted under the NWTI System.

C1.2.7.4. When previously certified procedures, equipment, or facilities are modified significantly, re-certification shall be required before transport operations may resume.

C1.2.8. Personnel and organizations involved in the transport of nuclear weapons shall be trained and certified for the activities they perform.

C1.2.8.1. Training should include the subject areas applicable to individual personnel duties. A partial list of applicable subject areas is provided in TP 45-51C (reference (j)).

C1.2.8.2. Certification of personnel involved in the transport of nuclear weapons shall be accomplished through formal training, on-the-job training, and evaluations of individual technical proficiency to meet relevant Military Department standards, and participation in the PRP, in accordance with DoD Directive 5210.42 (reference (k)).

C1.2.8.3. The number of personnel shall be kept to the minimum necessary for effective operations. Those personnel accompanying a nuclear weapon movement will be cross-trained to assume other duties if other personnel become incapacitated.

C1.2.8.4. National Guard and Reserve air crews shall not be used for nuclear weapon transport operations without the specific prior approval of the Secretary of Defense. In such cases, active duty U.S. military custody is required.

C1.2.8.5. Certification of organizations involved in nuclear weapon transport operations shall be based on successful completion of an inspection conducted under the NWTI System.

C1.2.9. U.S. custody of nuclear weapons shall be maintained at all times during logistic movements. That requirement shall not be waived.

C1.2.9.1. DoD nuclear weapon use control policy will be followed. (See

DoD Directive S-3150.7, reference (l).)

C1.2.9.2. Movements of nuclear weapons shall be accompanied by a courier appointed or designated by the applicable DoD Component. The courier will be responsible for custody and control of the weapons during the transport operation.

C1.2.9.3. Courier responsibilities, documentation requirements for accountability, and other detailed procedures related to the conduct of ground, air, and water movements of nuclear weapons are prescribed in TP 45-51C (reference (j)).

C1.2.9.3.1. Designated couriers shall be responsible for overall security during a nuclear weapon movement. Couriers shall execute assigned duties regardless of any other security measures taken by personnel at loading or off-loading locations or at temporary stops en route.

C1.2.9.3.2. When operational necessity dictates, and in accordance with command directives, the courier shall be responsible for disabling weapons equipped with a CDS.

C1.2.9.3.3. During weapon movements by air, the courier is subordinate to the aircraft commander only in matters related to flight safety and operations.

C1.2.9.4. A system of communications shall be maintained, with multi-frequency capability, between the responsible commander (through a communications control center), the individual in charge of the specific movement, and security personnel. Specific communications requirements are dependent on the transport carrier in use and will be determined, in accordance with applicable Military Department regulations.

C1.2.10. A commander may deviate from logistic transport policy when the loss of a weapon's custody is imminent or when the weapon may be exposed to an abnormal environment. In areas outside the continental United States, command disable procedures shall be used if loss of the weapon is imminent.

C1.2.10.1. That policy is intended to provide a commander the flexibility to react to an unanticipated event or environment.

C1.2.10.2. Command disable procedures shall be conducted, in accordance with DoD Directive S-3150.7 (reference (l)).

C1.2.10.3. Maintaining custody should take precedence over other

considerations.

C1.2.10.4. The Chairman of the Joint Chiefs of Staff and the Commanders of the Combatant Commands, or their specifically designated representatives or Service Component Commanders, have authority to order emergency logistic movement of nuclear weapons. Exercise of emergency movement authority is restricted to situations wherein the safety, security, or control of nuclear assets is endangered or emergency logistic movement is dictated by a pending regional or world crisis, or natural disaster (e.g., earthquake). Emergency logistic movement is, as follows:

C1.2.10.4.1. The movement of nuclear weapons between weapons storage facilities for military contingency or logistic supply during periods of political or military tension; or,

C1.2.10.4.2. The emergency evacuation of nuclear weapons under conditions such that noncompliance with portions of the nuclear and flight safety regulations is the only alternative to destruction or loss of the weapon.

C2. CHAPTER 2

DoD TRANSPORTATION RESPONSIBILITIES

C2.1. GENERAL

The responsibilities of the DoD Components for the logistic transportation of nuclear weapons are established in DoD Directive 4540.5 (reference (a)).² This Chapter elaborates on those responsibilities.

C2.2. ATSD(NCB)

The ATSD(NCB), under the Under Secretary of Defense for Acquisition and Technology, shall:

C2.2.1. Be responsible for policy and technical matters associated with the transportation of nuclear weapons and shall:

C2.2.1.1. Serve as the proponent for reference (a) and this Manual.

C2.2.1.2. In coordination with the DoD Components, direct compensatory measures for nuclear weapon transport operations to address special safety concerns, as required.

C2.2.1.3. When required, provide guidance, in coordination with the Military Departments and the Chairman of the Joint Chiefs of Staff, on prioritization of DoD nuclear weapon movements.

C2.2.2. Serve as the OSD principal point of contact for nuclear weapon transportation matters with the DoD Components, the Department of Energy (DoE), the Department of State, the Joint Nuclear Weapons Council, and the other Government Agencies, and shall:

C2.2.2.1. Direct, as applicable, the DoD Components to conduct assessments of nuclear weapon transport operations.

C2.2.2.2. Ensure that nuclear weapon transportation safety and security are addressed in DoD Directives 3150.2 and 5210.41, and DoD C-5210.41-M (references (b) through (d)).

² Extracts from reference (a) are denoted in bold type in the text.

C2.2.2.3. Ensure that nuclear weapon transportation use control is addressed in DoD Directive S-3150.7 (reference (l)).

C2.2.3. Ensure that the Director, Defense Special Weapons Agency (DSWA), shall:

C2.2.3.1. Provide technical support, advice, and assistance to the DoD Components on the transport of nuclear weapons, when requested, and shall:

C2.2.3.1.1 Ensure that guidance and procedures in JNWPS TPs (TP 45 series, references (j) and (m) through (q)) are consistent with the requirements of references (b) through (d), and the SWOG (reference (f)).

C2.2.3.1.2. Ensure that NWTI, conducted by DSWA, address the safety and security of nuclear weapon transport operations.

C2.2.3.2. Serve as the logistic transport coordinator between the DoD Components for inter-command movements and between the Department of Defense and the DoE, and shall:

C2.2.3.2.1. Prepare and coordinate materiel transfer orders for the intercommand movement of nuclear weapons.

C2.2.3.2.2. Coordinate custody transfers between the Department of Defense and the DoE, and the transport of nuclear weapons by the DoE.

C2.2.3.3. Conduct safety and security assessments related to nuclear weapon transportation, when requested, and develop methodologies, as necessary, for assessing the safety and security of nuclear weapon transport operations.

C2.3. THE CHAIRMAN OF THE JOINT CHIEFS OF STAFF

The Chairman of the Joint Chiefs of Staff shall:

C2.3.1. Coordinate directly with the DoD Components on nuclear weapon transportation matters.

C2.3.2. Ensure that nuclear weapons technical inspections examine nuclear

weapon transport operations. Guidance for the conduct of NWTI is in TP 25-1 (reference (r)).

C2.3.3. Establish procedures for the maintenance of accountability during nuclear weapon transport operations. Specific reporting procedures are in CJCSM 3150.04 (reference (s)).

C2.3.4. Prescribe the reporting procedures to be used when nuclear weapons are transported.

C2.4. THE SECRETARIES OF THE MILITARY DEPARTMENTS

The Secretaries of the Military Departments shall:

C2.4.1. Implement DoD nuclear weapon transportation policies and do the following:

C2.4.1.1. Ensure that nuclear weapon transport operations are addressed in applicable Military Department publications.

C2.4.1.2. Establish criteria for nuclear weapons and transport equipment that enhance safety, security, and use control during transport operations.

C2.4.1.3. Execute safe haven responsibilities, in accordance with the MOA and TP 45-51 (references (t) and (m)).

C2.4.1.4. Ensure that NWTI, conducted by the Military Department, examine nuclear weapon transport operations.

C2.4.2. Develop procedures for the transport of nuclear weapons by doing the following:

C2.4.2.1. Establishing criteria for evaluating nuclear weapon transport procedures where applicable.

C2.4.2.2. Conducting periodic safety studies and operational safety reviews of transport operations for each nuclear weapon system, in accordance with DoD Directive 3150.2 (reference (b)). (See section C4.2. of Chapter 4 for additional detail.)

C2.4.3. Evaluate, authorize, and approve the transport modes and movement

routes that balance safety, security, and military requirements for nuclear weapons in their custody.

C2.4.4. Conduct assessments related to nuclear weapon transport operations, as necessary. Assessments shall be conducted with consideration of the factors identified in Chapters 4 and 5.

C2.4.5. Approve all movements conducted by air of nuclear weapons in their custody that contain high explosives other than IHE. Approval authority may be delegated to commanders of major Service commands.

C2.4.5.1. Copies of letters of delegation shall be provided to the ATSD(NCB), Room 3E808, 3050 Defense - The Pentagon, Washington DC 20301-3050.

C2.4.5.2. Delegations must be reviewed with the installation of a new Secretary of Defense.

C2.4.5.3. Approval shall be on an individual weapon or single transportation mission basis.

C2.4.5.3.1. Written confirmation of a weapon movement approval, signed by the Secretary of the Military Department concerned, or commanders of major commands, shall be provided to the ATSD(NCB) no later than 30 days after the movement is completed.

C2.4.5.3.2. The written confirmation of a movement approval shall include the date of move, rationale, origin and destination, number and types of weapons moved, and type of aircraft conducting the move.

C2.4.6. Ensure that procedures, equipment, facilities, and organizations involved in the transport of nuclear weapons are certified for that purpose. Certification guidance is provided in subsection C1.2.8. of Chapter 1.

C2.4.7. Ensure that personnel involved in the transport of nuclear weapons are applicably trained. Certification guidance is provided in subsection C1.2.8. of Chapter 1, and section C3.6. of Chapter 3.

C2.5. THE SECRETARY OF THE AIR FORCE

The Secretary of the Air Force shall maintain a Prime Nuclear Airlift Force capability to conduct the logistic transport of nuclear weapons.

C2.6. THE COMMANDERS OF THE COMBATANT COMMANDS

The Commanders of the Combatant Commands shall:

C2.6.1. Implement DoD nuclear weapon transportation policies.

C2.6.2. Develop procedures, as required for their area of operations, for the transport of nuclear weapons.

C2.6.3. Evaluate, authorize, and approve the transport modes and movement routes that balance safety, security, and military requirements for nuclear weapons in their custody.

C2.6.4. Conduct assessments related to nuclear weapon transport operations, as necessary. Assessments shall be conducted with consideration of the factors identified in Chapters 4 and 5.

C2.6.5. Approve all movements conducted by air of nuclear weapons in their custody that contain high explosives other than IHE. Approval authority may be delegated to Service Component Commanders.

C2.6.5.1. Approval shall be on an individual weapon or single transportation mission basis.

C2.6.5.1.1. Written confirmation of a weapon movement approval, signed by the Combatant Commander concerned, or Service Component Commander, shall be provided to the ATSD(NCB) no later than 30 days after the movement is completed.

C2.6.5.1.2. The written confirmation of a movement approval shall include date of move, rationale, origin and destination, number and types of weapons moved, and type of aircraft conducting the move.

C2.6.5.2. Copies of letters of delegation shall be provided to the ATSD(NCB), Room 3E808, 3050 Defense - The Pentagon, Washington DC 20301-3050.

C2.6.5.3. Delegations must be reviewed with the installation of a new Combatant Commander.

C2.6.6. Ensure that procedures, equipment, facilities, and organizations involved in the transport of nuclear weapons are certified for that purpose. Certification guidance is provided in subsection C1.2.8. of Chapter 1.

C2.6.7. Ensure that personnel involved in the transport of nuclear weapons are applicably trained. Certification guidance is provided in subsection C1.2.8. of Chapter 1, and section C3.6. of Chapter 3.

C3. CHAPTER 3

TRANSPORTATION ACTIVITIES

C3.1. GENERAL

Nuclear weapon transport operations involve many organizations in the Department of Defense and the DoE and encompass numerous activities. While safety and security are primary planning considerations, other factors, noted in section C3.3., below, must also be considered in the planning of nuclear weapon transport operations. This Chapter addresses the conduct of transportation activities by the DoD Components and interactions between the Department of Defense and the DoE for the planning and conduct of nuclear weapon transport operations.

C3.2. DOD TRANSPORTATION ACTIVITIES

C3.2.1. The ATSD(NCB), in coordination with the Military Departments, the Chairman of the Joint Chiefs of Staff, and the DSWA, monitors the nuclear weapon transportation process and provides guidance, as applicable, for the prioritization of nuclear weapon movements.

C3.2.2. The FCDSWA is responsible for the preparation of MTO, which authorize inter-command movements. MTO are requested by the Services or the Combatant Commands, as required.

C3.2.3. The JNWPS provides guidance and certified procedures for conducting activities with nuclear weapons.

C3.2.3.1. The TP 45-51 series provides technical guidance and detailed information on procedures and activities for the transport of nuclear weapons. Relevant publications include TP 45-51C, TP 45-51, TP 45-51A, TP 45-51B, TP 45-51D, and TP 45-51F (references (j) and (m) through (q)).

C3.2.3.2. Procedures for custody, accountability, and control are provided in TP 100-4 (reference (u)).

C3.2.3.3. Procedures for specific weapons are provided by the relevant Military Department JNWPS publications.

C3.2.4. Coordination is routinely conducted between the FCDSWA, the Military Departments, and the DoE Albuquerque Field Office to effect the transfer of weapon custody between the Department of Defense and the DoE, and to schedule the use of DoE SST for the movement of nuclear weapons in CONUS. See section C3.4., below, for additional information.

C3.3. TRANSPORT PLANNING FACTORS

Planning for nuclear weapon transport operations requires consideration of numerous factors, including the following:

C3.3.1. The military requirement necessitating a movement (e.g., routine maintenance, political agreement, treaty obligation, or retirement, etc.).

C3.3.2. The applicable nuclear weapons transport policies and requirements to include the following:

C3.3.2.1. DoD Directives 4540.5, 3150.2, 5210.41, DoD C-5210.41-M, and DoD Directive S-3150-7 (references (a) through (d) and (l)).

C3.3.2.2. Military Department level directives, regulations, and manuals that implement DoD transportation, safety, and security policies.

C3.3.2.3. The MOA (reference (t)) (see section C3.5. of this Chapter, below), or other publications (including JNWPS TP 45-51 (reference (m))), when applicable.

C3.3.3. Other factors for a specific weapon movement may include:

C3.3.3.1. Safety, safety risks, available positive safety measures, and safety factors described in subsection C4.3.2. of Chapter 4.

C3.3.3.2. Security, security threats, available positive security measures, and those security factors outlined in subsection C5.3.2. of Chapter 5.

C3.3.3.3. High explosives associated with the weapon; e.g., high explosives or IHE. See subsection C1.2.6. of Chapter 1, and subsections C2.4.5. and C2.5.5. of Chapter 2 for specific policy and responsibilities associated with movement of nuclear weapons that contain high explosives other than IHE.

C3.3.3.4. Potential tradeoffs between safety and security for each transport segment.

C3.3.3.5. Plutonium content of weapon(s) being transported. (See TP 20-7 (reference (e)) for further details.)

C3.3.3.6. Abnormal environments that may be encountered during transport, and available countermeasures to mitigate those environments.

C3.3.3.7. Accident response measures and the roles and missions of the DoD Components and other Government Agencies in responding to an accident involving a nuclear weapon. (See DoD Directive 3150.8 and DoD 5100.52-M (references (h) and (i)) for additional details.)

C3.3.3.8. The compatibility of the nuclear weapons with dangerous materials or other nonnuclear cargoes. (See TP 45-51C, reference (j).)

C3.3.3.9. The level and nature of training of personnel involved in transport-related activities. (See reference (j).)

C3.3.3.10. The communications capabilities associated with various transport modes.

C3.3.3.11. The characteristics of the available nuclear weapon transport carriers.

C3.3.3.12. The availability and location of alternate or emergency airfields and safe havens.

C3.3.3.13. The availability of certified materiel handling and support equipment at origin and destination locations.

C3.3.3.14. Resource availability, including the availability of transport carriers, personnel, containers, funding, and DoE support (if required).

C3.3.3.15. Schedule and timing of transport operations.

C3.3.3.16. Cost.

C3.3.4. Funding for the transportation of nuclear weapons between DoD Military Department locations is the responsibility of the Military Department gaining

custody. Incidental costs of the transport operation will be the responsibility of the Military Department performing the operation. TP 45-51 (reference (m)) provides additional detailed information about funding for nuclear weapon transportation.

C3.4. JOINT DOD-DOE TRANSPORTATION ACTIVITIES

C3.4.1. The DoE conducts some ground movements of nuclear weapons in CONUS for the Department of Defense. Those movements, to and from MFD and from operational bases to storage and/or dismantlement locations on retirement, are the responsibility of the TSD of the DoE Albuquerque Field Office. The DoE may conduct movements from MFD to operational bases or between operational bases for the Department of Defense on a reimbursable basis.

C3.4.1.1. The TSD maintains specially designed SST and escort vehicles to conduct those operations.

C3.4.1.2. Coordination between the Department of Defense and the DoE for the planning and conduct of those transport operations is addressed in TP 45-51 and TP 45-51D (references (m) and (p)).

C3.4.2. Direct communication between the Department of Defense and DoE personnel engaged in nuclear weapon transport operations is authorized with an impending or en route movement, and when necessary to help such movements.

C3.4.3. While a DoE nuclear weapon transport convoy is on a DoD installation, the Department of Defense will provide support, in accordance with reference (m). The security of DoE convoy vehicles and their contents is a dual-Agency responsibility while on DoD installations, except as specified in reference (m). During a declared safe haven, the DoE retains responsibility for security.

C3.4.4. The DoE retains custody of nuclear weapons during SST transport operations until such custody is formally transferred to an authorized DoD recipient. DoD-authorized personnel will be identified in writing to the DoE courier by the applicable DoD certifying official before the transport operation.

C3.5. SAFE HAVEN FOR DOE TRANSPORT CONVOYS

C3.51. A safe haven is a temporary sanctuary for a DoE nuclear weapon transport convoy at a military installation in the CONUS when necessary to ensure the safety

and security of the nuclear weapons. Available DoD facilities are provided to support the authorized DoE courier. The mission, the operational situation, and the capabilities of the DoD installation will determine the extent of the support provided. Specific procedures for safe haven temporary storage are described in TP 45-51 (reference (m)).

C3.5.2. When a decision is made to seek a safe haven, the DoE provides all pertinent information related to the request to the installation involved, either directly or through the DoD Joint Nuclear Accident Coordinating Center operated by the DSWA.

C3.5.3. Under the terms of the MOA (reference (t)), the Department of Defense shall:

C3.5.3.1. Provide a temporary holding area for DoE transport carriers and their cargo.

C3.5.3.2. Assume temporary responsibility for the security of the transport carriers and cargo if DoE couriers become incapacitated.

C3.5.3.3. Provide security, fire-fighting, medical, communications, logistic support, and any other emergency assistance available. In the event of an accident, DoE retains the lead Federal Agency responsibilities, since they have custody and accountability of the nuclear weapons.

C3.5.4. The DoE will remove the shipment from the DoD safe haven as soon as possible.

C3.6. TRANSPORTATION TRAINING

C3.6.1. Personnel involved in nuclear weapon transport operations must be trained and certified to perform assigned tasks, in accordance with Military Department directives. A partial list of applicable subject areas is in TP 45-51C (reference (j)).

C3.6.2. Training for personnel involved in nuclear weapon transport operations shall include both formal instruction and practical experience. Training shall be completed, and personnel shall be designated and certified for proficiency, before assignment to duties on nuclear weapon transport operations. Personnel may accompany nuclear weapon movements for training purposes before their proficiency certification, but shall not be responsible for the transport operation.

C3.7. TRANSPORT ACTIVITIES FOR STORAGE, MAINTENANCE, AND MODIFICATION

C3.7.1. When it is necessary to move a weapon outside its limited area storage facility to another DoD or DoE site for maintenance or modifications, the transport operations to effect those movements are governed by the policies and guidelines in this Manual.

C3.7.2. The handling and other activities conducted by DoD personnel in the course of routine storage and maintenance of nuclear weapons, such as movement in the limited areas from a storage facility to a maintenance building, are not considered to be logistic transport operations and are not governed this Manual.

C3.8. NUCLEAR WEAPONS TECHNICAL INSPECTIONS FOR TRANSPORT ACTIVITIES

C3.8.1. NWTI ensure that units that store, maintain, or transport nuclear weapons conduct their activities in a safe and secure manner according to requirements established in DoD Publications and in joint and Military Department TPs. NWTI are the basis for certifying facilities and organizations for operations with nuclear weapon systems.

C3.8.2. The procedures for conducting NWTI are developed jointly by the DSWA and the Military Departments, and are delineated in TP 25-1 (reference (r)).

C4. CHAPTER 4

TRANSPORTATION SAFETY

C4.1. GENERAL

The DoD Nuclear Weapon System Safety Program is addressed in DoD Directive 3150.2 (reference (b)). That Program integrates safety policy, organizational responsibilities, and formalized procedures throughout a nuclear weapon's life-cycle, including transport operations. This Chapter highlights key elements of the safety program that impact weapon transport. It also identifies factors to be considered in the conduct of independent safety assessments for transport operations.

C4.2. DOD NUCLEAR WEAPON SYSTEM SAFETY POLICY AND PROGRAM

C4.2.1. Nuclear weapon transport operations are governed by the following four DoD nuclear weapon system safety standards, which specify that:

C4.2.1.1. There shall be positive measures to prevent nuclear weapons involved in accidents or incidents, or jettisoned weapons, from producing a nuclear yield.

C4.2.1.2. There shall be positive measures to prevent deliberate prearming, arming, launching, or releasing of nuclear weapons, except upon execution of emergency war orders or when directed by competent authority.

C4.2.1.3. There shall be positive measures to prevent inadvertent prearming, arming, launching, or releasing of nuclear weapons in all normal and credible abnormal environments.

C4.2.1.4. There shall be positive measures to ensure adequate security of nuclear weapons, pursuant to DoD Directive 5210.41 (reference (c)).

C4.2.2. Safety is evaluated throughout the life-cycle of a nuclear weapon, from concept development through retirement and return of the weapon to the DoE. Safety studies and operational safety reviews, performed, in accordance with DoD Directive 3150.2 (reference (b)), are one of the methods used to assess nuclear weapon system safety. During safety studies, the Military Department's Nuclear Weapons System Safety Group recommends safety rules to apply during all operations with that system,

including transport operations. Safety rules are coordinated within the Military Departments, the Chairman of the Joint Chiefs of Staff, the DoE, and the OSD before approval and signature by the Secretary of Defense.

C4.2.3. Detailed procedures for the safe transport of nuclear weapons and additional information on safety-related considerations in the planning and execution of nuclear weapon transport operations are also identified in JNWPS TPs and Military Department regulations and TPs.

C4.3. TRANSPORTATION SAFETY ASSESSMENTS

C4.3.1. Safety assessments, other than those described in section C4.2. above, of nuclear weapon transport operations are conducted as applicable by the DoD Components. In some circumstances, safety assessments will be conducted with security assessments to evaluate tradeoffs between safety and security considerations.

C4.3.2. Nuclear weapon transportation safety assessments require detailed consideration of a number of factors. The following subparagraphs outline suggested considerations when conducting transportation safety assessments:

C4.3.2.1. Data. No major nuclear-related accidents have occurred with any carrier currently in use for nuclear weapon movements. Transportation safety assessments may include data from the nonnuclear operations of those transport carriers to estimate accident probability. Screening the data for applicability, using statistical and other analytical methods, may reduce the uncertainty in those estimates.

C4.3.2.2. Transportation System and Transport Operation Features. That includes the number and types of weapons being transported, number of trips required, physical features of transport carriers, safety procedures, and communications. Additionally, the specific safety features of the transportation system should be considered.

C4.3.2.3. Causes of Accidents. Each Military Department should identify potential hazards relevant to their unique operating environment.

C4.3.2.4. Transportation Requirements. Logistic transport of nuclear weapons from origin to destination may require movements over intermediate route segments, and may involve more than one type of transport carrier as well as multiple trips. Each route segment of a nuclear weapon transport operation shall be evaluated, as well as the length and number of segments.

C4.3.2.5. Accident Event Sequences. A generic event sequence for a nuclear weapon transport accident will consist of the initiating event; the occurrence of a specific accident environment (e.g., fire, impact, crush, puncture, electrical, or combinations of those); the involvement of a weapon or weapons in the accident environment; the severity of the environment; and the response of the transport carrier and weapons to the environment. Each event in the sequence should be evaluated for its potential impact on weapon safety.

C4.3.2.6. Response of Weapons to Specific Accident Environments. This may be dependent on the characteristics of the weapon, on the severity of the environment, or on both. Further, the response of nuclear weapons may be different at different severity levels of the same environment.

C4.3.2.7. Probability of Combined Environments. Transportation safety assessments shall consider the potential for combined accident environments, such as simultaneous crush and fire, or for a sequence of environments, such as impact followed by fire.

C4.3.2.8. Potential Accident Consequences. Transportation safety assessments shall consider both the radiological consequences of a plutonium dispersing accident and nonradiological consequences, as indicated in TP 20-7 (reference (e)). Those assessments should take into account population density, topography, wind direction and other meteorological conditions, as applicable at arrival and departure points, weapon high explosive-charge-to-plutonium-mass ratio, presence of high explosives other than IHE, administrative, operational, cost, regulatory, and other impacts on the Department of Defense resulting from Government and/or public reaction to an accident.

C4.3.2.9. Mitigating Measures. Applicable positive safety measures and accident-mitigating measures should be taken into account, including special nuclear weapon procedures and precautions (e.g., special maintenance practices, crew selection, preparation of the transport carrier, and operating restrictions); weapon design features; and safety features organic to the transport carriers (e.g., associated fire-fighting capabilities).

C5. CHAPTER 5

TRANSPORTATION SECURITY

C5.1. GENERAL

DoD nuclear weapon security requirements are addressed in DoD Directive 5210.41 and DoD C-5210.41-M (references (c) and (d)). Those references (c) and (d) specify DoD security policy and the DoD Nuclear Weapon Security Program and identify security requirements for nuclear weapon transport operations. This Chapter highlights key elements from those references (c) and (d) and it also identifies factors to be considered in the conduct of security assessments for transport operations.

C5.2. DOD NUCLEAR WEAPON SECURITY POLICY AND PROGRAM

C5.2.1. DoD security policy is addressed under major topics in reference (d) that include nuclear weapon protection; custody and control; access; personnel; assessments, evaluations, and inspections; weapon storage areas and facilities; and structure and building security.

C5.2.2. The objectives of the DoD Nuclear Weapon Security Program are to prevent unauthorized access to nuclear weapons; prevent damage or sabotage to nuclear weapons; prevent loss of custody of a nuclear weapon; prevent an unauthorized nuclear detonation; and prevent, to the maximum extent possible, radiological contamination caused by unauthorized acts or damage, emergency destruction actions, or security operations necessary to recapture or recover a nuclear weapon.

C5.2.3. Nuclear weapon transport security requirements are specified in Chapter 8 of DoD C-5210.41-M (reference (d)). Topics addressed include transportation protection system components, policy, planning considerations, command and control, information control, malfunctions, hazardous conditions, accidents, incidents, personnel (courier and security force), and movement security requirements.

C5.2.4. Personnel selected to perform nuclear weapon transport duties must demonstrate individual reliability in terms of allegiance, trustworthiness, conduct and behavior, and responsibility. Those personnel, assigned to designated PRP positions, are evaluated for adherence to PRP standards, as described in DoD Directive 5210.42 (reference (k)).

C5.3. TRANSPORTATION SECURITY ASSESSMENTS

C5.3.1. Reference (d) defines responsibilities for the conduct of threat and risk and/or vulnerability assessments under the DoD Nuclear Weapons Security Program.

C5.3.2. Transportation security assessments, other than those required in paragraph C.5.1. above, may also be conducted, as applicable by the DoD Components. In some circumstances, those assessments may be conducted with safety assessments to evaluate tradeoffs between safety and security considerations. Those nuclear weapon transportation security assessments will need to consider various factors, many of which are similar to safety assessment considerations in planning a specific transport operation. A partial list of considerations is provided in subsections C5.3.2.1. through C5.3.2.9. below:

- C5.3.2.1. Adversary group objectives.
- C5.3.2.2. Adversary group tasks.
- C5.3.2.3. Adversary group capabilities.
- C5.3.2.4. Transportation system and transport operation features.
- C5.3.2.5. Presence or absence of insider.
- C5.3.2.6. Consequences of successful attack or incident.
- C5.3.2.7. Transportation requirements.
- C5.3.2.8. Weapon configuration.
- C5.3.2.9. Mitigating measures.

C6. CHAPTER 6

USE CONTROL DURING TRANSPORT OPERATIONS

C6.1. GENERAL

DoD nuclear weapons use control requirements are addressed in DoD Directive S-3150.7 and TP 45-51C and TP 50-2 (references (l), (j), and (v)). These documents specify policy and responsibilities. This Chapter highlights key elements of control that impact on transport operations.

C6.2. DOD NUCLEAR USE POLICY

C6.2.1. Protection for all nuclear weapon systems shall incorporate policies, procedures, and equipment in a layered approach of physical security, information security, personnel actions, procedures, and weapon design features.

C6.2.2. Positive measures shall be taken to maintain control of all U.S. nuclear weapons during all phases of their life cycle. The implementation of such measures shall do the following:

C6.2.2.1. Prevent unauthorized access to nuclear weapons.

C6.2.2.2. Prevent unauthorized use of nuclear weapons.

C6.2.3. While in transit, individual weapons equipped with coded control devices, or multiple weapons loaded on launchers applicably equipped for coded control, shall be locked at all times except for authorized maintenance, testing, and operations.

C6.2.4. Jettisoning of nuclear weapons during transport shall be done, in accordance with the SWOG, DoD Directive S-3150.7 (references (f) and (l)), and system safety rules.

C6.2.5. Use control measures include, but are not limited to, storage facilities, equipment and devices, communication systems, personnel, and procedures.

C6.3. NUCLEAR WEAPON TRANSPORT CONTROL REQUIREMENTS

C6.3.1. Use control equipment and devices should not be deactivated during transport operations unless specifically authorized by the Combatant Commander. Remote controllers are not required for CONUS operations. Elsewhere, remote controllers will be connected to associated weapons during transport operations only when threat assessments indicate such action may be prudent.

C6.3.2. Shipping organizations will ensure that nuclear weapons or associated CDS controllers have a classified shipping or operational CDS code for transport.

C6.3.3. Knowledge of the CDS codes shall be restricted to the minimum number of personnel required to produce the codes or code the weapons or controllers. No other personnel will be provided access to the codes before receipt of an order to disable.

C6.3.4. When operational necessity dictates, and in accordance with command directives, the courier shall be responsible for disabling weapons equipped with a CDS.

C6.3.5. Detailed information on the CDS are in TP 45-51C, TP 100-4 (references (j) and (u)), and in individual weapon TP. Command disable code preparation and security are done using CJCSI 3260.01 (reference (w)).